Oregon
Tina Kotek, Governor

OREGON DEPARTMENT OF ENERGY

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Oregon State Energy Strategy Feedback

The following is a compilation of written feedback received during engagement to inform the Oregon Energy Strategy. It reflects all comments received between August 14, 2025 and September 22, 2025 through email and the Oregon Energy Strategy comment portal.[1] The Oregon Department of Energy solicited feedback throughout this time period to inform the finalization of the Energy Strategy report.

House Bill 3630 directs the Oregon Department of Energy to develop an Oregon Energy Strategy that identifies pathways to achieving the state's energy policy objectives, develops policy recommendations to help achieve these objectives, and that is informed by robust stakeholder engagement. The Energy Strategy is meant to serve as a resource over time through continued analysis and engagement to help Oregon achieve emissions reductions in line with state energy and climate policy goals.

The process to develop the Oregon Energy Strategy is divided into three phases: Phase 1 focused on the modeling and technical analysis to explore different pathways to meeting the state's energy policy objectives. Phase 2 applied learnings from this analysis to inform policy discussion and develop policy recommendations. Phase 3 involves the development of the final report, which must include: a summary of pathways to achieve Oregon's energy policy objectives, policy recommendations, and a description of the engagement process and how stakeholder perspectives informed the Energy Strategy.

The Oregon Department of Energy has closed the public comment portal while we review and incorporate feedback on the draft Energy Strategy report. The Department will reopen the comment portal following publication of the final report as we look forward to the implementation of the report's recommendations and future updates to the Energy Strategy. The comment portal can be found here: https://odoe.powerappsportals.us/en-US/energy-strategy/

[1] This compilation also includes an August 8 submission from James Miller that was erroneously omitted from the prior comment compilation.

Table of Contents

AmeriGas 9.22.25 5

Andra Hollenbeck 9.19.25 7

Andreas Moran 9.22.25 8

AWEC 9.22.25 9

BGA 9.22.25 12

Brooke Nuckles 8.29.25 14

Brooke Nuckles 9.22.25 15

Building Potential 9.22.25 16

CalWave 9.22.25 18

Central Lincoln PUD 9.17.25 22

City of Hillsboro 9.19.25 24

City of Wilsonville, South Metro Area Regional Transit 8.18.25 26

Coalition Comments 9.22.25 27

Comm Dan Dorran 9.22.25 46

Cory Little, Pneubike 8.15.25 52

CREA 9.22.25 53

CRITFC 9.22.25 60

CTUIR 9.22.25 77

CTWS 9.17.25 83

CUB 9.23.25 88

Dan Tedrow, Pacific ECS, 9.8.25 98

DCC 9.22.25 99

Debra Higbee 9.22.25 103

Donna Bonetti 8.28.25 106

Donna Bonetti 9.19.25 107

Elayna Trucker 9.19.25 108

Elayna Trucker Attachment 9.19.25 109

EMO 9.22.25 157

Estelle Voeller 9.22.25 158

ETO 9.22.25 160

EWEB 9.22.25 165

Generation Atomic 9.22.25 168

Greeley Wells 9.19.25 176
Helena Birecki 9.22.25 177
IW 29 9.22.25 182
James Miller 9.7.25 185
James Miller, LPP Resources 8.8.25 187
Jeff Hagedorn 8.16.25 188
Jim Edelson 9.22.25 189
Joanne Bigman 8.25.25 191
John Charles, Cascade Policy Institute 9.22.25 192
John Livingtston 8.30.25 193
John Seng, Spark NW 9.8.25 194
Joint COU Comments 9.22.25 196
Kathaleen Parker 9.19.25 206
Kathaleen Parker Attachment 9.19.25 207
Ken Bonetti 9.19.25 208
Ken Bonetti 9.22.25 210
Leslie Lowe 9.20.25 212
LIHI 9.18.25 213
LIHI 9.22.25 218
Lucas Young 9.22.25 223
Luke Grossmiller 9.6.25 228
Maleek McKenzie 229
Marion County Cmmrs 9.22.25 232
Mark Healy 8.15.25 234
Marshall Sanders 9.19.25 235
Meredith Howell, NeighborWorks Umpqua 8.29.25 236
Mike Badzmierowski 9.22.25 237
Mothers for Nuclear 9.22.25 244
Multnomah County 9.22.25 245
NEDCGEINCA 9.22.25 266
Newlab Recruitment Coalition 9.22.25 274
NHA 9.22.25 282
Nikki Mandell, CEI Task Force 9.22.25 285

Nikki VanRy 9.18.25 286
Nikole Young 9.16.25 288
Nikole Young Draft Markup 9.16.25 289
NIPPC 9.22.25 503
NSE 9.22.25 510
NW Alliance for Clean Transportation, 9.5.25 514
NW Alliance for Clean Transportation, Attachment, 9.5.25 515
NW Natural 9.22.25 517
NW Natural Appendix 9.22.25 529
NWGA 9.22.25 536
NWGA Attachment 9.22.25 540
OACD 9.17.25 547
OCF 9.22.25 550
OCGC 9.22.25 553
OFA 9.22.25 559
OHA 9.16.25 562
OPUDA 9.21.25 563
Oregon PSR 9.22.25 567
OSSIA 9.22.25 570
Pacific Power 9.22.25 574
Pat DeLaquil, MCAT 9.22.25 577
Peter Bergel 9.22.25 585
PGE 9.22.25 586
PMEC 9.22.25 591
Port of Portland 9.22.25 593
Portland BPS 9.22.25 595
PPC 9.22.25 597
PPGA 9.16.25 604
Randal O'Toole, Thoreau Institute 9.12.25 607
RHA 9.23.25 612
RNGC 9.22.25 616
RNW 9.22.25 620
Robert Weeks OCES, 9.3.25 623

Roberta Richardson 9.7.25 632
Roger Gray 9.22.25 633
Roger Knudson, 9.9.25 635
Rogue Climate 9.22.25 636
SOCAN 9.22.25 645
Sol Coast 9.22.25 654
Sophi Beym 9.17.25 656
State Rep Mark Gamba 9.22.25 657
Steve Wright 9.22.25 659
Stop NW Gas Expansion Coalition 9.22.25 660
Sustainable NW 9.22.25 667
TAO 9.22.25 669
TechNet 9.19.25 672
TNC 9.22.25 674
Toby Kinkaid 9.22.25 682
Tonia Moro 9.22.25 708
Twila Jacobsen 9.19.25 710
UA 290 9.22.25 711
WSPA 9.22.25 713
ZERO Coalition 9.22.25 718

September 17, 2025

Oregon Department of Energy
550 Capitol St NE, 1st Floor
Salem, OR 97301

AmeriGas appreciates the opportunity to submit the following comments on the Oregon Energy Strategy. AmeriGas is the largest retail propane distributor in the Unites States, serving over 1.1 million customers from approximately 1,360 locations. As a representative of the propane industry, we want to emphasize the critical role that propane plays as a resilient, low-carbon energy source for Oregon's future.

Propane is a clean, portable and cost-effective energy solution that serves Oregonians across urban, suburban and rural communities. It is particularly vital for households and businesses that are not connected to the electric grid or natural gas pipelines. As Oregon seeks to decarbonize and build a more resilient system, propane provides a proven pathway to achieving these goals:

- **Low-Carbon Today:** Propane is already a low-carbon fuel with significantly lower greenhouse gas emissions than many other conventional energy sources. It produces virtually no particulate matter, sulfur dioxide, or methane emissions, contributing to cleaner air[1].
- **Renewable Propane Tomorrow:** The propane industry is rapidly investing in renewable propane produced from sustainable feedstocks, which can deliver carbon intensity reductions of up to 75% compared to conventional fuels. For example, renewable propane made from used cooking oil under California's Low Carbon Fuel Standard has a carbon intensity score of approximately **20.5 gCO_2e/MJ**, compared to about **83 gCO_2e/MJ** for conventional propane[2].
- **Resilience and Reliability:** Propane is stored on-site, independent of the grid, which makes it an essential backup energy source during outages, wildfires, or extreme weather events. It strengthens Oregon's energy security and supports emergency preparedness[3].
- **Equity and Affordability:** Approximately **4% of Oregon households** rely on propane as their primary heating fuel, a share that is even higher in rural counties[4]. Propane helps keep energy affordable for those communities not served by natural gas pipelines, avoiding undue burdens from electrification-only strategies.

AmeriGas encourages the Oregon Department of Energy to explicitly recognize propane and renewable propane as a key part of Oregon's decarbonization pathway. A diversified strategy that includes low-carbon fuels like propane will ensure Oregon meets climate goals while maintaining reliability resilience and affordability. Including renewable propane in definitions of low-carbon fuels will ensure that its carbon benefits are captured in metrics as well as any potential incentives.

Thank you for considering these comments. We look forward to continuing to work with the Department and stakeholders to advance a clean, resilient and inclusive energy future for Oregon.

Respectfully,

Casandra Russo
Manager of Government and Industry Affairs
AmeriGas Propane
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1. U.S. Department of Energy Alternative Fuels Data Center – *Propane Benefits & Considerations* (2023): https://afdc.energy.gov/fuels/propane_benefits.html [afdc.energy.gov] ↩
2. California Air Resources Board (LCFS Pathways) – *Carbon Intensity Lookup for Propane and Renewable Propane* (2024): https://ww2.arb.ca.gov/resources/documents/lcfs-pathway-certified-carbon-intensities [ww2.arb.ca.gov] ↩
3. Propane Education & Research Council – *Propane and Energy Resilience* (2023): https://propane.com/for-my-business/resiliency/ [propane.com] ↩
4. Oregon Department of Energy – *County Energy Profiles 2024* (Table: Percent of Homes Using Propane for Heat): https://www.oregon.gov/energy/Data-and-Reports/Documents/Energy-Profiles-Oregon-Counties-2024.pdf [oregon.gov] ↩

Oregon Energy Strategy

Public Comment

Andra Hollenbeck, 9.19.2025

I want to support the drive to 100% renewables.

Oregon Energy Strategy

Public Comment

Andreas Moran, 9.22.2025

I'm a home owner. January 2024 a wind storm brought down a large 5' Douglas fir across the front of my house and took out the power line. Fortunately I had insurance, but as these extreme events are happening more frequently I can see the day coming that I will no longer be able to buy insurance at any price. We need a strategy to deal with that, like a mini FEMA, maybe. We need an organization that can marshal local resources to repair the damage regardless if the homeowner can pay or not.



September 22, 2025

The Honorable Janine Benner
Director
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Dear Director Benner,

The Alliance of Western Energy Consumers (AWEC) is writing to submit comments on the Oregon Energy Strategy. AWEC recognizes and appreciates the time and effort that was put into the development of the Oregon Energy Strategy.

AWEC members provide tens of thousands of highly paid technical jobs. AWEC has a large and diversified base of members that represent industries such as agriculture, aeronautics, air products, metals, pulp and paper, information technology and more. AWEC advocates for member businesses in the west on issues related to the use, availability, and reliability of electricity and natural gas and strongly supports sustainable and strong economic growth within the western United States.

AWEC members in Oregon face significant regulations and restrictions under a number of existing policies, including the Climate Protection Program, HB 2021 regulations, Renewable Portfolio Standards, the Public Purpose Charge and numerous programs to subsidize low-income customers.

AWEC is concerned that the Oregon Energy Strategy simply adds new policy recommendations to the existing layers of programs, rules, and regulations that businesses in Oregon must comply with to reduce GHG emissions. There is no cohesive strategy that is coordinated with other state agencies. The draft doesn't lay out succinctly how the new proposals fit with existing policies to formulate an overall Oregon Energy Strategy.

The proposed draft fails also to take into account the massive costs that the new recommendations would have. It doesn't identify existing costs that businesses and individual consumers are required to pay to comply with current state policies aimed at curbing GHG emission reductions. Any Oregon Energy Strategy should assess the potential economic impact,

leakage potential, and costs that would be placed on consumers and businesses as part of any new recommendations. Furthermore, the Oregon Energy Strategy doesn't lay out how new proposed recommendations would be paid for or who would pay for them.

The Oregon Energy Strategy doesn't include any oversight or accountability of the existing, newly proposed programs or the state agencies administering the recommendations. There is no plan to ensure funds that industry is currently spending are being used appropriately and to best achieve GHG reductions commonly mentioned as a priority.

In other instances, the Oregon Energy Strategy relies on key principles and recommendations that are not viable or realistic at this time. The draft strategy relies on electrification as a principal pathway. Recent studies have indicated that with this approach, emissions would simply be moved from the natural gas utilities to electric utilities, and future electricity supplies and related infrastructure within the Pacific Northwest would be severely constrained. Indeed, widespread electrification actually creates a significant risk of increasing emissions through the increased use of natural gas fired generation. Electricity generation is significantly less efficient than the direct use of natural gas, and there is insufficient carbon-free resource potential in the region to meet the loads that would be created through electrification while maintaining a reliable and reasonably affordable system. AWEC does not believe that electrification is a viable long-term approach at the levels the Oregon Energy Strategy seems to recommend or suggest.

In another example, the Oregon Energy Strategy recommends replacing current fuel sources like natural gas, with renewable natural gas and green hydrogen. There is simply not enough renewable natural gas available to replace conventional gas, and neither of these fuel sources are currently practical or economically viable at a larger scale. As a result, a transition to these fuels will come at significant costs that businesses and consumers would bear.

Throughout the Oregon Energy Strategy, the draft policy identifies key policy risks and barriers, but it fails to adequately propose policies or solutions to address those barriers. For example, AWEC appreciates the Oregon Energy Strategy's recognition that electric utility customers are facing an affordability crisis, with costs increasing at an unsustainable rate. The strategy, however, does not propose concrete actions to mitigate these costs. Rather, it relies primarily on performing more studies, issuing more reports, and requesting additional subsidies. These actions will not achieve the desired results and are not an effective energy strategy. The Oregon Energy Strategy should instead focus on concrete actions that have predictable outcomes, such as expanding the type of electric generation that may be built in the state and is proven to be reliable and affordable.

The Oregon Energy Strategy discusses the need to create a new state agency or state entity or transmission authority. AWEC has opposed legislative efforts proposed in 2025 to create a state run transmission authority. AWEC has specific concerns around the cost impacts to its members and the technical challenges that a new entity would ensue. We do not believe that establishing a new authority is necessarily the best approach to addressing future transmission infrastructure

needs. AWEC supports the development of additional transmission to help meet Oregon's growing energy needs, but questions whether the establishment of yet another state agency with oversight over this process will promote such development. The state should first look to work and improve and streamline the processes of existing agencies charged with this work rather than establishing a new bureaucracy.

Industrial consumers and EITEs need more workable policies in place to help them compete globally and to avoid leakage. It would make no sense to develop policies that put Oregon's industrial customers at a competitive disadvantage to industrial customers in other states or countries. The industrial sector represents 27% of Oregon's energy consumption, but only two out of 42 policy recommendations propose policy changes intended to support the achievement of carbon reductions for EITEs. In addition, while AWEC appreciates the proposal to fund an industrial modernization revolving loan fund to bolster adoption of various decarbonization efforts, this proposal lacks any detail on the source of such funding and the likelihood of such a fund achieving meaningful results. As the Oregon Energy Strategy itself appears to recognize, not all industrial processes can be electrified (even if this were a desirable outcome), there are limits to the amount of cost-effective energy efficiency available at an industrial site, and alternative low-carbon fuels are not currently viable. Meaningful policy recommendations are needed for industrial consumers and EITEs. This includes market-based carbon allowance costs, the use of off-sets for compliance, and more flexibility within the existing Climate Protection Program.

We believe that the Oregon Energy Strategy should be a comprehensive look at all the programs in existence and evaluate how they are meeting metrics and achieving goals. The state should focus on best practices and cost-effective strategies aimed at reducing GHG emissions in an economically responsible manner that don't place Oregon businesses at a significant disadvantage so they can maintain global competitiveness and keep jobs here in Oregon.

Best regards,



Bill Gaines
AWEC

Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301

September 22, 2025

Subject: BGA Comments for State Energy Strategy

Dear Oregon Department of Energy,

BlueGreen Alliance (BGA) is guided by the principle that we can no longer choose between good jobs and a clean and safe environment—that the actions we take to create quality jobs and to protect working people and the environment must go hand-in-hand, and that together, we will build a clean, thriving, and fair economy.

Below are a set of recommendations:

Promote Central Energy Procurement as another tool to meet our clean energy goals
The state of Oregon should follow the footsteps of states like California that have added central energy procurement as another tool to advance clean energy projects in the state of Oregon. The state could set and procure key targets of procuring energy from schools, tribes, and local communities.

Promote Responsible Development, Conflict Resolution, and Community Benefit Agreements

It should be a proactive state policy to resource public agencies and diverse stakeholders with the ability to pursue conflict resolution and mediation for high-priority projects that offer statewide benefits. Additionally, the state should provide resources for diverse communities and stakeholders to pursue responsible development through tools such as community benefit agreements, tribal benefit agreements, and/or project labor agreements.

State should make it policy further study and partner with academic institutions such University of Oregon Labor Education Research Center to conduct a Comprehensive Workforce Study with consultation with labor and contractors
Transitioning to clean energy will require a readily available skilled workforce. In a recent workforce market study by Metro Regional Government (2019), it found that 17% of the

construction workforce in the Portland Metro region is near retirement, and over one third of the labor market is over the age of 45 in an already tight labor market[1].

Ensuring competitive grants and incentives from ODOE are prioritizing projects, developers, and responsible contractors that are setting goals for utilizing apprentices ensures that our state's investments are training a new generation of local workers while mitigating future labor shortages that could impact project delivery and costs.

Oregon's union apprenticeship program is a gold standard in that it promotes employer-employee informed workforce training programs to ensure skills meet industry best practices and are nimble enough to evolve to new technology. According to a study conducted by University of Oregon's Labor Education Research Center, they've identified union apprenticeship programs outperform their non-union counterparts in registration, retention, and graduation rates. B

(See ORS Chapter 660 & OAR 839-011 for relevant apprenticeship statute and rules)

It should be a policy of the state to further promote quality in a skilled trained workforce as a key strategy for meeting our energy goals in Buildings, transportation, fuels, transmission, and energy

Additionally, projects done by well-trained and skilled workers often have stronger environmental performance. According to a UC Berkeley report "Workforce Issues and Energy Efficiency Programs: A Plan for California's Utilities" finds that quality of training received by workers has an impact on the quality of construction and the true energy savings on efforts related to electrification[2].

ODOE should promote where possible skilled training requirements for projects, developers, and contractors to ensure quality and true energy generation or savings potential.

Key trades include: electricians, solar installers, HVAC installers, carpenters, laborers, operating engineers, ironworkers.

Other additional consideration for other clean energy jobs/green jobs: EV Mechanics, EV Bus Operators, Green Janitors

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[1] See PORTLAND METRO REGION CONSTRUCTION WORKFORCE MARKET STUDY: EXECUTIVE SUMMARY- https://www.oregonmetro.gov/sites/default/files/2018/07/02/C2P2-regional-construction-workforce-market-study-executive-summary.pdf.

[2] Zabin, C.(2014) Workforce Issues and Energy Efficiency Programs: A Plan for California's Utilities. Retrieved from http://laborcenter.berkeley.edu/workforce-issues-and-energy-efficiency-programs-a-plan-for-californias-utilities/

Oregon Energy Strategy

Public Comment

Brooke Nuckles, 8.29.2025

Greetings,

My name is Brooke Nuckles and I live in Medford, Oregon. I am commenting today because this July, despite being on equal pay with Pacific Power, my home's energy bill tripled! Please design an actionable pathway to meet the state's 100% clean energy goals, keep false solutions out of Oregon and defend against harmful federal actions.

As climate change makes extreme weather more common, every Oregonian should have access to critical financial support for installing solar, weatherizing our homes, and more. We must make it easier for people of all incomes and abilities to stay in their homes and withstand extreme weather.

The increasing prevalence of extreme weather events further burdens community members in Southern Oregon underscoring the need for energy affordability and resilience as climate change impacts continue.

Oregon will only be able to meet our state goal of 100% clean energy outlined in HB 2021 by rapidly increasing the amount of renewable energy in our communities. This must happen equitably, increasing the affordability, reliability and resilience of our energy systems. The draft Energy Strategy shows that the greatest cost of this transition is inaction and delay. I urge ODOE to take swift and thoughtful action to implement the strategy in a way that benefits environmental justice communities.

Thank you for your consideration as you put together the final recommendations for the Oregon Energy Strategy.

Sincerely,

Brooke Nuckles

Sept. 22, 2025

Greetings,

My name is **Brooke Nuckles** and I live in **Medford, Oregon**. I am submitting this comment today because, after living in Oregon for 14 years, I have long seen our state as a leader in **renewable energy**. I am now deeply concerned that we are at risk of backtracking and losing the significant ground we have gained through years of hard work.

I strongly believe it is essential to pass an **Energy Strategy** that actively helps us stay on track to meet Oregon's **100% clean/renewable energy goals**. Furthermore, this strategy must defend Oregonians—especially those most vulnerable to climate change (low-income individuals, rural communities, youth, communities of color, and elders)—against federal actions that could move us farther away from achieving Oregon's climate goals and a just energy transition.

The affordability of energy is a major concern for me and my community. In 2025, I have seen my average energy bills increase dramatically, jumping from about **$68 per month** on an equal pay program to **$166 per month** over the last two months. As a single mother, this sudden jump has severely impacted my family's financial situation. I know there are folks in Oregon who are being forced to choose between paying their energy bill and buying food. **Lowering the cost of energy for Oregonians** is therefore an essential part of an equitable energy strategy.

My family was able to take advantage of an incentive to receive a no-cost **smart thermostat**, which has helped us cut our energy costs. Expanding access to renewable energy projects, like **solar**, would greatly benefit the southern Oregon community.

It is critically important that Oregon implements a strategy to meet our climate goals *now* because **time is running out**. Oregon will only be able to meet the state goal of 100% clean energy outlined in **HB 2021** by rapidly increasing the amount of renewable energy being deployed in communities across the state. As Oregon takes action toward this transition, it is crucial that it is developed **equitably**, increasing the **affordability, reliability, and resilience** of our energy systems for everyone.

The draft Energy Strategy accurately indicates that the greatest cost in this transition is **inaction and delay**. I urge ODOE to take swift and thoughtful action to implement the final strategy in a way that prioritizes and benefits our **environmental justice communities**.

Thank you for your consideration as you put together the final recommendations for the Oregon Energy Strategy.

Sincerely,

Brooke Nuckles

Building Potential
1200 12th Avenue South, Suite 110
Seattle, WA 98144

September 22, 2025

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Dear Oregon Department of Energy Team:

Thank you for the opportunity to review the Draft Oregon Energy Strategy. We appreciate the depth of the analysis, the inclusive engagement process used to develop the Energy Strategy, and the thoughtful structure of the Strategy itself. In general, we are supportive of the Strategy and believe it is essential if Oregon is to achieve its decarbonization and climate objectives. The following brief comments focus on the Buildings Section of the Legislative and Policy Objectives.

We appreciate the emphasis on efficiency, electrification, codes, and equity and believe that is an appropriate foundation for decarbonizing Oregon's building stock. However, we encourage greater integration between the Buildings concepts and the Clean Electricity concepts through a more explicit recognition of smart building technologies and Grid-Interactive Efficient Buildings (GEBs). Buildings are no longer static energy users—they can and should function as dynamic grid assets that provide load flexibility, integrate distributed energy resources, and enhance resilience. Explicitly calling out these concepts would align Oregon with national best practices and federal investment priorities.

We recommend highlighting:

- **Building Loads Flexibility and Demand Management:** Flexibility and demand management are central to building decarbonization and grid reliability, particularly as the grid continues to decarbonize on the supply side. We recognize that this was mentioned in the Clean Electricity side, but believe it is essential that it is also recognized within the Buildings section.

- **Smart Building Systems**: Explicit efforts to promote advanced controls, sensors, real-time monitoring, and automation as enabling tools to achieve both energy savings and grid benefits.
- **Virtual Power Plants:** An explicit call-out for Virtual Power Plants that leverage buildings and the technologies sited within them (e.g., efficiency, onsite renewables, distributed battery storage) as a lynchpin to achieving an affordable, reliable, and modernized grid.
- **Buildings Workforce Training:** We would like to see a focus on promoting operator training and workforce development to ensure building staff can maximize the performance of increasingly complex systems.

By embedding flexibility, smart technologies, and GEBs directly into the Buildings section, Oregon can position itself as a leader in demonstrating how buildings support both decarbonization and grid modernization.

Sincerely,



Kerry Meade
Executive Director, Building Potential

Building Potential
1200 12th Avenue South, Suite 110
Seattle, WA 98144

CALWAVE

September 22, 2025

Director Janine Benner
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Subject: Comments on Oregon Energy Strategy

Dear Director Benner:

CalWave Inc. (CalWave) is pleased to submit comments on the draft Oregon Energy Strategy. Thank you for providing the opportunity to engage with the Oregon Department of Energy as the agency finalizes the report set forth in HB 3630.

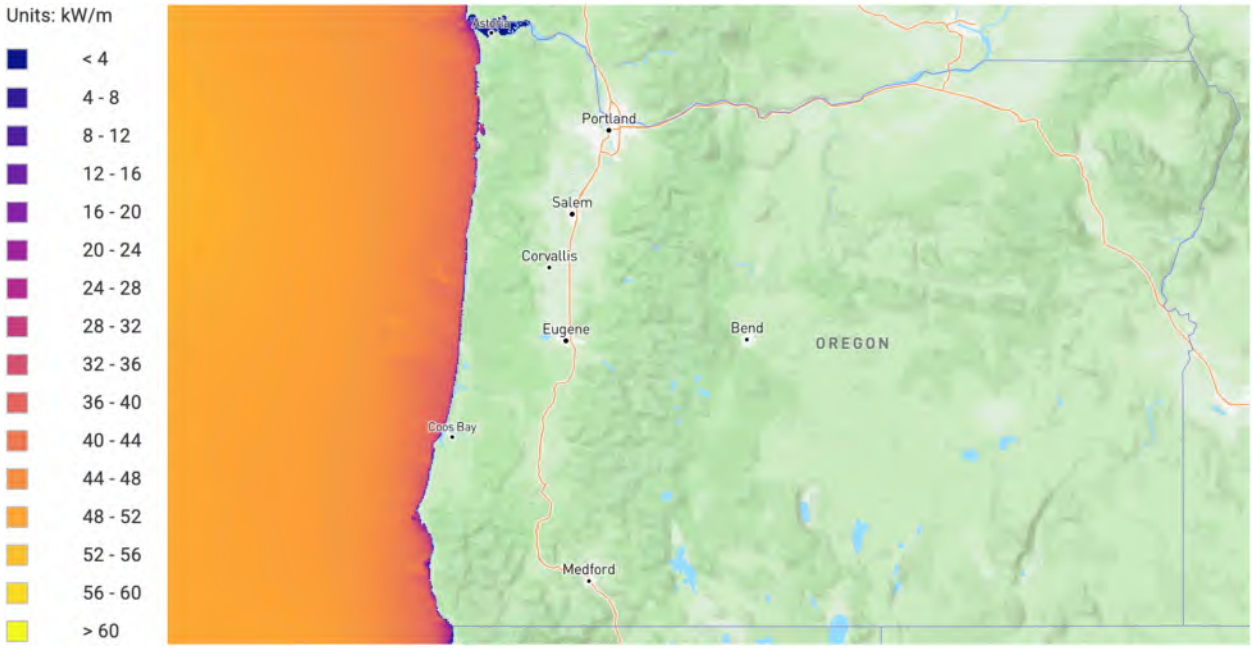
Initially spun out of the University of California, Berkeley and the Lawrence Berkeley National Laboratory, CalWave develops technologies that generate power from ocean waves. After being named a winner of the U.S. Wave Energy Prize in 2016, CalWave won a competitive Cooperative Agreement contract with the U.S. Department of Energy (U.S. DOE) Water Power Technologies Office (WPTO) in 2017. The contract goal was to build, deploy, and operate an open-ocean wave energy demonstration system, called the "x1," offshore the Scripps Institution of Oceanography research pier near San Diego, CA. This pilot operated with over 99 percent uptime for 10 months (67 percent longer than planned) with zero interventions (we budgeted for two interventions) and zero decline in performance. In 2019 and 2022, CalWave won additional contracts from the WPTO to design, build, deploy, and operate a larger utility grid-connected wave energy system of the xWave technology at PacWave, a U.S. DOE-funded wave energy test site offshore Waldport, OR. This commercial scale system is scheduled for deployment in either Q3 2026 or Q2 2027.

We are delighted to see that the draft Oregon Energy Strategy has been published, and that it includes Clean Electricity as one of "five pathways that together represent the direction Oregon needs to take to meet its energy policy objectives." We recommend expanding upon Clean Electricity Action 3 to include wave energy converters (WECs) as an emerging technology:

> "Report on developments in emerging technologies, including long-duration storage, enhanced geothermal, floating offshore wind, and small modular nuclear reactors, to identify the role they can play in meeting the state's electricity needs; also explore opportunities for pilot programs in the near-term."

Under the listed pathways, policies, and equity & justice approaches, the report states the "modeling clearly indicated the value of having high-capacity resources to complement hydro and variable renewable resources on the electricity system." Wave energy has comparable beneficial attributes. The wave energy resource off Oregon's coast is significant, and it's more predictable, consistent, and power-dense than either solar or wind.

While Oregonians used 60.3 million megawatt-hours (MWh) of electricity in 2023, the state has an available annual wave energy resource of 143 million MWh (along a 50-meter depth contour). For additional context, an average gigawatt-scale nuclear power plant only generates around eight million MWh per year. As shown in the image below (courtesy of the NREL Marine Energy Atlas), Oregon's entire coastline has a wave energy resource of at least 30 kilowatts (kW) per meter of wave front. For reference, solar and wind energy resources usually average around one kW per square meter.



The past couple of decades have seen relatively little load growth across the U.S., but the advent of AI and the resulting expansion of data center infrastructure is causing electricity demand to skyrocket. Our conventional methods of generating electricity, across both fossil fuels and renewable energy sources, will not be sufficient to meet this demand. Because fiber is cheaper and has lower capacity limitations than electrical transmission infrastructure, it could be more economical and faster to bring data centers to available power than to bring available power to data centers (especially in transmission- and space-congested locations like Portland). Wave energy could play a key role in powering, cooling, and even hosting data center infrastructure, not only because it is more consistent and predictable than solar and wind energy, but because the water itself can provide a source of cooling that significantly reduces overall energy demand from data centers (onshore and offshore).

In addition, several grid modeling studies have concluded that deploying wave energy projects in the region would lower storage and transmission costs while boosting the reliability of the entire energy system. As one example, according to a report by the Pacific Northwest National Laboratory titled "Grid Value Proposition of Marine Energy: A Preliminary Analysis," marine

energy capacity in the Pacific Northwest should satisfy 50 to 60 percent of the region's total renewable energy capacity in order to minimize required energy storage costs:

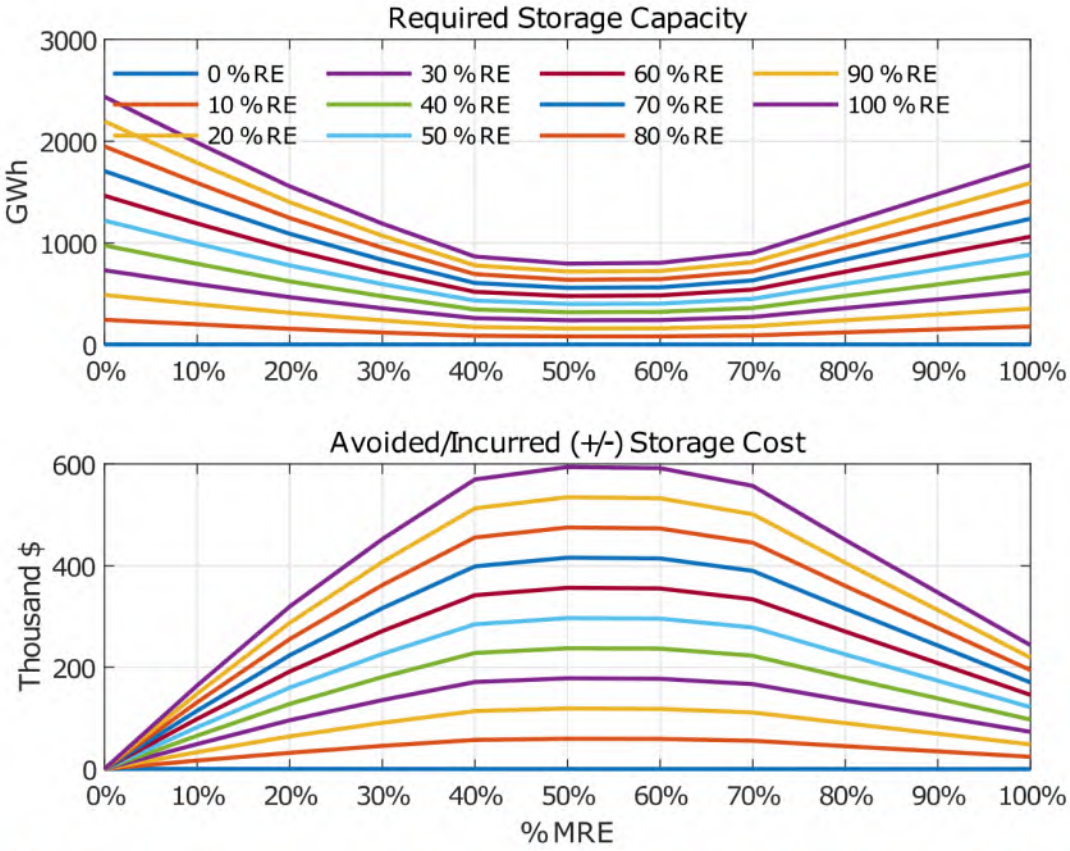


Figure 5-18. Required energy capacity (top) and total avoided/incurred (+/-) cost (bottom) as a function of deployment of renewable energy and marine energy (Kendal 2018).

Additionally, Oregon is well-positioned from an infrastructure, port, manufacturing, and workforce perspective to support wave energy technology demonstrations accelerated by the new PacWave test site. Located seven miles off Oregon's central coast near Newport and Waldport, the 20-megawatt U.S. DOE-funded wave energy test site is fully permitted, connected to the utility grid, and ready for devices. The completion of PacWave opens the opportunity for the state of Oregon to position itself as a global leader in supporting wave energy technologies to market. A logical first step would be revising the language of Clean Electricity Action 3 to read as such (additions highlighted):

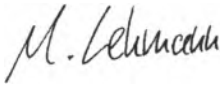
> "Report on developments in emerging technologies, including long-duration storage, enhanced geothermal, floating offshore wind, wave energy converters, and small modular nuclear reactors, to identify the role they can play in meeting the state's electricity needs; also explore opportunities for pilot programs in the near-term."

PacWave provides 20 MW of available capacity for WECs to export power to Oregon homes, and by adding wave energy to the Oregon Energy Strategy, the state has a unique opportunity to lead the U.S., and the world, in wave energy deployments ranging from R&D to demonstration-scale to commercial-scale.

We hope you consider our request to include language about wave energy in the final Oregon Energy Strategy document.

Once again, thank you for providing the opportunity to engage with the Oregon Department of Energy as the agency finalizes the report set forth in HB 3630. CalWave looks forward to continuing to engage beyond the final adoption of the Oregon Energy Strategy as we advance toward commercial-scale projects in the state.

Sincerely,



Marcus Lehmann
Co-Founder and CEO
CalWave Inc.
marcus@calwave.energy

CENTRAL LINCOLN
A COMMUNITY-OWNED ELECTRIC UTILITY

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Central Lincoln PUD comments on draft State Energy Strategy

Central Lincoln PUD is a community-owned utility that serves 112 miles of coastline over a 700 square mile service area. We provide power to the communities of North Bend, Reedsport, Florence, Mapleton, Swisshome, Yachats, Waldport, Newport, Toledo, Siletz, Depoe Bay, and Lincoln Beach. With over 41,000 customers, Central Lincoln is Oregon's fourth largest electric utility, and the state's largest PUD.

These coastal communities face significant economic struggles. The median family income in our service area is around 25% lower than the state's median family income, meaning that the affordable power we provide our customers through wholesale purchases from the Bonneville Power Administration (BPA) makes a huge economic difference at the household level. Given this context, Central Lincoln PUD believes the draft State Energy Strategy requires significant changes:

- By ignoring the critical generating capacity of the lower Snake River dams, and the State of Oregon's pursuit of litigation to remove these carbon-free and reliable generating resources, the strategy fails to identify perhaps the chief threat to the available supply of carbon-free electricity in Oregon. Ignoring this issue, and missing the opportunity to express support for these specific generating resources, calls into question the credibility of the Energy Strategy and the impartial, technocratic charge the sponsoring agency has to ensure an adequate supply of energy in Oregon. Central Lincoln estimates that losing the lower Snake River dams would mark at 20-40% increase in electric rates for our customers, and without a viable replacement baseload resource identified, their removal would also mark a significant increase in carbon emissions, as reliance on electricity generated from natural gas would increase.

- The draft strategy fails to recognize the critical importance of adding more baseload generating resources, instead focusing on variable resources, which are incapable of meeting the reliability requirements of providing electricity to consumers in Oregon.

- The draft strategy identifies 42 legislative and policy actions -many of which represent additional bureaucracy, regulation, and costs for Oregonians. In an environment with significant state General Fund constraints, it is unlikely that the Legislature will appropriate funds for these questionable purposes. As a result, it is likely that the State would focus on funding sources such as the Energy Supplier Assessment, which is a tax on our customers. That means the increased bureaucracy called for in the draft strategy is likely to significantly increase electricity rates, with very uncertain return on investment, and the potential to actually add more regulation and complexity.

- An example of this increased regulation and complexity is the draft strategy's call for the creation of a state transmission authority. While there is no question that Oregon needs

additional and enhanced transmission, the answer to this question is less duplicative bureaucracy and regulation, and more streamlining of processes and timelines. Rather than creating an entire new state entity, ODOE's time would be better spent identifying the policy and regulatory impediments to siting new and expanded transmission and working in concert with community-owned and investor-owned utilities to advocate for specific, tangible policy changes at the legislative level to facilitate additional transmission development. Doing so does not require the additional bureaucracy and cost that a "transmission authority" would represent -it requires a willingness to prioritize transmission outcomes over superfluous regulation and the courage to advocate for a new approach.

Conclusion:

The draft energy strategy does not appear to have been informed by entities that are actually providing electricity to Oregonians. Instead, it reads more like a "wish list" of special interests and advocacy organizations that have not burdened themselves with the reality of having to provide an adequate and reliable supply of affordable electricity in an actual operating environment.

This issue is most pronounced in the draft strategy's silence on the State of Oregon's active efforts to remove significant carbon-free generating resources on the lower Snake River. An impartial agency making credible recommendations to the Legislature would not ignore the single greatest threat to reliability, cost, and carbon-neutrality that could significantly impact Oregonians. This dissonance with reality is a major weakness in the draft strategy, and its omission calls into question the credibility of the draft strategy's recommendations.

Do the five pathways adequately reflect the direction needed to advance Oregon's energy policy objectives? If not, why not? Is anything missing?

Yes, at a high level they do. Of course, the challenges will come from implementation.

Do the policies provide sufficient direction to inform near- and long- term decisions, and to balance the many considerations involved in advancing clean, reliable, and affordable energy? If not, why not? Is anything missing?

Yes, at a high level they do, but the decisions will be difficult.

Do the actions address a critical near-term barrier to achieving one of the five pathways and related policies?

Yes, especially the focus on accelerating transmission projects through streamlined permitting and new financing models associated with the launch of a State Transmission Authority.

Does the draft capture the benefits and risks of the action, accounting for both energy and non-energy considerations? If not, what would you add?

The actions proposing new public finance revenue streams and earmark spending should realistically consider the statewide tax environment with an eye on Oregon's competitiveness as a marketplace and our ability to attract corporate investment.

Based on the questions and considerations above, should any actions be prioritized for earlier implementation? If so, which ones and why?

Meeting the short- and mid- term demands for Oregon's key industries is key to providing the economic health needed to deliver the long-term goals of the strategy. Therefore, the highest priority actions include Transportation #7 and Clean Electricity #1 through #4.

How well does the draft reflect the input from engagement throughout the project?

This is so challenging to do! The team should be congratulated for the job they've done soliciting feedback and reflecting it in the draft.

Do you have any final suggestions, questions, or feedback you'd like to share?

On behalf of the City of Hillsboro, I appreciate the opportunity to be involved in this process and we're eager to do our part to help reach the statewide goals.

Oregon Energy Strategy

Public Comment

City of Wilsonville/South Metro Area Regional Transit, 8.18.2025

As a public agency, we appreciate the strategy for more stable, ongoing grant opportunities for medium and heavy vehicle zero emission projects. It is much easier for us to plan for long term investments when we know that a funding source will be here not just one time, but for at least three years in the future. DOE is also much more likely to get quality applications when a funding program is well-established and publishes information about previous awards. Thank you.



September 22nd, 2025

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

RE: Comments on Draft Oregon Energy Strategy

We represent climate advocacy organizations, clean energy developers, environmental justice organizations, faith communities, grassroots groups, conservation, and more. Many of us advocated for the passage of HB 3630 in 2023 because we believe that having Oregon-specific data, research and planning will position our state to take thoughtful and equitable action to achieve our goals. Many of us were also engaged in the advisory and working groups throughout the energy strategy's development, while others have been tracking the progress of

the energy strategy from outside the process. Our organizations represent Oregonians from every corner of this state who want to see us reach our climate and energy goals through equitable solutions. We appreciate the opportunity to provide comments on the draft Oregon Energy Strategy (OES).

At a high level, we support the Draft Energy Strategy's direction supporting energy efficiency and electrification, consistent with the broad consensus that electrification is the least-cost path to achieving our energy and climate goals.

At the same time, we are disappointed that the Draft Energy Strategy does not adequately address key challenges that are critical to achieving our state goals: (1) Oregon's Highway Trust Fund limits how the state can equitably achieve its decarbonization targets; (2) our land use system hampers development of renewable energy and associated transmission; (3) our building codes and energy efficiency programs do not encourage fuel switching away from natural gas. While we understand that ODOE developed this strategy under a tight timeline, we hoped that this draft would begin to answer these questions rather than suggest that additional studies are needed.

Finally, in order to give the legislature the necessary, clear direction about how the State can begin to move the needle on its energy and climate goals, we have offered a way to prioritize the action items in Section V, and flagged a few additional tasks that we hope the agency will consider.

I. General Feedback

ODOE's task in creating this strategy, as outlined in HB 3630, is to develop optimized pathways for achieving the state's policy objectives based on the best available data, information, and the perspectives of a broad range of stakeholders. Once these pathways are established, ODOE recommends legislation and policy for achieving the strategy.

To paraphrase a comment made by ODOE staff presenting the draft, while there is no zero cost pathway going forward, the status quo comes at great cost to Oregonians who are already experiencing devastating impacts from unmitigated climate change. Our only choice therefore is to develop equitable strategies for managing our climate and energy needs.

Overall, the draft Energy Strategy provides a strong framework for how our state can achieve our climate, clean energy, and affordability goals. The five pathways represent a least-cost, no regrets strategy for advancing towards our climate goals and meeting the needs of Oregon communities, including our most vulnerable. **However, to advance those five critical pathways, the policy and legislative recommendations included in the report should be strengthened, prioritized, and clarified to make them actionable for the legislature and other policymakers.**

In terms of process, we appreciate the time that ODOE and contractors took to thoroughly explain the modelling process, assumptions, and outcomes. This approach provided a base for organizations with different expertise to engage in the process. **We do wish that similar time was allowed for the policy working group process to have further refined policy recommendations to provide to the legislature.** However, we understand that ODOE faced constraints due to contracting delays and an immovable legislative deadline for producing the report. We agree with the recommendation that the OES be updated regularly, and suggest mirroring Washington's schedule of every two years, perhaps alternating with the Biennial Energy Report, which could provide data to inform strategy development.

Over the course of preparing the draft energy strategy, there were significant changes in federal energy policy that will impact Oregon's energy system. These short-sighted federal policies favor fossil fuels over clean energy, retreat from bipartisan understandings about the value of energy efficiency, and will make energy more expensive for many families. The timing of these changes and the uncertainty of what changes may come next make them challenging to address in the strategy. However, in the final strategy, we encourage ODOE to consider federal changes in this light: the state is the backstop against federal attacks on clean energy and energy affordability. Changes at the federal level require us to act with boldness and urgency. We encourage ODOE to consider the comments from other organizations signing on to this letter that delve deeper into this issue.

II. The Five Pathways

Energy Efficiency

Oregon is a leader in prioritizing energy efficiency as a least cost, least risk way to achieve Oregon's energy and climate goals. The state has successfully used this approach in the utility sector to keep costs down, avoiding infrastructure investments that would have been necessary without these efficiencies. We agree that doubling down on energy efficiency in the buildings and utility sectors and expanding this strategy to transportation and industry is an important pathway to meeting the energy needs of our state while keeping costs down. Efficiency across these sectors can limit the need for costly upgrades to transmission, roadways, and other infrastructure while achieving critical co-benefits in health, jobs, affordability, and conservation. It is important to note that this pathway cannot operate alone; its success in helping us reach our goals is interconnected with the other pathways, especially electrification and resilience. Some efficiency solutions must be tailored to meet the needs of different communities; for example, transportation efficiency may look different in rural areas than it does in urban and suburban areas, but efficiency solutions are available and should be pursued in every corner of the state. In fact, efficiency solutions are most beneficial to users who demand more energy for transportation and heating. Additionally, low income communities, who benefit the most from energy efficiency, often experience barriers to weatherization and whole home repairs. In fact, as our state adapts to a changing climate, our communities will need to pursue resilience solutions like expanding access to cooling technologies in homes and buildings, which will increase energy consumption. In pursuing these resilience solutions, it will be important to

prioritize the most efficient resources possible, like high-efficiency heat pumps. Overall, efficiency is a critical pathway and has implications for each of the other four pathways.

Electrification

Electrification has consistently been identified as the least-cost pathway to meeting our energy goals across transportation, buildings, and industry. This conclusion is supported by ODOE's modeling as well as multiple independent assessments of decarbonization pathways. Delaying electrification will result in increased cost to the entire system. We also agree that haphazard electrification will not result in the equitable results that we need, and a managed strategic approach to electrification is critical for ensuring that low-income Oregonians experience the benefits of electrification and are not left with a disproportionate share of the costs. Managed and strategic electrification is also important for efficient use of resources and the strategic build-out of energy infrastructure. To achieve the goals of this electrification pathway, we agree that more strategic planning, including fully aligned integrated planning between gas and electric utilities, will be necessary. Financial incentives are also critical tools for equitable electrification, but they are by no means the only tool available. Also critical to implementation of this pathway is a systematic removal of the obstacles to electrification, including policies that hamper the ability of individuals and businesses to build all-electric and pursue fuel switching.

Clean Electricity

The Clean Electricity Pathway recognizes the need for planning and investing in resources that can be built quickly, including distributed energy resources. It also recognizes their benefits regarding household and community resilience, as well as the role of demand flexibility in shifting demand and limiting the need to construct additional generating resources. We agree with this focus on clean electricity as well as many of the recommended policies included in this area. We emphasize the importance of the final recommendation, which is to incentivize utility business models and create market mechanisms that can capture the system benefits and compensate customers for their role in becoming part of "virtual power plants."

Low Carbon Fuels

One clear OES finding is that most fossil fuel consumption will need to be replaced by clean electricity consumption and that hard-to-electrify sectors, such as aviation, rail, and marine transport, high-heat industrial processes, such as steel, cement, and chemical refining, will require the use of low-carbon fuels. We don't disagree that *based on what's technically possible today and in the near future,* low-carbon fuels could be important tools in the near and medium term. However, what's missing is a recognition that many of these low-carbon fuels will be transitional, may have unintended consequences by incentivizing land use activities that actually increase GHG emissions, and are likely to eventually be replaced by electricity. Additionally, low-carbon fuels might delay electrification while continuing to incentivize activities that induce VMT, which creates more greenhouse gases. We call attention to the changes to the federal renewable fuel standard as a result of HR 1, which problematically excludes indirect land use changes in emissions estimates,[1] and want to ensure that Oregon's accounting is stringent and

[1] "(Sec. 70521) This section extends the clean fuel production tax credit ...excludes emissions attributable to an indirect land use change from the calculation of lifecycle emissions estimates

accurate. A recognition of the guardrails that are needed for the Department of Environmental Quality to accurately assess the carbon intensity of alternative fuels is key to beginning to protect against unintended consequences. We urge ODOE to revise this section of the pathways discussion to make clear the transitional nature and declining use of these fuels, and recommend that DEQ be authorized to reflect the true carbon intensity of alternative fuels. Finally, we encourage ODOE to include a recommendation that DEQ strengthen Oregon's Clean Fuels Program by reducing the carbon intensity standard over the next decade.

Resilience
ODOE is correct to recognize that our collective efforts to reduce greenhouse gas emissions by electrifying where we can while cleaning up our electricity system–and saving low carbon fuels for the most hard to electrify uses–will mean that resilience of the electricity system is key. We agree that special attention to the reliability of our transmission and distribution systems, and investments in our communities, will help us adapt to the changing climate and related hazards.

III. Equity and Justice Framework

We support that the Draft Oregon Energy Strategy includes an equity and justice framework and appreciate ODOE staff's efforts to recognize the importance of an EJ lens in Oregon's energy policy. ODOE staff sought to balance the capacity constraints of environmental justice advocates with the importance of including their voices in the strategy.

We reiterate our concern that the Framework could be simply ignored depending on how people use the OES moving forward, and encourage deeper weaving of the EJ framework into the body of the strategy. While ODOE staff tried to acknowledge equity and justice principles outside of the framework, we worry that these are not incorporated holistically. For example, while EJ is addressed in the pathways, it appears to focus more on additional need for involvement rather than more strategic or concrete actions.

While we recognize that ODOE was balancing tight timelines and internal and stakeholder limitations, many of us who participated in the EJ workgroup felt that the process was often rushed and that not all of what we offered in feedback gathering exercises is reflected in the Draft OES. For example, we believe that the final OES should better address and highlight the importance of policies that enable access to electrification for low-income Oregonians. The Final OES should expand on how funding and bureaucratic barriers will be addressed to support low-income community members' access to electrification and energy assistance. Additionally, the Final OES should mention community-based organizations, community action agencies, and the need to better support their organizational infrastructure. It should address the need for whole-home repairs and funding flexibility to cover necessary repairs for energy efficiency and low-income weatherization.[2] Additionally, the current draft does not provide incentives for fuel

(used in part of the calculation of the clean fuel production tax credit)." https://www.congress.gov/bill/119th-congress/house-bill/1

[2] Draft OES at 22.

switching – a key issue preventing low-income households from accessing programs that allow them to switch from gas appliances to clean, electric alternatives. Failure to provide strong incentives to switch from gas means that those without finances are more often than not stuck using polluting appliances and at risk of facing poor health outcomes. We hope that the final OES will address these barriers that impact our most vulnerable communities.

We also recommend that the plan clarify that cost[3] has various meanings beyond the amount community members spend on utility bills and measures/programs, and that frontline communities face other costs and risks, like being stranded on the gas system if Oregon does not prioritize funding for electrification, weatherization, and energy efficiency for those communities. Similarly, frontline communities also face costs related to energy infrastructure siting and having to host infrastructure, like EV chargers, without access to EVs. Opportunities and benefits should also include participation (procedural justice) to ensure what are seen as "opportunities and benefits" are not top-down, but bottom-up.

We support investments in long-term incentive and grant programs focusing on justice communities and encourage funding assistance for those in low-income and energy burdened households. These investments should prioritize upfront grants, no-cost home installation and upgrades, and other forms of funding that do not add debt. While financing tools, such as loans, may be helpful for moderate-income households, relying on loans for low-income households as a primary financing tool is an inequitable practice. For families already struggling to meet basic needs, loans add another layer of financial burden and can do more harm than good.

IV. Policy Recommendations

The draft OES contains directional policies to implement the pathways. These are broader and longer-term than the action items. Overall, we support much of the direction these policies take, and we offer both support for and potential clarification of several key policies below.

- We appreciate this tiered approach to breaking down the five pathways into the broad and longer-term policy directions, and the near-term action items.
- Energy Efficiency:
    - We appreciate the conceptualization of energy efficiency as bridging transportation and buildings. This is a unique approach that helps to recognize the efficiency and savings that individuals and systems can experience in these sectors.
    - Overall the policies outlined under the energy efficiency pathway focus on households where policy can have the greatest impacts: low- and moderate-income families, and energy burdened households.
    - The energy efficiency policies also keep the impacts and opportunities of the commercial and industrial sectors front of mind as well. Electrification is correctly noted as a key opportunity for driving efficiency of commercial and industrial sectors, and the acknowledgment that "costly low-carbon fuels" should be reserved for the few "hardest-to-electrify" applications.

[3] Draft OES at 44.

    - Policy 1a correctly notes the important connections between energy efficiency programs and electrification and the need to direct existing efficiency programs to be in line with that strategic direction.
    - Policy 1a promotes energy efficiency improvements and prioritizes programs for energy burdened low and moderate income households. It also calls out the need to build on essential programs like the Healthy Homes Grant Program, which invests in essential repairs and improvements that make homes climate and disaster resilient for low-income families, as well as ODOE's heat pump incentives to promote the use of energy efficient technologies. **The plan however neglects to include ETO's policy on switching fuels.** Currently ratepayer funds may not be used to allow customers to switch fuels and make a transition from less efficient gas appliances to more efficient, electric technologies in the market like heat pumps. While this section also identifies high upfront costs as a barrier, it does not offer clear strategies to remove that barrier for households who are least able to afford it. **Revisiting ETO's policy should be a major component of any plan to increase low income households' access to electrification and clean, energy efficient technology, as well as to reach the state's climate goals.** Currently this policy shuts out the State's most vulnerable communities who risk being trapped in a death spiral as those with financial means move ahead with electrification. The final draft of the strategy should address this key barrier preventing low income households from accessing an existing program.
- Electrification
    - Overall the electrification policies correctly focus on removing barriers to adopting electric solutions for Oregon households and businesses. Policies 2a and 2b in particular identify some key areas of work for reducing barriers to transportation electrification. Including aligning funding, incentives and infrastructure with our state goals, as well as better planning for charging infrastructure.
    - Policy 2c promotes "strategic electrification" across the residential, commercial, and industrial sectors through aligning policies and investment to deliver affordable, reliable, and clean energy.
        - We agree that equitable electrification will not occur without thoughtful and strategic approaches to infrastructure building, decommissioning, and deployment of electric solutions, which maximize customer and system benefits. This policy area correctly identifies the risks of an unmanaged (or non-strategic) transition to electric solutions, namely risks that low-income natural gas customers could be left to shoulder unrestrained fixed costs as customers with the most choice exit the system.
    - In many ways, the landscape for electrification across the residential, commercial, and industrial sectors is much the same as in transportation, with many of the same policy needs, and it seems that policies 2a and 2b represent a "strategic electrification" approach to transportation electrification that can be mirrored for buildings and industry.

        - Policy 2c should be broken down into more clear policy actions, similar to what was articulated for transportation electrification. In order to achieve the aims of “strategic electrification”, the buildings and industrial sectors need:
            - Clear goals and metrics for electrification
            - Incentives, funding, and infrastructure aligned with climate and energy goals
            - Integrated planning between electric and gas utilities[4] and a managed approach for scaling down the gas system so fixed gas costs decline in proportion to customer electrification.
- Clean Electricity
    - Policy 3a provides an overall objective for an integrated planning approach for helping to guide the balance of utility-scale and distributed energy resource (DERs) investments over time. This strategy of prioritizing DERs on our grid is critical for achieving grid capacity needs while avoiding, minimizing and mitigating negative externalities from system buildout. While distributed energy resources are often more costly to build per kilowatt hour generated, they can be constructed more quickly, provide important resilience benefits (especially when paired with battery storage), typically have fewer effects on natural and cultural resources, and can defer the need to build new transmission and distribution lines when strategically deployed.
        - The policy identifies the primary risk as not being able to construct new resources quickly enough to accommodate the pace of rising demand and to meet HB 2021 targets, and DERs are a quick and flexible resource that need to be fully utilized to meet the challenges ahead. Given the fact that electricity prices are rising, solar panel and battery costs continue to fall, wind and solar power remain the cheapest sources of electricity in most scenarios - particularly when considering long-term sustainable planning, and more and more customers want resilience in the face of growing outages, the potential consumer demand is there if the appropriate business models are identified and implemented. We encourage ODOE to go further in this policy and to call for innovative business models coupled with revisions to utility regulation to accelerate the deployment of DERs and to jumpstart the potential of consumer decisions to drive the growth of DER projects.
        - Offshore wind energy development, when done responsibly and protective of wildlife and communities, and in close consultation with Tribal governments, represents an opportunity to scale up clean electricity generation while creating high-quality jobs, while helping to combat the climate crisis. The International Panel on Climate Change has reported that substantial growth in offshore wind energy is necessary to meet

[4] Draft OES Footnote 25: Northeast Energy Efficiency Partnerships. (October 25, 2017). Strategic electrification: An energy transformation [Blog post]. Retrieved August 8, 2025, from https://neep.org/blog/strategic-electrification-energy-transformation

climate targets. Oregon has appropriately initiated this process by working on the development of an offshore wind energy road map to guide the states involvement early on. Coastal Tribes and community voices must be uplifted in decision-making, the impacts to critical ecological and cultural resources reduced and mitigated, and multigenerational ocean-based economies protected. To fully realize the potential of offshore wind, policies must also support integration of this variable resource through investments in transmission, storage, and flexible demand-side technologies that complement offshore generation.

- Policy 3b calls for enabling consumers to support grid needs by shifting the timing of electricity consumption for flexible loads like water heaters or EVs. This statement leaves out a lot of broader benefits that DERs can provide, including load shifting and ancillary grid services, which also help avoid expensive transmission and distribution (T&D) upgrades and enhances resilience.
    - This is another area where greater discussion of innovative utility business models are needed. The current utility regulatory structure rewards capital investments in infrastructure but not for power purchase contracts or investments in programs like demand response and virtual power plants. This limits the incentives for utilities to be active champions of distributed solutions.
- We do not comment on Policy 3c except to note that we support tribal engagement and respect the sovereignty of tribal governments. We encourage and support robust engagement with tribal partners and governments, including but not limited to incorporating feedback from tribal governments on this strategy and continued engagement as policies from this strategy are pursued.
- Policy 3d is critical for the future of our grid. Greater coordination across the region will allow for more strategic deployment of resources and will lead to a more resilient, reliable and affordable electric system. In coordinating the buildout of future transmission, the goals from policy 3a of avoiding, minimizing and mitigating negative externalities will also be important.

- Low Carbon Fuels
    - Overall, we appreciate the draft energy strategy's limited role for low-carbon fuels for the hardest-to-electrify end uses. With technological advances, this is likely to be an ever shrinking set of industries, so it is critical that investments and infrastructure for low carbon fuels be targeted, strategic, limited, and conscious of unintended consequences. The policies related to low carbon fuels should be tailored to maintaining functional industries while achieving real GHG emissions reductions.
    - Policy 4c supports a managed fuels transition that minimizes stranded assets as end-users electrify, and discusses "opportunities to repurpose existing infrastructure for low-carbon fuels or other energy applications." The strategy should look to minimize new infrastructure for low-carbon fuels, but should be careful about overvaluing existing fossil fuel infrastructure. For example, liquid

pipelines can carry alternate fluids, but gas pipelines are not much use for anything other than gases.
    - Policy 4c, importantly acknowledges that strategic electrification is going to be the path to decarbonization for most end uses. Strategic planning between utilities as fuel suppliers will be important for managing a transition away from fuels for most, while allowing the hardest-to-electrify to get the low carbon fuels they need. We encourage the final strategy to be more explicit in calling for greater integrated analysis and planning between electric and gas utilities to allow for strategic electrification for most and low-carbon fuels for the hardest-to-electrify.
- Resilience
    - Policy 5a importantly expresses the need for integrated electric and gas system analysis and planning. While important to resilience, this is also important to other pathways, particularly strategic electrification, and we encourage ODOE to make the cross-cutting importance of this policy even more explicit in the final strategy.
    - Policy 5b highlights the critical co-benefits that can be achieved through electrification, energy efficiency and so many of the policies and actions recommended throughout the strategy. Especially as state and federal dollars to support critical projects become more scarce, it is critical that utilities and other private entities step up and leverage their ability to secure capital to pursue solutions that improve resilience for the grid and their customers. We support maintaining this strong policy recommendation in the final strategy.

V. Action Items

We appreciate the agency's recognition that specific legislative or policy directives are needed in order to achieve the policies outlined in the Strategy. However, **policy directives are most effective when they are specific and prioritized.** We recommend that the final energy strategy provide legislators and policy makers with a prioritized set of recommendations, and we have suggested a possible prioritization below based on impact and urgency. We also offer a few suggested clarifications to the policy recommendations below.

Just as working groups, the Advisory Group, Inter-agency Steering Group and the public grappled with how to prioritize these policies, we have kept in mind the following questions:

1. Does the action address a critical near-term barrier to achieving one of the five strategies and related policies?
2. Might the action support longer-term needs to achieving the strategies and policies?
3. What are the benefits and risks of the action, accounting for both energy and non-energy considerations?
4. Does the action improve, worsen, or make no change to existing disparities? How can we address benefits and/or unintended consequences for environmental justice communities?
5. How would the action affect affordability and reliability in the state?

We note that approximately 14 of the 42 action items recommend studying ways in which to address the particular issue. While we recognize the value of ensuring pathways to desired outcomes are properly assessed, with the benefit of robust stakeholder engagement, we recommend that additional studies should be limited to the rare instances in which the desired outcome or pathway is not already clear. For that reason, we have often flagged some recommendations to *study* an issue as low priority.

We have described the action items in the order of priority.

Transportation

Transportation emissions remain the largest source of GHG emissions in Oregon. With the recent drastic federal policy changes, it remains the sector most in need of funding in a state with constitutionally restricted pathways to raise revenue in support of equitable transportation decarbonization.

For that reason, we recommend that the Strategy prioritizes the Climate-Aligned Transportation Funding Task Force (**Action 2**), with specific directions to establish a dedicated, sustainable, and long-term state revenue source for zero emission vehicle charging in the state (**Action 1**) and funding for the Zero-Emission Incentive Fund for a stable, long-term revenue source for the Zero-Emission Medium and Heavy-Duty Vehicle Incentive Fund (**Action 4**).[5] The Task Force could certainly evaluate whether a road usage charge program would be a useful tool (**Action 3**) in satisfying Action Items 1 and 4. Yet with HB 2025 and now HB 3991 in the special session, Oregon's legislature has already begun the process of adopting a RUC. It is worth mentioning that Oregon has been studying a RUC for the better part of two decades, with a pilot program on the books for nearly five years.

We want to underscore the importance of focusing on medium and heavy-duty trucks as they currently pump out 70% of smog pollution (NO_x), 64% of black carbon, and nearly half (42%) of climate pollution from our transportation sector, yet they're fewer than 10% of all vehicles on the road. Given the uncertainty around the Advanced Clean Truck Rule, it will be especially important that the state reflect its continued support for truck decarbonization for energy, climate, and public health goals. The limitations on the use of the Highway Trust Fund, the current operational funding challenges faced by ODOT, and the need for a dedicated and sustainable revenue for critical decarbonization of the transportation sector, all add to the challenge of these recommendations and to the urgency.

In the meantime, expanding the statewide payroll tax to fund transit and increasing funding for Safe Routes to School and Great Streets consistent with the scale of community needs (**Action 5**) are urgent steps that need not wait for a Task Force to conclude its work, especially with the funding plan identified in HB 2025, the greater flexibility in funding availability (being in the right

[5] Note that incentive funds must be paired with public and private charging funds to make adoption feasible for fleets.

of way generally), and ongoing task force work such as the Statewide Safe Routes to School Advisory Committee and the Jurisdictional Transfer Advisory Committee.

Similarly, requiring the investor-owned utilities to publish and maintain Hosting Capacity Maps showing capacity available for EV charging, building electrification, distributed generation and battery storage (**Action 10**) is direction that need not wait. As the Draft notes, the utilities already provide some of this information. Consistent with the Oregon Public Utility Commission's authority to require information from the utilities, the agency could require collection and publication of feeder-level data on grid capacity as soon as the Energy Strategy is finalized.

We support the recommendation to provide local governments with the authority to generate and direct transportation revenues to meet climate-aligned goals (**Action 7**) and a statewide incentive program for standard and cargo e-bikes (**Action 6**), but the urgency of the above action items mean that these are lower priority. Similarly, any effort to develop regulations around hydrogen refueling infrastructure (**Action 11**) is the lowest priority at this time.

For the same reason, given the lack of funding for the priorities listed above, a statewide technical assistance program to support public and private fleets (**Action 9**) feels less urgent at the moment. Instead, one of the Oregon agencies already engaged in reducing transportation emissions could serve as the repository for information about electrifying fleets. Investor-owned utilities also offer fleet electrification support and those entities could be tapped for information.

Action 12 may not have been vetted during any of the working group calls. It calls for an Advance Crediting from DEQ's Clean Fuels Program for high-mileage private fleet operators. We support efforts to address emissions from businesses reliant on vehicles, but need to understand the necessity for this particular solution, and any impacts on the Clean Fuels program.

Action 8, to develop a strategic roadmap to guide the deployment of medium- and heavy-duty zero-emission vehicles in Oregon, appears to be an unnecessary effort to duplicate planning that has already been done. For example, ODOT previously completed the Transportation Electrification Infrastructure Needs Analysis (TEINA, 2021) the Transformational Integrated Greenhouse Gas Emissions Reduction (TIGHGER, 2023), and the Biennial Zero Emission Vehicle (Bi-ZEV, 2023, with a forthcoming update). Instead, every effort should be made to identify funding for charging infrastructure and incentives as set out in Action Items 1, 2 and 4. Oregon's neighbors, Washington and California, are meeting and exceeding their goals on vehicle decarbonization. Duplicating studies already underway will not allow Oregon to catch up when action items 1,2, and 4 are the real barriers.

Buildings

Buildings are both a source of climate pollution and a critical resource for resilience in the face of climate change. And buildings are quickly becoming a close second to transportation emissions, even topping transportation in some cities. Similar to the transportation sector, recent

federal rollbacks have removed some key incentives that could have helped more Oregon families and businesses improve their buildings, reduce pollution, and lower their energy costs. However, the state has many remaining options to make buildings part of the solution to meeting our energy and climate needs. As laid out in the pathways, energy efficiency and electrification are the least cost pathways to achieving our energy and climate goals, and they can deliver critical co-benefits to building owners and occupants in the form of health, resilience, and lower costs.

We recommend that the strategy prioritize measures that will result in equitable electrification and efficiency for Oregonians, in both existing buildings and new construction. This includes ensuring that all energy efficiency and demand response programs promote the strategic electrification of buildings (**Action 2**). Critical to the success of demand response programs, such as time of use rates and virtual power plants, is ensuring equitable access to smart thermostats, heat pumps and other technologies that make it possible for all customers to access benefits from participation. Prioritizing existing programs which offer energy efficiency and weatherization, and particularly those focused on low- and moderate-income households (**Action 4**) is critical to advancing both the energy efficiency and electrification and ensuring equitable benefits in these pathways. Notably, however, the nod to "dual fuel" systems has no place in an energy strategy; dual fuel systems may arise naturally for reasons of cost or piecemeal electrification, but a strategy should not be directed at encouraging dual fuel systems, which will only delay the energy transition and increase the risk of stranding fossil fuel infrastructure. **In short, the Draft Energy Strategy should include a straightforward explanation of the obstacles to fuel switching that exist in current programs and incentives, and should identify solutions to those obstacles.**

To ensure future buildings are constructed in line with our energy and climate needs, code updates must keep up with efficiency and electrification needs (**Action 7**), this must include both commercial and residential codes, as well as the Reach code, though the Reach code may also reflect additional economic goals. Because building electrification is clearly the least-cost pathway to meeting climate goals while keeping energy costs low, building codes for new construction and building performance standards for existing buildings should be explicitly structured to promote and potentially mandate efficient electric heat pump heating and water heating solutions as quickly as possible.

In the near term, ODOE should weigh in on the 2026 ORSC development process with the Building Code Division. In alignment with Action 7, the ZERO code proposal would require gas-heated and electric resistance-heated homes to go further by meeting tested air leakage requirements.

While incentives encourage voluntary building electrification, and building codes encourage new buildings to be constructed with energy efficient electric heating appliances, there is still the urgent need to transition the large stock of existing buildings away from fossil fuel based heating. Every fossil fuel based heating appliance purchased now represents a 15 to 20 year delay in the opportunity to transition that building to the desired electrification pathway. **The energy strategy**

should include a timeline for the initiation of appliance standards that phase out the availability of fossil fuel based heating and water heating appliances in order to ensure the rapid electrification of the entire building stock in the state and to ensure that it will be possible to achieve those goals before 2050. This would suggest that beginning in 2030, policies for phasing out the purchase of new fossil fuel appliances for heating and water heating in existing buildings should begin.

Actions Items 5 and 6 are important to ensuring access to funding for deferred maintenance measures and allowing flexibility for cost recovery, and we support these action items.

Actions 1 and 3 are not priorities. Action 1 calls for a building decarbonization roadmap when this Draft Energy Strategy should serve as the roadmap. In short, we know we need building codes that require electrification with highly efficient appliances, that we need to replace our fossil-fuel appliances with highly efficient electric appliances, and that our rebates must incentivize the use of electric appliances. Meanwhile, our electric sector must manage our use of the system in a way that prioritizes and incentivizes efficiency. Action 3 is similarly unnecessary. It calls for prioritizing energy incentive programs that relieve pressure on the power system, but Action 2 already directs strategic electrification. Strategic electrification specifically calls for better grid management.

It is true that gas utilities could use some direction from the State about how, when and where to prune their systems. Washington's energy strategy helpfully includes these two action items, for example:

- The Legislature and the UTC should ensure that the state's climate policy and emissions limits are reflected in the regulation of natural gas companies and explore legislative and regulatory actions to restrict growth of the natural gas system and the use of fossil natural gas where zero-emission options are available.

- Natural gas distribution companies should work with regulators and stakeholders to develop comprehensive and equitable plans to transition from the use of fossil natural gas.

Finally, the strategy's discussion of the electrification pathway begins to acknowledge the need for better aligned integrated planning between gas and electric utilities, but the action items fail to focus on this specific planning need. Direction to the Public Utility Commission to initiate combined planning will help assure regulators and stakeholders that planning is properly underway to achieve our clean energy transition. We address the importance of this initiative in the Cross-cutting actions below.

Clean Electricity

There is a glaring hole in ODOE's action items in the clean electricity context. Specifically, ODOE neglects to include any action items related to consumer owned utilities. Public power now provides 38% of overall state electric power sales, up from about 28% 15 years ago, much

of that due to data centers (Umatilla Electric Coop and Amazon; Northern Wasco PUD and Google). While publicly owned utilities are not subject to emissions reduction mandates, public power has a major role to play in EE and DR, EVs, and community based renewables. ODOE should think more expansively about how public power can play a leading rather than following role in the clean energy transition, with the associated important economic sustainability, energy affordability and climate resilience benefits for rural/less urbanized areas across Oregon.

Addressing transmission constraints is a priority item for the undersigned organizations. Establishing a state transmission entity (**Action 1**) is one way to accomplish our goal. Since there is an urgent need for transmission that will allow us to meet our clean energy goals, in the interim, ODOE should explore whether it has staff capacity, together with other relevant agencies, to identify corridors for increased transmission capacity, using existing information and resources.

Meanwhile, directing the Public Utility Commission to increase competition to support resource procurements at lower cost (**Action 6**) and acquiring funding for the Community Renewable Energy Grant Program (**Action 7**) should be emphasized as near-term items to move forward. **Action 4** (government policy incentives for local electricity investments) aligns well with Actions 6 and 7 and offers strong support for advancing infrastructure needs, economic development and energy justice objectives. We are especially supportive of the directive that "Policymakers should be prepared to implement recommendations from this study once undertaken."

We are concerned that **Action 2** (ODOE study on barriers preventing construction and interconnection) and **Action 5** (update the Oregon Renewable Energy Siting Assessment Tool) may not go far enough. We were hoping that this Energy Strategy would begin to assess how much renewable energy our State needs to meet our clean energy goals. Further, we were hoping to see a desire to explore the balance between in-state and out-of-state resources. The reason for this is that we need ODOE to recommend resources and policies that remove barriers to siting in-state renewable energy resources and infrastructure where development poses the least conflict with natural resources, wildlife and communities in Oregon. In other words, ODOE should consider making its recommendations more "actionable" by expediting a study that pulls together existing data and identifies existing solutions, including streamlining processes and aligning timelines for review of renewable energy projects.

Finally, given the importance of resolving transmission constraints, identifying solutions for renewable energy siting barriers, and addressing barriers to community and individual access to clean electricity, **Action 3** appears to be the lowest priority. That action calls for a report on developments in emerging technologies. As a note, ODOE's Biennial Report often includes a section on emerging technologies. Additionally, each of the investor owned utilities evaluates emerging technologies. We suggest that the other Action Items are much more important.

Industry

We think **Action 2** (funding an industrial modernization revolving loan fund) may have greater impact than **Action 1** (identifying and evaluating short and long-term decarbonization options for the EITE industrial entities). Nevertheless, Action Item 1 is an important first step. Some industrial entities will need more assistance than others. Any funding should be directed toward the highest impact industry in communities most impacted by co-pollutants.

Aside from Cross-Cutting Action 1, the Draft OES does not address the growing impact of data center energy load. Data centers are expected to drive the majority of Oregon's load growth over the coming decades–with a 10 MW load equating to about 8,400 residential customers and a 100 MW load equating to 84,000 residential customers. Their size and rapidly fluctuating energy use, especially in AI-driven facilities, can strain utilities and require costly capacity upgrades. In AI-based data centers, shifts of many dozens of MWs can occur in seconds. Data centers—in particular the larger varieties that serve AI—can negatively impact the communities that surround them in several ways. These data centers can make the power for surrounding homes worse by distorting the frequency and thereby reducing the power quality. These distortions can reduce the efficiency of appliances and cause wear on their functionality, creating the need for more frequent replacements, the costs of which fall on the owner. Apart from their ravenous consumption of energy, they also require significant amounts of water to function, with newer, larger data centers expected to consume millions of gallons of water a day. The Draft OES should consider recommendations to eliminate or limit the impact of data center load on reaching Oregon's clean energy mandates.

Low Carbon Fuels

Action 3 is smartly designed to ensure that low carbon fuels are used in ways that make sense–emergency preparedness is one such use. We support Action 3. With respect to **Action 1**, we know that industry is already identifying sites for renewable fuel production. It is key that safeguards are upheld to protect communities and natural resources. Stringent, full life-cycle carbon intensity analyses that include impacts from indirect land use change, and all the risks associated with carbon capture use and sequestration, should be provided at the outset and re-assessed on a regular basis to make informed decisions. **Action 2**, developing a low-carbon fuels roadmap for low-carbon fuel policy, seems unnecessary given the existing regulatory support for low-carbon fuels currently, such as the Clean Fuels Program and the Climate Protection Program. Finally, the agency must include an action item updating the current incorrect accounting of GHG reductions from biogenic resources as well as fuels produced outside of the state, for purposes of GHG emissions accounting and Climate Protection Program compliance.

Cross-cutting Options

We strongly support **Action 1**, requiring registration and reporting requirements on all new large electric loads for the purpose of understanding policy changes needed to ensure compliance with our clean energy mandates. Additionally, **Action 5** appears to be an easily implementable

and necessary undertaking to ensure state policymakers understand energy affordability trends. Such a biennial survey could be incorporated into ODOE's Biennial Report.

We recognize the incredibly hard work and diligence of our agency staff, and we must ensure that agencies are well-staffed and well-funded. We support **Action 10**.

Action 2 (revolving loan fund) and **Action 3** (Tribal Energy Block Grant Program) are important but are obviously thorny to solve given the funding limitations of the State. We support continuing to explore how these initiatives might be brought to life.

As we noted in the Building Electrification summary, joint planning between gas and electric utilities, as called for by **Action 6**, will be important to ensure that our utilities are on the same page with respect to expected electrification and reliability. The PUC could be directed to initiate this effort.

Actions 11 and 9 could potentially be combined. With the help of a community benefits framework, better coordination could occur.

We have highlighted the other action items simply given the urgency of the priorities noted above (or the ease with which some of those priorities can be implemented), but developing a state-wide definition of energy burden (**Action 4**) and evaluating the gaps in employment needs (**Action 7**) are important. A commitment to workforce development, in particular, is necessary to ensure the energy transition is implemented at speed and scale.

Finally, we recommend **Action 8** be revised to state that ODOE recommends defending against federal policies that undermine achievement of state energy objections.

Thank you for the opportunity to provide this feedback.

Carra Sahler, Director and Staff Attorney
Jamie Johnson, Staff Attorney
Green Energy Institute at Lewis & Clark Law School

Brian Stewart
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Peter Fargo
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216 S. E. 4th Street
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September 22, 2025

RE: Comments on Draft Oregon Energy Strategy

Dear Oregon Department of Energy,

Thank you for the opportunity to provide comments on the draft Oregon Energy Strategy. We commend the Department for its hard work to establish a framework for a clean energy future that is equitable and supports economic growth in this state. We particularly appreciate the Department's engagement efforts with the nine federally recognized Tribes in Oregon, efforts to incorporate jobs and economic development considerations into the strategy, and stated dedication to a long-term energy vision for our state that supports a "high quality of life, strong economy, and responsible stewardship of natural and working lands, waters, and cultural resources."[1]

We write to advocate for stronger acknowledgement of the role that nuclear energy can play in achieving that long-term vision, and to offer several specific improvements related to nuclear that we believe will significantly strengthen the final Oregon Energy Strategy.

Acknowledge Nuclear as a Current, Clean Energy Resource for Oregon

Through imports from the Columbia Generating Station in Washington, nuclear currently makes up 3.2 percent of Oregon's current electricity consumption, contributing more than solar (2.8 percent), biomass (0.6 percent), geothermal (0.1 percent) or biogas (0.02 percent), based on the Oregon Department of Energy's 2024 Biennial Energy Report.[2] Nuclear is also a significant source of non-emitting electricity,[3] and increased nuclear energy generation worldwide has consistently been identified by the Intergovernmental Panel on Climate Change as essential for achieving decarbonization.[4]

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[1] Draft Oregon Energy Strategy (OES) at 4.
[2] https://www.oregon.gov/energy/Data-and-Reports/Documents/2024-BER-EBTN.pdf
[3] See Section 1 (7), HB 2021 (2021), defining "nonemitting electricity" as electricity "that is generated and may be stored in a manner that does not emit greenhouse gas into the atmosphere;" Oregon State Energy Strategy, CETI Technical Approach Document, Table 2, identifying nuclear as a "clean resource qualification" for purposes of the core case assumptions in the Net-Zero Northwest Core Case, https://www.oregon.gov/energy/Data-and-Reports/Documents/OES-CETI-EER-Technical-Approach-to-Modeling.pdf.
[4] OECD, Climate Change Targets: The Role of Nuclear Energy, https://www.oecd-nea.org/upload/docs/application/pdf/2021-10/nuclear_energy_and_climate_change_-_cop26_flyer.pdf.

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Nuclear energy's current and potential future role in Oregon's energy mix is significant, but is not acknowledged in the draft Oregon Energy Strategy ("the Strategy"). Indeed, while the draft Strategy's introduction rightly identifies that Oregon "benefits from clean sources of energy,"[5] the draft entirely omits the existing contributions of nuclear to Oregon's energy mix, and only mentions nuclear in reference to small modular nuclear reactors as an emerging technology.

In finalizing the strategy, we encourage the Department to better describe the role that nuclear currently plays in Oregon and to directly acknowledge nuclear as a clean, non-carbon emitting source of energy that can contribute to meeting Oregon's energy goals, including the requirements of HB 2021 (2021).

Update the Clean Electricity Pathway to Better Incorporate the Need for Firm Power

We recommend that the final Strategy include an explicit reference in the Clean Electricity Pathway to nuclear as a clean, firm complement to variable renewables and storage. The Clean Electricity Pathway should also include a discussion of the need for firm power to complement variable generation to support power quality and grid stability. As the draft Strategy recognizes, Oregon's total electricity needs are modelled to potentially more than double by 2050, requiring deployment of resources that can provide firm power in the long-term. Much of that load growth is anticipated to come from tech loads, which require reliable, firm power with consistent quality and high uptime to support artificial intelligence and data center operations.

Furthermore, with a grid that is increasingly reliant on decentralized variable power sources like rooftop solar and virtual power plants, the value of firm power increases. Firm power generation sources, like advanced nuclear, can help to provide a reasonable reserve margin through all hours and weather events, and help maintain grid stability.[6] However, the current draft Strategy only references a potential need to deploy additional firm power in the long-term, without discussion of the benefits of firm power as a complement to renewables or the risks of not planning for or incorporating firm power as part of a diversified grid. The draft Strategy also does not discuss the impacts on the system of the loss of other firm power sources like coal due to Oregon's coal to clean policies or the impacts of reductions in hydroelectric generation due to drought conditions or other policy prerogatives.

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[5] Draft OES at 4.

[6] U.S. Department of energy, Pathways to Commercial Liftoff: Advanced Nuclear, September 2024, at 14, 15, https://liftoff.energy.gov/wp-content/uploads/2024/09/LIFTOFF_DOE_AdvNuclear-vX6.pdf.

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Meeting the modelled electricity demand for Oregon while achieving this state's greenhouse gas reduction goals will require deploying every available clean energy technology. We recommend that the final Strategy better reflect this reality by incorporating a clear reference to nuclear as a complement to renewables, and by incorporating a discussion of the factors influencing power quality, grid stability and reliability, and why these considerations are important to implementing policies for new investments in electricity generation, transmission, distribution and storage.

Include Existing Laws on Nuclear as a Barrier to Several Policies to Advance the Pathways

Oregon's existing energy facility siting laws do not practicably allow siting nuclear facilities in this state, creating a significant barrier to considering any form of Oregon-based advanced nuclear as an option for meeting Oregon's energy and decarbonization goals. To better provide the direction needed to inform near and long-term decisions, we strongly suggest that, in the final Strategy, the following policies to deploy the pathways be updated to acknowledge Oregon's nuclear prohibitions as a barrier.[7]

> *Policy 1b. Large commercial and industrial efficiency*
> Large commercial and industrial sectors have large energy loads and often present significant challenges for decarbonization. Some industrial processes require 24/7 electricity, and many of the most energy-intensive industries rely on uninterrupted, high-pressure steam, for which nuclear is one of the few alternatives to fossil fuels.[8] Certain designs of advance nuclear reactors could utilize minimal space to provide on-site, grid-independent and highly consistent electricity or process heat.[9] Oregon's nuclear siting prohibitions stand as a barrier to this sector's ability to consider nuclear as an option for improving energy efficiency and decarbonization.
>
> *Policy 3a. Utility-scale and distributed energy resources*
> Advanced nuclear facilities provide non-emitting carbon-free electricity with low land use requirements and lower transmission requirements than distributed or site-constrained generation, and provide significant regional economic benefits in the form of high-wage, union jobs and other economic development benefits. Oregon hosts a leading nuclear science and engineering program at Oregon State University, and a

[7] *See* ORS 469.590, 469.593, 469.594, 469.595, 469.597, 469.599 and 469.601.
[8] Pathways to Commercial Liftoff at 19.
[9] *Id.*

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skilled workforce of tradesmen who are trained in building, operating and decommissioning other nuclear facilities in the region. Advanced nuclear could provide significant opportunities for facilitating energy infrastructure enhancement and expansion while avoiding, minimizing, and mitigating negative impacts on natural and working lands, but Oregon's nuclear siting prohibitions stand as a barrier to considering nuclear development in Oregon as an option.

Enhance Clean Electricity Action 3: Emerging Technologies Assessment

We strongly support and commend the Department for including a recommendation for an emerging technologies assessment in the Oregon Energy Strategy, and thank the Department for identifying small modular nuclear reactors as an emerging technology worthy of study.

We recommend incorporating several enhancements to the proposed study, however, that we believe will increase its utility:

- Include assessment of all advanced nuclear technologies, not just small modular reactors, to provide policy makers and stakeholders with a broader understanding of all forms of existing and emerging advanced nuclear technologies and their potential utility for Oregon;
- Include consideration of existing laws that present barriers to development of emerging technologies in Oregon and recommendations for addressing those barriers;
- Consider the jobs and economic development opportunity potential of the emerging technologies, existing workforce potential, and integration of current workforces available in Oregon to advance development of the emerging technologies in a manner that supports Oregon's energy policy objectives;
- Consider the effects of deploying the emerging technologies in Oregon on the need for additional transmission permitting and construction; and
- Ensure that the study incorporates Tribal engagement consistent with the Feedback and Themes outlined in the draft Strategy.

Recommend an Additional Clean Electricity Action to Revisit Oregon's Nuclear Siting Restrictions

The passage of Measure 7 in 1980 resulted in provisions within the Energy Facility Siting Council's (EFSC) statutes that placed insurmountable barriers to EFSC's ability to approve siting new nuclear facilities in this state, thus serving as a practical moratorium on nuclear energy.

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While the statutes adopted via Measure 7 remain in effect today, the draft Strategy repeatedly recognizes growing and significantly different energy challenges than those of the past.

Nuclear energy technology has also changed. Advanced nuclear reactor designs offer enhanced passive safety systems that automatically shut down without operator intervention or external power, reduced waste production through improved fuel efficiency, and modular construction techniques that could reduce construction time and cost.

In light of changing circumstances and perspectives, many states are rolling back the nuclear energy restrictions of the past. Out of the sixteen states that passed restrictions on nuclear energy in earlier decades, only nine continue to completely prohibit new facilities in their borders.[10] Meanwhile, other Democratically-led states are moving forward in embracing nuclear energy as a complement to renewables. New York Governor Hochul directed the New York Power Authority in July to develop and construct a zero-emission advanced nuclear power plant in Upstate New York;[11] the Colorado Legislature recently embraced nuclear energy as a source of clean energy;[12] and Hawaii recently formed a nuclear working group to study the feasibility of using SMRs in the state.[13]

We acknowledge that the Department's efforts thus far in preparing the strategy have "aimed to support consistency and compliance with existing law."[14] However, without any near-term action to identify a realistic pathway to permitting nuclear facilities in Oregon, this state risks missing critical opportunities for resource planning, investment and future development of nuclear facilities in this state. Such missed opportunities could have significant negative impacts not just for resource adequacy and reliability, but for economic development in our state as the significant infrastructure investments and high-wage, skilled workforce needed to support advanced nuclear is attracted elsewhere. While compliance with existing laws is laudable, it

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[10] U.S. DOE, What is a Nuclear Moratorium?, https://www.energy.gov/ne/articles/what-nuclear-moratorium.
[11] Press Release: "Governor Hochul Directs New York Power Authority to Develop a Zero-Emission Advanced Nuclear Energy Technology Power Plant," June 23, 2025, https://www.governor.ny.gov/news/governor-hochul-directs-new-york-power-authority-develop-zero-emission-advanced-nuclear-energy.
[12] Colorado HB25-1040 (2025), https://leg.colorado.gov/bills/hb25-1040.
[13] Hawaii SCR136 (2025), https://www.capitol.hawaii.gov/session/measure_indiv.aspx?billtype=SCR&billnumber=136&year=2025; KHON 2, "Working group set to meet to discuss bringing nuclear energy to Hawaii," https://www.khon2.com/local-news/working-group-set-to-meet-to-discuss-bringing-nuclear-energy-to-hawaii/.
[14] OES at 5.

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also must be acknowledged that sometimes existing laws can stand in the way to achieving broader policy goals.

For these reasons and others discussed throughout these comments, we encourage the Department to include a separate, new, Clean Electricity Action recommending that the Legislature revisit Oregon's nuclear energy generation-specific siting prohibitions, in order to create a pathway to advanced nuclear permitting in Oregon that better reflects the nuclear generation technologies of today, and that reflects nuclear power's potential contribution to Oregon's clean, reliable and affordable energy future alongside other technologies.

Conclusion

We are grateful for and commend the Department for recognizing small modular reactors as an emerging technology deserving of study.

However, to fully achieve the Energy Strategy's goals of adequately reflecting the direction needed to advance Oregon's energy policy objectives, a more explicit consideration of nuclear energy generation is needed. We urge the Department to strengthen the final Strategy by directly acknowledging advanced nuclear as a clean generation source, and by directly addressing the impacts of Oregon's current nuclear energy siting laws as a barrier to realizing a clean, reliable and affordable energy future for our state.

Oregon requires a truly all-of-the-above strategy to meeting its energy and climate goals—and that strategy includes nuclear.

Thank you for the opportunity to provide comments. Sincerely,

Daniel N. Dorran
Umatilla County Commissioner

Maureen McGee
Lobbyist for Umatilla County
1300 SW 5th Ave., Suite 2400
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Oregon Energy Strategy

Public Comment

Cory Little, 8.15.2025

The steps away from fossil fuels, but if we are not stepping into sustainable technologies then we risk damaging our environment and leaving future generations to clean up the mess.

There's a common misconception that chemical batteries and fiberglass wind turbines are a part of our long term future and that couldn't be further from the truth. Chemical batteries and fiberglass windmills come with an expiration date and an expectation of failure long before it can serve the next generation.

Ocean wave energy can be converted into usable energy at a fraction of the cost of any other source, and as developer and patent filer for the concentrated displacement of air by waves I am exactly the person to show you how. This type of sustainable energy generation is able to respond to demand as well as store energy from other sources. It's key to understand how a wave energy convertor is tapping into the the exact same source as wind turbines, but with exponentially more return on investment, reliability, ease of maintenance, and most importantly- sustainability. If the pacific northwest is supposed to be the most environmentally conscious part of the country and are still hiring shortsighted engineers who can't include the ongoing replacement cost in their coat equations it's leading the whole country and the world down a dark path.

Let me give one example, it may cost 10 times as much to build a pumped Hydro facility with 100 times the energy capacity as batteries.. in ten years the batteries will be garbage.. the math is not hard.

For the cost of a single off shore wind turbine I can build a permanent ocean wave convertor that will power an entire community for hundreds of years, and pay for itself in under a decade.. in 20 years the wind turbines will cost millions to dismantle and probably never fully returned on investment. The math is not hard, especially when you consider the cost of the environmental damage is not measurable financially.

Monday, September 22, 2025

To: Oregon Department of Energy
From: The Community Renewable Energy Association (CREA)

Re: **CREA's Comments on Draft Energy Strategy Proposal**

Director Benner,

Thank you for the opportunity to provide feedback on the Draft State Energy Strategy on behalf of the Community Renewable Energy Association (CREA). CREA is an ORS 190 intergovernmental association. Members include counties, irrigation districts, councils of government, project developers, for-profit businesses and non-profit organizations. CREA supports business and economic opportunities through renewable energy development in a competitive environment. We support creating economically and environmentally responsible electric generation within the State of Oregon.

<u>Include More Background and Facts of Current Landscape</u>
While the proposal offers a helpful framework for shaping future policy, it does not sufficiently reflect on the historical context that brought us to the current energy landscape. A clearer acknowledgment of past decisions, challenges, and lessons learned would provide essential grounding and ensure that future strategies are built on a more informed foundation.
Additionally, the draft lacks a robust and realistic assessment of the current energy landscape in our state. Understanding where we stand today — in terms of energy generation, capacity, infrastructure, and market dynamics — is crucial to crafting an effective and achievable path forward. While that is included in the technical pathways report & biennial energy report, but this document could benefit from a more robust description of the other policies that led us to Oregon's current energy situation and charts to help show current and future energy needs.

<u>More Detailed Scenarios Encouraged</u>
We strongly encourage the inclusion of more detailed and transparent quantitative data and would like to see that turned into hard numbers that can shape the next steps needed to achieve our state's goals.

Instead of simply a list of recommendations for policy changes, we want to see a plan to develop and secure the energy needed for the citizens and businesses of the state to thrive. We believe the final plan should be grounded in clear numbers and backed by a transparent roadmap showing how, when, and where new energy will be built — and whether the market can deliver it. It would be preferable to see multiple potential paths that could be taken to achieve the desired outcomes, so it can be up to the public to lean towards one path over another.

Increases in Energy Demand

Under the *Clean Electricity Actions on page 68* – There is an acknowledgment through modeling, and a projection that "by 2030, Oregon's electricity demand could increase approximately 40 percent, even with aggressive levels of energy efficiency". The biggest driver may be new tech loads such as data centers; However, there are local Oregon businesses and industry needing and planning to expand, but are years away from acquiring the needed electricity, either because of load pockets, transmission capacity, or generation constraints.

This is a problem with no proposed solution. Therefore, alternative energy and low-carbon fuels such as natural gas and renewable natural gas should not be discounted, as to enable a smoother energy transition. Especially with the additional acknowledgment of the current pace and scale of construction for new renewable electricity infrastructure (such as solar, wind, transmission, etc.) being so low, and not meeting demands.

Consider Updates Based on Recent Events

Since several key developments were announced during the latter part of Phase 1 and throughout Phase 2. These announcements were not reflected in the modeling and, as a result, were not part of the stakeholder review or policy discussions. Their exclusion leaves a gap in the analysis, and we believe their potential implications should be addressed in the final Oregon Energy Strategy.

While further modeling may not be essential, CREA urges ODOE to consider whether recent developments—such as Bonneville's significant shift in transmission planning—affect the viability of the current policy proposals. These changes, which occurred after Phase 1 modeling assumptions were published, may require more ambitious policy actions than those discussed in Phase 2. CREA recommends ODOE acknowledge this potential gap and assess whether additional analysis is needed to fulfill HB 3630's objectives.
In addition, with major changes in policy at the Federal level, we think ODOE should consider if there is a need to be alter any of this document to properly reflect those recent changes.



Appreciate Review Periods

CREA is glad to see ODOE plans to reevaluate the strategy every 4 years. We hope that ODOE may be open to major shifts during those reviews. Clean energy technologies are evolving every day, and we would like Oregon to be open to adopting new technologies in the future like off-shore wind, hydrogen development, or SMRs if they prove feasible, useful and cost-effective.

Other Technologies

Nuclear energy plays an important role in Oregon's current and potential future energy portfolio, yet it is noticeably absent from the draft Oregon Energy Strategy ("the Strategy"). Although the Strategy's introduction correctly highlights Oregon's reliance on clean energy sources, it completely overlooks the existing contribution of nuclear power to the state's energy mix. The only mention of nuclear is limited to small modular reactors as an emerging technology, without acknowledging other types of nuclear power.

We suggest that the final Strategy more accurately represent this reality by explicitly recognizing nuclear, hydrogen and other clean energy sources as valuable complements to wind, solar & hydro. The Strategy should also include a thorough discussion of the elements that affect power quality, grid stability, and reliability, explaining why these factors are crucial when developing policies for new investments in electricity generation, transmission, distribution, and storage.

Advancing Innovative Solar Deployment

CREA is excited about the significant potential of emerging solar technologies in Oregon, including floating solar, solar-covered irrigation canals, and agrivoltaics. While agrivoltaics are already in use, current land use regulations restrict their broader adoption. We encourage the Department of Land Conservation and Development (DLCD) to update these rules to better support agrivoltaics projects. Floating solar installations on reservoirs and canals offer the dual benefits of conserving water and generating clean energy and should also be actively promoted. The Energy Strategy should include clear recommendations to encourage these technologies, including provisions for categorical exclusions from state permitting and siting requirements. Washington's recent passage of ESSB 5445 provides a useful legislative model that Oregon could adapt to advance similar goals.

Community Solar Expansion

Community solar programs play a crucial role in making 100% clean energy accessible to renters, public entities, homeowners, and businesses unable to install rooftop solar. Oregon's existing program offers discounts to low-income participants, which is a positive step toward equitable access. CREA supports expanding community solar initiatives. The

draft Energy Strategy should explicitly recommend the growth and enhancement of these programs and factor them into any future planning.

Go Beyond Studies

Industrial Actions on Page 75 **–** We agree with directing ODOE, DEQ, and Business Oregon to collaborate with EITEs (regulated by the CPP) to identify opportunities, but this should be a **recommendation for actionable changes and adjustment to policies… not studies!** This kind of thinking will only further delay progress. At the very least, the strategy should recommend flexibility in current policies, and allow for discretionary decision making, especially when in conjunction with local governments. This would lead to legitimate progress for energy efficiency, industrial symbiosis, electrification of thermal processes, low-carbon fuels, carbon capture and storage, etc. along with other opportunities to support compliance with the Climate Protection Program. Recommendations should be for action, not additional studies.

Support Low-Carbon Fuels

With these points in mind, we do support the *Low-Carbon Fuels Actions on page 77* **–** as this will be critical in providing communities and industry for manufacturing, and other direct uses. The shift to low-carbon fuels requires investment, which until the state can support, we should be mindful of further regulation and/or restrictions. Industries rely on high-heat industrial processes as well as aviation, rail, and marine transport, as referenced in the State Strategy, and we agree with this analysis.

As recognized, some low-carbon fuels are already being used in Oregon to reduce emissions in transportation. Renewable diesel and renewable natural gas have increased in usage and availability and should continue to be part of Oregon's growing energy portfolio.

Updating the Oregon Renewable Energy Siting Assessment (ORESA) Tool

CREA supports ongoing improvements to the ORESA tool to improve transparency and facilitate efficient siting of renewable energy projects. In particular, for incorporating distribution-level electrical infrastructure data to better support market-driven solutions, including distributed resources like demand response and solar-plus-storage. These enhancements could help streamline development and integrate clean energy more effectively into Oregon's grid.

Additional Areas that Need Further Explanation

We would like to call out the following issues that need additional explanation within Oregon's Energy Strategy:



- Procurement – OPUC has a long history of disregarding industry and IPP investor comments and not holding some of the Investor-Owned Utilities accountable to the RFP process, which has led to significant obstructions for projects, and stalled clean energy development throughout the state. How does the state plan to proceed in addressing this issue?

- The Strategy is void of a complete analysis of recent regulatory changes at the DLCD and federal agency levels.

- It is our observation that the state appears to have conflicting motivations and goals when it comes to the new Solar Rule, cultural & farmstand rule, and progressive initiatives within this strategy.

- Oregon's Statewide Energy Strategy should be bolder in articulating the need for streamlining utility scale clean energy projects and should include stronger recommendations if the state is serious about reaching its goals.

- Recommend that the OPUC explore ways to modify utility business models and ratemaking practices to foster marketplace competition and reduce costs in utility planning and resource procurement.

- CREA acknowledges the interconnected actions in existing and planned PURPA avoided cost updates, Distribution System Plan, Clean Energy Plan updates, and Microgrid implementation. CREA further urges a thoughtful approach to ensure the investigation is comprehensive and considers all related efforts holistically.

- Be clear about how much energy (in MW/GWh) is currently being generated by each source and what the projected energy needs for the next 10, 25, and 50 years. What is the transmission needed to transmit the energy to its final destination.

- Clarify needed on how much can we build and how much can we buy from elsewhere. If the strategy is excluding certain emerging or innovative technologies, how do we get to our end goal with only hydro, solar and wind? It should be fairly easy to calculate the needs of each, then we can work backward to figure out how to obtain that energy.

- Will the clean energy market, locally or elsewhere, be able to supply the needed generation capacity, materials, and workforce on the timeline proposed?



Need for Streamlining Permitting

Permitting for solar development in Oregon is unfortunately more complex than in many other states. While the Draft Energy Strategy acknowledges some of these permitting hurdles, it offers no actionable steps to address them. One key area in need of reconsideration is land use policy—particularly regions designated for viticulture that, due to lack of water, are no longer viable for agriculture. Additionally, the state's goal exception process often acts as a barrier to clean energy development and is increasingly out of step with Oregon's climate and carbon reduction commitments. As Oregon moves forward, any new rules should aim to simplify and expedite the permitting process, not create additional obstacles. It is also important to recognize that soil quality alone should not be the determining factor in assessing land suitability for solar; a broader evaluation of land characteristics is warranted.

We agree that we must invest in resources that can be built quickly, including distributed technologies like solar, storage, and utility-scale resources wherever they can be connected to the electric grid. However, this begs the question… Why aren't projects being built? Is there a bigger problem at the OPUC or within the land-use process that is stalling projects from moving forward?

Prioritize Transmission Outcomes

Rather than focusing on establishing new structures, the strategy should concentrate on achieving tangible outcomes—specifically, expanding transmission capacity and enabling streamlined permitting for renewables within designated corridors. Additionally, CREA supports and echoes OSSIAs comments, in supporting transmission corridors and co-locating infrastructure. Expanding opportunities for renewables, transmission and the possibility of state financial support. We have concerns about adding additional or duplicative siting or review processes that might impede progress.

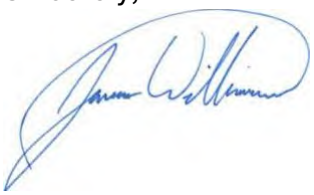
Enhancing Interconnection Processes

Significant improvements to Oregon's interconnection processes are urgently needed, but commissioning another study may not be the right path forward. The Public Utility Commission is currently addressing interconnection issues through docket UM 2111. CREA urges that this docket be prioritized and provided with additional staff resources to accelerate its progress and help bring renewable energy projects online more quickly. This docket has already been on-going for several years.

CREA looks forward to ongoing engagement with stakeholders on these important issues and to reviewing the public comments submitted ahead of ODOE's final report to the Governor and Legislature in November.

Thank you again for your work and for considering our input.

Sincerely,



James Williams
CREA Executive Director

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September 22, 2025

Filed via email and web portal

Janine Benner
Director, Oregon Department of Energy
550 Capitol St NE
Salem, OR 97301
janine.benner@energy.oregon.gov

RE: Comments on the Draft Oregon State Energy Strategy

Dear Director Benner:

The Columbia River Inter-Tribal Fish Commission (CRITFC) appreciates the opportunity to provide comments on the Oregon Department of Energy's (ODOE) draft Oregon State Energy Strategy (Strategy). We appreciate ODOE's multi-year efforts to develop this draft, and the department's consistent engagement with the region's tribes. As Oregon advances its energy transition, it must do so in a way that safeguards Columbia River fisheries and upholds tribal sovereignty so that tribes and their treaty resources no longer shoulder a disproportionate share of the costs and burdens of energy development.

CRITFC was formed in 1977 by the Confederated Tribes and Bands of the Yakama Nation, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, and the Confederated Tribes of the Warm Springs Reservation of Oregon. CRITFC's mission is to ensure a unified voice in the overall management of fishery resources through science, policy, and advocacy. In 2022, CRITFC published the *Tribal Energy Vision for the Columbia Basin* (Tribal Energy Vision), which provides a roadmap for a regional energy future that restores fish populations, honors treaty rights, and delivers clean, reliable, and affordable electricity.[1]

The draft Strategy shares many of these goals, particularly its focus on energy efficiency, demand response, and distributed renewable energy. However, the current version lacks clear prioritization, overlooks key risks from large energy loads, and does not fully align with

[1] Columbia River Inter-Tribal Fish Commission, *2022 Energy Vision for the Columbia Basin* (2022), critfc.org/energy-vision/.

Docusign Envelope ID: 9EC607B3-C088-4F40-B040-EF8CCE8B0C04

Oregon's commitments to Columbia Basin restoration and tribal sovereignty. CRITFC encourages ODOE to strengthen its draft Strategy in the following ways: 1) strengthen the Strategy overall by separating opposing ideas and committing to clear policy directions with identified priorities; 2) directly address the clear impacts of new large load demand from data center expansion through its own pathway, policies, and actions; 3) set an intentional policy to support Columbia Basin resiliency in line with Oregon's commitments in the Columbia Basin Restoration Initiative and tribal input.

Tribal Engagement and Energy Sovereignty

While the CRITFC comments focus on our mission and protecting tribal fishing rights and fisheries, we support the expansion of tribal energy sovereignty and applaud the Strategy's initial recommendations to support regional tribes. Accordingly, we support the comments of CRITFC's member tribes and their perspective on the draft Strategy. We appreciate the difficulty in navigating the need for continual tribal consultation with the immediate identification of actions, but we are concerned that tribal actions will be lost in the implementation.

In addition, we note that the draft Strategy overlooks the sovereign roles of the Yakama Nation and the Nez Perce Tribe in the region. Both tribes have treaty-reserved rights, sovereign authority, and historical territories that overlap Oregon. Further, the Nez Perce Tribe owns and manages land within their homelands that lies within the current borders of Oregon for fish, wildlife and cultural resources. Omitting them reflects a colonial framework that limits engagement to the nine federally recognized tribes with reservations in Oregon. Tribal engagement must therefore move beyond consultation to partnership, ensuring that all affected tribes have the resources, capacity, and decision-making power to shape energy planning and implementation.

CRITFC recommends the Strategy:

- Recognize the tribes have shouldered the burden of energy development in the Pacific Northwest.
- Explicitly name tribes as key partners and beneficiaries in the framework.
- Require meaningful tribal consultation before major energy decisions.
- Require funding mechanisms for tribal energy programs and community-scale renewable energy and microgrid investments for tribal energy sovereignty.
- Rather than just ensuring "that Tribes are compensated for their time and expertise," develop full-time capacity at the tribes to engage in Strategy implementation, energy development, and project implementation coordination.

Columbia Basin Restoration

In the Pacific Northwest, hydropower is central to both energy production and the fate of the region's fisheries. Increased energy demand can put pressure on the hydropower

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system to give more, and renewable energy sources create periods of increased peak energy demand to compensate for their intermittent nature. Increased reliance on the Columbia River hydropower system will be detrimental to fish, particularly the alternating peaking/low flow operations that result from using hydro to balance periods of low solar and wind generation and other high-demand periods, and related concerns with increases to temperature and predation. The Columbia Basin Restoration Initiative (CBRI) was developed in 2023 to address some of these issues, yet the Strategy does not mention the initiative, nor does it discuss hydropower's relationship with fisheries.[2] This is a glaring omission given Oregon's partnership in the CBRI and its commitments to fish recovery.

Growing energy demands, particularly from electrification and large data centers, will place unprecedented and 24/7 pressure on the hydropower system. Emergency hydropower operations during energy shortages harm fish by causing abrupt reservoir fluctuations, higher water temperatures, and degraded habitat. Climate change compounds these threats by reducing snowpack, shifting runoff timing, and increasing water temperatures. To align with CBRI objectives, the Strategy should:

- Ensure interim fish measures (CBRI Objective 3). The Corps of Engineers shuts off current fish protection operations during an energy emergency. The likelihood of an energy emergency could increase with rapid and intermittent energy growth.
- Implement the Six Sovereigns enhanced fish operations (CBRI Objective 1). Projected energy shortages to meet significant energy growth demands will challenge meeting decarbonization goals, delivering "affordable and clean power", and will reduce resiliency and adaptability to climate change. Any reductions in electricity adequacy will increase pressure to operate existing coal and methane-fired power plants, build new methane-fired power plants, and/or rely on unspecified market purchases.
- Improve salmon and steelhead habitat (CBRI Objective 1). The energy resources and transmission needed to serve increased energy demands could affect land and water resources.
- Meet state greenhouse gas objectives (CBRI Objective 4). Projected energy shortages will not be consistent with meeting decarbonization goals, deliver "affordable and clean power", and will reduce resiliency and adaptability to climate change. Any reductions in electricity adequacy will increase pressure to operate existing coal and methane-fired power plants.
- Ensure continuity of services from the Lower Snake River dams (CBRI Objective 1). High data center growth could cause projected electricity shortages that make it

[2] https://critfc.org/cbri/ The CBRI was formed to provide a framework for a durable long-term strategy that restores salmon and other native fish populations to healthy and abundant levels, ensures a clean energy future, supports local and regional economic resilience, restores ecosystem functions and honors longstanding commitments to Tribal Nations. It represents a collaborative approach adopted by the Six Sovereigns, the four lower Columbia River treaty tribes and the states of Oregon and Washington. A key theme of the CBRI is to honor the treaties with tribes.

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more difficult to replace the energy services of the LSR dams. Current output from the four dams is about 700 average megawatts; data center load growth is 2,400 to 4,000 average megawatts by 2029.

- Support communities and economic sectors (CBRI Objective 4). Electricity shortages, brownouts, or blackouts and higher electricity costs would damage communities and other businesses.

Oregon cannot meet its clean energy, climate, and salmon recovery goals without integrating energy planning with Columbia Basin resilience. The state must align the Strategy with its CBRI Commitments. This will require it to integrate the CBRI goals into energy planning and reflect its commitments throughout the Strategy. Oregon is salmon country. We need to protect this. Energy plays an important role.

Strengthening Regional Resilience

Oregon's Strategy must prioritize resilience in the state and the Columbia River basin, allowing for river conditions to improve and salmon restoration efforts to succeed. This means investing in long-term battery storage, flexible resources, and adaptive hydropower operations that can respond to changing conditions. Energy planning should fully account for climate-driven changes (e.g., increased warming, shifts in seasonal weather, etc.) impacting river flows, drought, and fish survival. Oregon should work to integrate climate adaptation into every stage of decision-making. By prioritizing salmon restoration, hydropower system adaptation, and climate resilience together, Oregon can build an energy system capable of withstanding climate impacts while protecting fisheries and supporting tribal treaty resources.

Energy Efficiency, Electrification, Clean Energy, and Low Carbon Fuels Pathways

A major theme of the Tribal Energy Vision is to ensure that the region's clean energy transition can provide clean, adequate, reliable, and affordable electricity while still supporting the restoration of healthy and harvestable salmon and steelhead populations and other tribal resources caused by the electrical system. This is achieved through renewable resources in combination with increased storage, reductions in peak demand, and increased energy efficiency which is a holistic approach that does not rely on any one action. Oregon's Strategy will also need to be holistic, adaptive, and grounded in the context of our changing climate, hydropower system, and ecosystem needs.

<u>Energy Efficiency Pathway</u>
Energy efficiency is the most fish-friendly energy resource available. Reducing demand lowers pressure on the hydropower system, minimizes the need for new infrastructure, and improves reliability. While energy efficiency will need to be implemented in coordination with other measures, particularly resilience, it should be made a priority in Oregon's Strategy.

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Electrification and Clean Electricity Pathways

These Pathways align with the Tribal Energy Vision, but they must be implemented responsibly to avoid creating new peak energy demands that stress fish and water resources. Transmission and energy infrastructure should be sited to minimize impacts on tribal treaty rights, cultural resources, and fish habitat. Clean Electricity efforts should be focused on distributed energy technologies to improve reliability and flexibility of the system and minimize the need for large-scale resource development and transmission.

Low-carbon Fuels Pathway

We recognize ODOE's basis for including low-carbon fuel coordination and development in the Strategy, but we feel that this is largely a near-term need and one that is likely to develop on its own. Balance will be required to address this need without taking away the priority of other Pathways.

Policy Framework and Prioritization

The Strategy presents a layered approach, with specific policies for each pathway and actions that span multiple sectors. CRITFC generally supports this framework and the actions identified to fulfill the Strategy, however, the Strategy lacks clarity in direction and prioritization. Without clear sequence or emphasis, decisionmakers and stakeholders may struggle to understand the intent of the policies and how to implement the associated actions. To improve usability, CRITFC recommends adding a crosswalk chart that identifies/lists the actions implementing each policy helping reviewers track the actions identified to fulfill specific policies.

The Strategy is currently fragmented and contradictory because too many policies attempt to balance multiple competing ideas and recommendations. Where ODOE has a clear policy recommendation, it should be stated clearly so decisionmakers and the public understand, and actions can follow. When goals are stated clearly – for example, to invest significantly in energy efficiency – then parties can debate how they will be achieved, rather than whether the goal significantly accounts for different issues in its framing. If a goal states: "invest in energy efficiency, but only to the extent it is cost effective," then action becomes more difficult because different stakeholders will debate each policy in its framing, rather than its approach. ODOE's expertise and recommendations are important, and should be read clearly, so all those invested can understand the proposed course of action.

The Strategy similarly lacks clear prioritization for the recommended actions. While some actions must sequentially happen before others, there is little guidance for prioritizing near-term actions given that recommendations will likely have to compete for financial resources and implementation capacity.

Consistent with the Tribal Energy Vision and its recommendations, CRITFC highly supports the following policies and actions:

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Policies:

- Policy 3c (Tribal Engagement). Tribal engagement will be key to supporting Tribes during the Strategy implementation, however, to improve force and clarity, this could be separated into distinct sub-policies for tribal consultation, tribal funding, and impact mitigation. Additional actions are necessary to ensure tribes have access to funding, technical assistance, and decision-making power for energy projects.
- Policy 3d (Regional Engagement): Coordination with BPA will be key to implementing electrification and renewables build-out in a manner that does not put additional pressures on the hydropower system.
- Policy 5b (Resilience Measures). Resiliency and energy reliability are key to protecting people and salmon as we move through this energy transition; these efforts will need to be multi-faceted across main sectors. While we agree with this policy, it seems extremely broad given its importance and we note that there are limited actions implementing the policy. More specifics will be necessary to assure success.

Actions:

- Buildings4 – Oregon should prioritize incentive programs for essential energy efficiency and weatherization.
- CE1 – We support the development of a state transmission authority, provided it has and supports capacity for tribal participation. This action should be a near-term priority to get out in front of transmission development.
- CE7 – Statewide energy infrastructure resilience programs and funding for projects that improve energy resilience are vital to assure reliability and resilience in the region, and distributed programs can benefit consumers. This action should be one of the highest priorities.
- CC1- Transparency, especially for large electric loads, will be vital moving forward. This action should be rewritten to clarify that it includes not only emissions, but electric load, water quality impacts, and consumptive water use.
- CC3 – Tribal block grants will be important to supporting tribal energy sovereignty and we are pleased to see this specific action identified. Identifying a funding mechanism for this should be a priority.

Data Center and Large Load Concerns – a New Sixth Pathway

Data center growth in Oregon and across the Columbia River Basin is unprecedented in scale and largely unregulated. CRITFC recently submitted comments to the Washington Data Center Workgroup highlighting the serious risks this explosive growth poses to the regional power grid and, ultimately, to the aquatic ecosystems that sustain tribal treaty-protected fisheries.[3] Current Oregon policies are not set up to manage the cumulative

[3] CRITFC letter to David Duvall, Washington State Department of Revenue (Aug. 27, 2025) (Attached).

Docusign Envelope ID: 9EC607B3-C088-4F40-B040-EF8CCE8B0C04

energy, water, and environmental impacts of this emerging sector. To ensure responsible development, the Strategy should establish a dedicated sixth pathway with clear policies, regulatory tools, and mitigation requirements for data centers and large load growth operations.

The current Strategy scatters data center and large-load issues across multiple sections, but the scale, speed, and risks of this growth needs a dedicated pathway. Data centers and large loads bring unprecedented, year-round energy demands that could fundamentally alter Oregon's power system, strain water resources, and undermine climate and fish protection goals. A dedicated pathway would provide the framework needed to create statewide policies, require comprehensive impact reviews across jurisdictions, and allow for energy planning to account for regional effects on climate goals and treaty-reserved resources. It would also address the constant, high-intensity power needs of data centers that differ significantly from traditional seasonal or industrial loads. Most importantly, it would give Oregon the tools to align energy planning with protections for tribal treaty rights and treaty fisheries while maintaining reliability and affordability.

Without a dedicated pathway, Oregon risks allowing rapid, uncoordinated data center growth to outpace the policies needed to safeguard the state's climate commitments, ecosystems, and communities.

Data Centers and Large Loads Pose Threats to Energy and Fisheries

The huge growth of this sector brings energy demands on a scale the region has never experienced. Projections indicate an additional 4,000 megawatts of demand in the near term and as much as 7,400 megawatts within the next four years, roughly the equivalent of adding four cities the size of Seattle to the regional power grid by 2029. Meeting this demand without careful planning could force emergency hydropower operations, leading to abrupt reservoir fluctuations, increased water temperatures, and degraded river conditions that would further harm already imperiled salmon, steelhead, and lamprey populations.

This risk is compounded by the enormous water needs of hyperscale facilities, which may consume billions of gallons each day for cooling and operations. Such withdrawals threaten to reduce flows, raise water temperatures, and may include chemical contamination, all of which degrade aquatic habitat. Current planning processes do not require a cumulative analysis of the combined energy, water, and environmental effects of this rapid development, leaving Oregon without a means to prevent serious ecological and climate consequences.

Salmon populations have already declined by an estimated five to eleven million fish since dam construction, and treaty-reserved fishing rights, legally binding commitments made in 1855, depend on the health of these fisheries. Tribes have long carried a disproportionate share of the environmental and cultural costs of energy development, and the unchecked growth of data centers risks deepening these inequities. Any future planning must include

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tribal leadership and fully honor treaty obligations while ensuring that new large energy loads "pay their way" rather than shifting environmental and economic burdens onto tribal and local communities.

Policy and Regulatory Recommendations for Addressing Data Centers and Large Loads
Oregon needs a comprehensive and enforceable framework to manage this growth. Current policies are not designed for the speed, scale, and complexity of these developments, and without new tools, the state risks compromising energy reliability, climate goals, and the health of tribal treaty-protected resources.

All new data centers should be required to meet the highest energy efficiency standards before breaking ground. Independent audits of Power Use Effectiveness (PUE), adoption of advanced cooling technologies, and mandatory demand-side measures must come before the approval of new supply-side resources. Oregon should prohibit projects that rely on emergency hydropower operations or diesel backup generation, instead requiring proof of sufficient, sustainable resources and prioritization of battery storage and other clean energy alternatives to maintain grid reliability.

Oregon should increase transparency and accountability for these projects. Large energy users should be subject to mandatory reporting of energy and water use, with independent third-party audits and public access to cumulative impact assessments. Data centers must also demonstrate no net impact on river flows, temperatures, or water quality, with siting restrictions to prevent facilities from encroaching on critical fish habitat. Daily monitoring and reporting of water intake and discharge should be standard, and any diversion of municipal water for industrial cooling must undergo a full environmental and capacity analysis before approval.

Oregon needs to carefully consider transmission and infrastructure development. New projects should be co-located with existing corridors whenever possible, and no facility should advance without early and meaningful tribal consultation, comprehensive regional impact analysis, and enforceable mitigation plans. Data centers must also pay the full costs of serving their loads, including infrastructure and environmental impacts, to prevent cost-shifting onto consumers or displacing least-cost energy resources needed for communities and climate compliance.

Finally, Oregon should establish regional carrying capacity limits for data centers based on fish protection and climate objectives, coupled with binding renewable energy sourcing requirements. A regional coordination body or dedicated task force should be created to evaluate cumulative impacts basin-wide, ensure tribal expertise informs every stage of planning, and develop adaptive management plans with clear mitigation triggers if energy, environmental, or climate benchmarks are threatened.

Cross-Cutting Recommendations & Federal Policy

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Finally, the Strategy needs clearer priorities, stronger alignment with federal and regional efforts, and transparent cross-referencing between policies and actions. Oregon should defend against federal rollbacks of clean energy and tribal consultation policies while expanding state funding to fill federal gaps. A cross-referencing chart linking policies and actions would help stakeholders track progress, identify funding needs, and coordinate implementation.

Conclusion

The Strategy provides Oregon a chance to reimagine energy development and learn from past lessons. Any strategy must take its cues from the needs of the salmon, the existence of tribal treaties, and priorities established through agreements the State has made through the CBRI. CRITFC urges ODOE to strengthen the Strategy by aligning it with the CBRI and committing fully to fish recovery; creating a dedicated data center and large load pathway with enforceable policies and mitigation requirements; expanding tribal engagement into a true partnership with funding and decision-making authority; and making energy efficiency, the distribution of renewables, and resilience top priorities. Oregon's energy transition must protect salmon, uphold tribal treaty rights, and prevent tribes from bearing a disproportionate share of the costs and burdens of energy development. With clear priorities and strong commitments, the Strategy can deliver a clean, reliable, and equitable energy future for the entire region.

Thank you for your time and consideration. If you have further questions, please contact CRITFC staff Christine Golightly and Elijah Cetas at 503-238-0667.

Sincerely,

DocuSigned by:
E550DEF4225C438...

Aja K. DeCoteau
Executive Director

Attachment

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COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION

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August 27, 2025

Filed via email

David Duvall
Senior Tax Policy Coordinator
Washington State Department of Revenue
PO Box 47450
Olympia, WA 98504-7450
davidd@dor.wa.gov

RE: Washington Data Center Workgroup Recommendations

Dear Mr. Duvall:

The Columbia River Inter-Tribal Fish Commission (CRITFC) and its member tribes are deeply concerned about the unregulated and untested growth of data centers in the Columbia River basin and the threat these developments pose to tribal treaty-protected fisheries. The Yakama Nation, who has been participating in the Washington Data Center Workgroup (Workgroup) suggested that CRITFC review the Workgroup's findings. CRITFC appreciates the opportunity to provide these comments and fully supports the Yakama Nation's detailed submission.

The 2022 Energy Vision for the Columbia River Basin (Energy Vision) outlined pathways for fish-friendly energy development, but the unprecedented scale and unique characteristics of data center growth require additional measures to safeguard tribal treaty rights and fish populations.[1] By 2029, data centers are projected to add electricity demand equivalent to four cities the size of Seattle, placing new pressure on the Columbia River hydropower system at a time the wild fish returns of ESA-listed and reintroduced populations remain far below federal (delisting) and regional (NW Power Act) goals. The four treaty tribes continue working to reduce the impacts of human-caused burdens to fish and help the United States fulfill its treaty and trust obligations to tribes.

The 1855 treaties reserved tribal fishing rights that federal courts have consistently upheld as legally binding obligations. Since treaty signing, salmon and other treaty fish populations have declined from an estimated 10-16 million annual fish to approximately 2 million today, with dam construction and operation contributing 5-11 million annual fish

[1] https://critfc.org/energy-vision

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losses across multiple species including salmon, steelhead, sturgeon, and Pacific lamprey. Energy development projects have disproportionately impacted tribal communities, affecting economies, health, and cultural practices. These tribal treaty resources must be considered in energy planning decisions to prevent further degradation of already depleted fish populations. Our tribes advocate responsible clean energy development that protects fish populations and honors tribal treaty rights; we reject any approach that sacrifices one for the other.

Data centers represent a significant increase in energy demand that requires new review and regulatory frameworks. Unlike traditional industrial facilities that generally have known times for peaks loads, data centers present unprecedented and largely untested growth projections that could dramatically alter regional energy consumption patterns. Both fisheries and energy managers in the region have significant concerns about the lack of generation and transmission infrastructure it would take to meet the projected energy needs of data centers. Unlike seasonal needs such as air conditioning or heating, data centers may require a constant supply of energy for operations and cooling. The cumulative impacts of multiple data center developments across the Columbia River basin demand coordinated analysis and comprehensive environmental review that considers the interconnected effects on treaty-protected resources and tribal communities. Any approval process needs to recognize that tribal treaty resources are already overburdened by decades of energy development impacts, and they cannot bear additional harm from this emerging sector.

2022 Energy Vision Principles

The Energy Vision set principles aimed at advancing energy efficiency, expanding demand-side resources, improving system reliability, and reducing peak electrical loads. There has already been significant and effective progress made on these efforts; however these improvements will be rendered moot by an influx of data center energy demands. The region's energy system already impacts Columbia River treaty-reserved resources, including the fish and fisheries, an expansion of demand on this scale will further burden these beleaguered resources.

The Energy Vision promotes fish-friendly energy development and highlights the importance of reducing hydropower system burdens that directly impact tribal treaty resources. While the Energy Vision provides general guidance for advancing a sustainable energy future, the unprecedented scale of energy demand anticipated from new data center development requires additional protective and proactive measures. Demand-side management and energy efficiency must be placed at the forefront of any policy response. Relying primarily on new supply-side resources risks exacerbating hydropower stress and undermining fish recovery efforts.

The energy requirements of data centers will challenge the regional energy system, whether it is one facility or ten. Forecasts show more than 4,000 MW of near-term demand

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and a projected peak demand: 3,400–7,400 MW over the next 4 years.[2] This threatens to push the regional loss-of-load probability to 13% when the goal is 5%.[3] In the absence of new demand-side strategies, utilities will be forced to rely on costly market purchases and emergency hydropower operations to maintain service, further destabilizing a grid that is already under strain.

Such emergency dam operations come at a direct cost to treaty-protected and ESA-listed fish, particularly migrating salmon, steelhead, and Pacific lamprey. The likelihood of an energy emergency could increase with rapid data center growth. During past energy emergencies, the Corps of Engineers has shut off fish protection operations leading to higher mortality of migrating juveniles.[4] Even outside an emergency, load following dam operations can drive reservoir fluctuations that increase water temperatures, predation, and delay migration of adult and juvenile fish. These impacts make clear that strong efficiency and demand-side measures must be prioritized over new supply-side resources that would perpetuate ecological harm.

Recommendations:
We recommend that the Working Group implement the principles of the 2022 Energy Vision as the foundation for addressing the dual challenges of growing electric demand and the green energy transition. The Energy Vision should serve as a baseline guide; however, additional standards and requirements are necessary to address the unique magnitude of data center loads.

- Energy Efficiency: Require enforceable efficiency standards for data centers. Mandate adoption and third-party audits of Power Use Effectiveness (PUE) standards and address split incentives between owners and tenants that discourage investment in efficiency.
- Reliability: Ensure that no data center project decreases overall grid reliability, especially during peak demand periods. Require identification of adequate and sustainable resources before project approval. Prohibit reliance on emergency hydropower operations, which are harmful to fish, to maintain reliability.
- Transparency: Require mandatory reporting of data center energy use and efficiency performance, coupled with independent auditing.
- Peak Demand Management: Traditional air cooling can greatly increase peak energy demand. The PAE study and other studies indicate that data centers could contribute substantially to peak load growth if unmanaged.[5] All best practice and best technology efficiency improvements should be required to reduce peak impacts. Back up energy for peak times should rely on battery storage rather than diesel.

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[2] https://critfc.org/documents/energy-water-use-impacts-of-building-system-design-for-data-centers/ pages 10-11
[3] https://www.nwcouncil.org/reports/2024-4/, page 28.
[4] Appendix_1_Emergency_Protocols_February_25_2022_with-ATTACHMENT-1.docx
[5] https://critfc.org/wp-content/uploads/2025/03/data-center-report.pdf/ pages 10-11.

Docusign Envelope ID: 9EC607B3-C088-4F40-B040-EF8CCE8B0C04

- Emergency Energy Curtailment Policy - Data Center Priority Framework: During energy emergencies or grid instability, require mandatory power curtailment in the following order: (1) data centers and cryptocurrency mining operations, (2) non-essential commercial facilities, (3) essential services and residential users maintain priority. This framework protects essential community needs as it recognizes that large-scale computing operations can better tolerate temporary interruptions than critical infrastructure and homes. It also reduces the likelihood or duration of energy emergencies that would risk the curtailment of fish protection measures.

Water Resource Impacts

Data centers may add additional stress to water resources that are already over-allocated and increasingly vulnerable to climate change impacts. Hyperscale facilities can consume 1-5 billion gallons of water daily, which directly compete with instream flows that are designated for fish.[6] Reduced flows also raise river temperatures, increasing migration barriers and mortality risks. High levels of consumptive water use in a water system can also reduce water available for hydropower production. In such cases, utilities could force emergency dam operations.

Data Centers can also adversely impact water quality. Data center cooling systems discharge hot water which increases stream temperatures. Combined with reduced flows, it can create thermally dangerous conditions for sensitive fish near the facility, while also adding additional heat to the river system. Treatment chemicals used in cooling systems create further contamination risks, particularly when water supplies are already over-appropriated and natural dilution capacity is limited. Municipal wastewater systems face added strain from large-scale effluent discharges, and overloads increase the risk of untreated or partially treated discharges entering the Columbia River. Such system failures jeopardize both community resilience and ongoing fish habitat restoration efforts, especially cold-water species like salmon and steelhead.

Recommendations:

To address these risks, approval of data centers should require demonstration of no net impact on watershed flows, temperatures, or pollution levels. Water rights and allocations should not be granted unless enforceable fish protection measures are guaranteed and allocation criteria must prioritize treaty-protected resources. Washington should conduct an analysis of the potential impacts of data center development on water allocation and senior water rights. This analysis should fully evaluate economic and environmental considerations before determining where development is feasible. Further, the state should assess the potential transfer and impairment of existing water rights in advance of

[6] Volzer, Helena, *Data Centers are Increasing in the Great Lakes at What Cost?* (March 5, 2025). https://greatlakes.org/2025/03/data-centers-are-increasing-in-the-great-lakes-at-what-cost/. See also, Shehabi, Arman, Alex Newkirk, Sarah J. Smith, et al. 2024. *2024 United States Data Center Energy Usage Report*. LBNL-200163. Berkeley, CA: Lawrence Berkeley National Laboratory. December 20. https://escholarship.org/uc/item/32d6m0d1

Docusign Envelope ID: 9EC607B3-C088-4F40-B040-EF8CCE8B0C04

siting decisions. Finally, the state should avoid allowing municipal water to be diverted or reallocated for non-municipal use.

The state should also require mandatory comprehensive monitoring of water quality, including thermal effects and chemical contamination, with daily reporting of intake, consumption, and effluent volumes to ensure accountability. Data centers should adopt the best available technologies to minimize consumptive water use and protect aquatic ecosystems. Any connections to municipal water or wastewater systems must be preceded by an assessment of system capacity and a demonstration that necessary upgrades will not result in untreated discharges to waterways. The state should establish siting restrictions so that water-intensive development can avoid critical fish habitat to prevent irreparable harm to salmon and other cold-water species.

Transmission and Infrastructure Impacts

Data center development will increase the need for new transmission and energy infrastructure, much of which could impact tribal territories and treaty-reserved resources. In the past, transmission projects in the region have been sited without meaningful consideration of tribal resources. The cumulative effect of these decisions has never been adequately considered, leaving treaty-reserved resources vulnerable to further harm. Proposals for underwater cables and in-river infrastructure pose direct and immediate risks to salmon migration corridors, spawning grounds, and critical fish habitat.

Recommendations:

To address these challenges, siting decisions should prioritize protection of treaty resources, including fish, wildlife, and cultural resources. Data centers and their associated transmission should be sited adjacent to existing infrastructure, when possible, to avoid the need for new corridors. A comprehensive cumulative impact review, conducted with full and early tribal consultation, must precede any new project approvals. No project should advance without demonstrated fish protection measures and proof that adequate, non-harmful energy supply and storage are available. Finally, the region should establish some level of on-site energy production requirements for new data centers and prioritize upgrades to existing high-voltage transmission lines rather than expanding into new, undeveloped areas.

Economics & Consumer Protections

Data centers could add costs to consumer utility bills. Without changes to cost allocations, utility development of new generation and transmission facilities to accommodate data center needs will raise costs for all customers. Also, even where the data centers provide their own energy resource, they are likely to use the most developable new generation sites and significant portions of the lowest-cost transmission upgrades, which would also increase costs to consumers. Some data centers may be willing to pay a premium for electricity.[7] This could drive up overall market costs, further burdening power

[7] Morgan Stanley Research, *The Overlooked Value of Power,* October 10, 2024, pages 2, 7, and 20.

Docusign Envelope ID: 9EC607B3-C088-4F40-B040-EF8CCE8B0C04

consumers and utilities. Tribes already bearing the impacts of past federal hydropower development face the prospect of further economic displacement and resource loss.

Recommendations:
To ensure fairness, data centers must pay the full costs of serving their loads. Their impact should not result in increasing regular consumer rates. Regulatory authorities should have the tools to create separate rate tariffs for data centers to require regular cost-of-service studies and enforce stranded costs protections. Rate structures must prevent cost-shifting to consumers and reflect the real economic impacts of resource competition.

The Department of Commerce should analyze the potential increase in consumer rates due to data centers acquiring the least-cost energy and transmission resources or pushing prices up through competition. In addition, economic analyses should include the loss of tribal resources, building from the Tribal Circumstances Analysis, which documents the historic, ongoing, and cumulative impacts of federal Columbia River hydropower dams on Columbia River tribes.[8] Man-made ecosystem impacts to Columbia Basin tributaries and mainstem remain subject to mitigation and litigation given that tribal treaty rights created an expectation that the habitat would be able to produce fish for harvest.

Regulatory Framework Enhancements
Existing regulatory tools are not sufficient to manage the scale of data center development. State and regional energy policy frameworks were not designed for large, concentrated, and rapidly expanding loads. For example, there is no comprehensive process to assess cumulative impacts of multiple data centers across jurisdictions, nor are there consistent requirements for environmental accountability or fish protection.

Recommendations:
Regulators should strengthen existing tools and adopt new ones as necessary to safeguard treaty rights, communities, and ecosystems. Washington should look to lessons from Oregon, where HB 3546 created new oversight authority for large energy users, and coordinate regionally to ensure consistent protections across state lines. At a minimum, regulatory frameworks must require that data centers pay their fair share of infrastructure and environmental costs and that agencies have clear authority to deny projects that would compromise system reliability, climate goals, or fish protection.

Climate and Energy Goals
New data center demand will jeopardize Washington's climate goals of carbon neutrality by 2030 and 100% clean energy by 2045. Increased load could require new fossil fuel generation or more frequent emergency hydropower operations, which will undermine progress on climate and fish protections.

[8] Department of the Interior, Historic and Ongoing Impacts of Federal Dams on the Columbia River Basin Tribes, June 2024, https://www.doi.gov/media/document/tribal-circumstances-analysis

Docusign Envelope ID: 9EC607B3-C088-4F40-B040-EF8CCE8B0C04

Recommendations:
Washington needs to create and enforce stringent demand-side measures for data centers. It should prohibit the development of data centers that compromise state climate or renewable targets. It should require binding commitments to renewable energy sourcing and demand-side efficiency before approval. Finally, the state should establish regional carrying capacity limits based on fish protection, allowing climate goals to guide expansion of data centers.

Tribal Rights
The tribes and tribal treaty resources already bear disproportionate burdens from energy and infrastructure development. Additional large-scale loads risk deepening inequities through increased costs, displacement, degraded natural resources, and lost community resilience. Treaty-reserved resources face compounding threats from cumulative impacts that remain poorly assessed.

Recommendations:
Apply environmental justice screening to all data center projects to prevent disproportionate harms. Require early, meaningful, and ongoing tribal consultation, establishing tribes as essential partners rather than stakeholders. Mitigation requirements should provide a net environmental benefit and prioritize community energy resilience, fish recovery, and treaty resource protection.

Regional Planning and Coordination
Current planning processes are fragmented, failing to account for cumulative and regional impacts of data centers, transmission projects, and hydropower operations. This piecemeal approach shifts risks to vulnerable communities and ecosystems while undermining long-term reliability and resource protection. It is likely that large out-of-state companies invested in artificial intelligence development will go with data center options that get them to their goal[s] the quickest, not necessarily the route that is most responsible to the ecosystem or communities that live there.

Recommendations:
Establish a regional coordination mechanism to assess cumulative impacts of all proposed data centers and related infrastructure. Require localized and basin-wide impact assessments, incorporating tribal expertise and perspectives. Planning should integrate load-sharing mechanisms to distribute impacts fairly and adopt adaptive management frameworks with enforceable corrective actions.

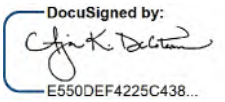
Conclusion
The unprecedented scale of data center and energy growth demands focused and intentional protections. Treaty resources, like salmon and steelhead, need to be considered as priority as developments move forward. The state needs to establish a comprehensive approach to balance economic development with the protection of fish, water, and other essential resources. Tribes should be meaningfully involved in all future

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deliberations and policy development to ensure that these critical values are safeguarded for generations to come.

Thank you for your time and consideration. If you have further questions, please contact CRITFC staff Christine Golightly and Julie Carter at 503-238-0667.

Sincerely,



Aja K. DeCoteau
Executive Director

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September 19, 2025

Janine Benner, Director
Oregon Department of Energy
550 Capitol St. NE | Salem, OR 97301
Janine.benner@energy.oregon.gov

RE: Confederated Tribes of the Umatilla Indian Reservation Comment on Oregon Department of Energy Draft Oregon Energy Strategy

Dear Director Benner,

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) Energy Strategy Team would like to thank the Oregon Department of Energy (ODOE) for the opportunity to review and provide comments on the draft Oregon Energy Strategy (OES).

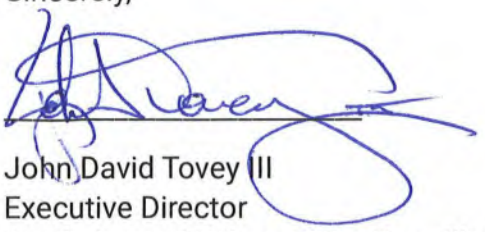
Overall, CTUIR strongly supports the recommendations made in the OES, especially establishment of a Tribal Energy Block Grant Program. Establishing such a program will provide Tribes with resources and support to develop and adopt energy strategies that occur within a framework that respects Tribal energy sovereignty, and that work best for the communities in which they are implemented. For CTUIR, access to a Block Grant Program further increases capacity of the Tribe to work with the economic justice communities of Northeastern Oregon.

Notably, CTUIR will also seek to maintain and support the collaborative stance developed in working together on the Columbia Basin Restoration Initiative/Resilient Columbia River Basin Agreement.

We emphasize our willingness to remain engaged and asks that Tribal consultation continue when appropriate as Oregon works to implement any adopted policy objectives or actions related to OES.

CTUIR's responsive feedback to ODOE's specific questions are attached. We hope you and your colleagues find them constructive towards finalizing and publishing the OES.

Sincerely,



John David Tovey III
Executive Director
Confederated Tribes of the Umatilla Indian Reservation

Confederated Tribes of the Umatilla Indian Reservation Comment on Oregon Department of Energy Draft Oregon Energy Strategy – September 19, 2025

Question 1 – Draft OES Pathways: Do the five pathways adequately reflect the direction needed to advance Oregon's energy policy objectives? If not, why not? Is anything missing?

A. Generally speaking, the five pathways reflect the direction that Oregon should go to achieve its energy policy objectives. However, CTUIR recommends including an assessment of cyber security risks associated with the use of smart appliances, meters (e.g., smart thermostat), and aggregated generating clusters such as virtual power plants which rely on internet connected devices as it relates to resilience concerns. Additionally, it is recommended that the OES provide a definition for "clean electricity" while focusing on atmospheric carbon emissions associated with a range of electricity generation technologies as opposed to characterizing "cleanness" based solely on the generation technology's feedstock energy input, i.e., fossil versus non-fossil.

Question 2 – Draft OES Policies: Do the policies provide sufficient direction to inform near- and long- term decisions, and to balance the many considerations involved in advancing clean, reliable, and affordable energy? If not, why not? Is anything missing?

A. Policies around the Electrification pathway should not focus exclusively on battery electric vehicles (BEVs) since doing so would subject Oregon's grids to increasing demand burden and dually compromise Oregonians in the event of public safety power shutoffs which, while in effect, would prevent those in the affected service area from charging vehicles and having power for their homes and businesses. This poses a legitimate risk that is partially mitigated with the availability of alternative transportation fuels. CTUIR recommends including other zero emission transportation options, such as fuel cell electric vehicles (FCEVs) and associated fuels, to help alleviate burden on the electrical grid while rendering conventional fueling stations available in the future for distributing transportation fuels such as hydrogen.

B. Policy 4a for the Low-Carbon Fuels pathway discusses investment into hydrogen and ammonia production facilities as carrying some risk due to the underlying technologies being nascent with limited existing production and distribution infrastructure. However, it should be known that ammonia has played a critical role in society for more than a century, serving as the chemical building block upon which nearly all fertilizers that help feed humanity are made from. The Pacific Northwest already has expansive ammonia distribution facilities,

systems, and regulations to facilitate its use as a key market commodity. Furthermore, ammonia's boiling point and vapor pressure are comparable to propane making it technologically simpler and more economical to manage than hydrogen as a high-pressure gas or cryogenic liquid. CTUIR recommends that ODOE learn about existing ammonia infrastructure in Oregon and visit the Ammonia Energy Association website for more information on the future role that ammonia may play in terms of Oregon's energy needs.

C. Policy 5a for the Resilience pathway mentions an issue at a key gas storage facility that reportedly restricted natural gas supply for many customers during an Arctic storm that impacted the Pacific Northwest in January 2024. The 2024 Biennial Energy Report published by ODOE indicates that natural gas accounts for roughly 30% of all energy imported and generated in-state. Given that some amount of natural gas will remain a critical energy source within Oregon for the foreseeable future, CTUIR recommends that ODOE consider and advocate for reasonable resilience measures to increase the reliability of Oregon's natural gas transmission system as a component of Policy 5b. With the understanding that Oregon's access to natural gas is dependent on out-of-state facilities and resources, the sharing of data and joint planning with the entities that control those assets is critical. It is also understood that some, but not all, compressor stations within the natural gas transmission system are powered with grid-based electricity. A specific resilience measure that we urge ODOE to consider as it relates to Policy 5b is the installation of energy storage systems at electrical grid-dependent compressor stations to increase uptime in the event of a grid-outage. General weatherization and hardening measures for assets across the natural gas transmission system is also recommended in consideration of extreme weather events such as the 2024 Arctic storm.

Question 7 – Draft OES Actions: Do the draft actions provide clear guidance for decision makers to advance clean, reliable, and affordable energy? If not, why not? Is anything missing?

A. Regarding Clean Electricity Action 3: CTUIR requests that there be meaningful engagement regarding the proposed report, especially where the listed emerging technologies could have impacts on cultural resources or First Foods, or access to specific sacred sites in the ceded lands or usual and accustomed lands.

Question 9 – Draft OES Overall Draft: How well does the draft reflect the input from engagement throughout the project?

A. CTUIR appreciates that Tribal staff comments were fully captured in the Tribal section, and encourages ODOE to continue advancing meaningful consultation with Tribes early on in any process which implements the drafted OES actions.

Question 10 – Draft OES Overall Draft: Do you have any final suggestions, questions, or feedback you'd like to share?

A. Terminology Clarification: "Tribal" versus "tribal". There are a few places in the OES where "Tribal" or "Tribe" is not capitalized. Please be aware that CTUIR is keen on references to Tribes being consistently capitalized when the term is meant to be used to refer to a class of entities with defined legal and sovereign rights.

B. The draft OES does not explain how ODOE will implement or be affected by the Protecting Oregonians With Energy Responsibility (POWER) Act. It would also be helpful if the OES explained how the POWER Act also addresses the recognition that legislators are trying to pass nuclear bills, and that the past Trojan power plant costs were distributed among utility ratepayers. Furthermore, CTUIR recommends for public awareness that the OES emphasize that greenhouse gas (GHG) emissions are the leading contributor to increased atmospheric GHG concentrations which are driving climate change rather than fossil fuels alone, and that the existence of fossil fuels on Earth predates anthropogenic greenhouse gas emissions. It is important for the public to recognize and understand that anthropogenic GHG emissions to the atmosphere are the problem rather than blaming an industry based on economic reasons.

C. The OES should more appropriately identify which other Oregon agencies or departments will be operationally implicated by the OES policy objectives and actions and briefly describe their role in this work. A lesson learned by CTUIR from the Oregon's "Integrated Water Resources Strategy (IWRS)." The IWRS is developed and held by Oregon Water Resources Department, but it strongly implicates ODFW, the Oregon Watershed Enhancement Board, and Oregon Department of Agriculture. However, OWRD could never compel any of those Departments to be responsive to the IWRS goals, objectives, and tasks. It took the Governor's office emphasizing to the other Departments they <u>WOULD</u> be responsive to the IWRS for us to see emerging progress in the notion of actual interdisciplinary application of the IWRS. Thus, incorporating the operational

partners and clarifying duties on the would expedite process and further success of the OES.

Confederated Tribes of Warm Springs, Oregon
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September 17, 2025

SUBMITTING VIA: HTTPS://ODOE.POWERAPPSPORTALS.US/EN-US/ENERGY-STRATEGY/

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Re: Comments of the Branch of Natural Resources for the Confederated Tribes of the Warm Springs Reservation of Oregon on the Oregon Energy Strategy – Draft for Public Comment (August 2025) ("Draft Energy Strategy" or "Strategy")

On behalf of the Branch of Natural Resources for the Confederated Tribes of the Warm Springs Reservation of Oregon ("Confederated Tribes of Warm Springs" or "Tribe"), I write to offer comments on the Draft Energy Strategy. As you know, the Tribe is a federally-recognized, sovereign Indian tribe and the legal successor-in-interest to the Indian signatories of the 1855 Treaty of the Tribes of Middle Oregon, 12 Stat. 963. Pursuant to the 1855 Treaty, the Tribe ceded certain rights to approximately 10 million acres of land ("ceded lands") to the United States and reserved the Warm Springs Reservation for the exclusive use and occupation of the Tribe and its members as a permanent homeland. The Warm Springs Reservation comprises approximately 640,000 acres.

The 1855 Treaty recognizes the Tribe as a sovereign entity, possessing inherent rights to provide for the general welfare of its people, including the right to manage natural resources for their benefit. The 1855 Treaty expressly reserves rights to the Tribe for its members to go outside (or "off") the Warm Springs Reservation to fish, gather roots and berries, and pasture livestock on any lands and waters, both in the ceded lands and beyond, that its members had used prior to the signing of the 1855 Treaty. The Tribe's rights under the 1855 Treaty include a legally-enforceable right to the protection of fish habitat because the treaty fishing right would be "worthless without harvestable fish." *United States v. Washington*, 853 F3d 946, 965 (9th Cir 2017), *aff'd by equally divided court*, 138 S Ct 1832 (2018).

The Confederated Tribes of Warm Springs has treaty-protected rights and cultural resources on lands and waters which the Tribe has used and occupied since time immemorial and therefore has sovereign co-management rights and interests across these lands and waters. The water, fish wildlife, roots and berries are gifts from the Creator that guide our way of life, spiritually, give our connection to the lands and is what helps guide us in how we manage our lands.

Notably, we have exercised our sovereign responsibilities to become an energy tribe as a means to take care of our people and our resources. We own and operate, together with Portland

General Electric Company, ("PGE"), the Pelton Round Butte Hydroelectric Project ("Pelton Project"). The Pelton Project is the largest hydroelectric facility located in the State of Oregon. It operates pursuant to a 50 year Federal Energy Regulatory Commission ("FERC") license issued in 2005 ("2005 FERC License"). The Tribe is also actively considering opportunities to unlock further energy participation potential on the Warm Springs Reservation. This includes, among others, evaluating development of the solar generation potential of the Warm Springs Reservation. The Tribe was also awarded a significant grant from the United States Department of Energy to facilitate east-to-west transmission expansion, in partnership with PGE, of the Bethel-Round Butte 230 kV transmission line. This upgrade, among other regional transmission planning and upgrades, is critical to unlocking the abundant energy generation potential east of the Cascade Mountain range, including that of the Warm Springs Reservation.

In light of the anticipated increase in the need for new generation and for expanded, reliable transmission in the region to meet growing industrial and technology demands in compliance with State energy policy requirements, the Tribe supports the State's efforts to develop a statewide energy strategy that includes the State's nine federally recognized tribes to align policy development, regulations, financial investments, community needs, and technical assistance. Indeed, the Tribe, through a process being facilitated by our Warm Springs Power and Water Enterprises, is also in the process of developing our own energy strategy. Among many additional areas, our strategy will consider how this utility scale potential can fold resources and partnerships in to programs that support affordability, tribal utility programs, housing, workforce development and natural/cultural resource mitigation and enhancement. As an overarching comment, we urge the State to ensure that its adopted Strategy remains adaptive to the planning efforts and policies of its nine federally recognized tribes.

In addition to the above overarching comment, I offer the following comments on the following areas identified in the Draft Strategy.

Pathway 3: Clean Electricity

Policy 3a: *Facilitate energy infrastructure enhancement and expansion while avoiding, minimizing, and mitigating negative impacts on natural and working lands (Utility scale and distributed energy resources)*

This policy should expressly include cultural resources. Cultural resources can also be natural and working lands, but the omission of cultural resources perpetuates policies that may favor energy siting on lands that support cultural practices and resources such as cultural plant gathering or ceremonial sites. In recognition of the urgent regional energy demands, the Tribe understands that the State is seeking to find pathways to expedite siting of new energy generation and transmission resources. But, it is imperative that policies avoid inadvertently repeating the mistakes of the past which disproportionately impacted Tribal treaty and cultural resources with the Columbia River hydropower system. See Department of Interior, Historic and Ongoing Impacts of Federal Dams on the Columbia River Basin Tribes (June 2024).

In addition, this policy acknowledges that "there is not currently sufficient transmission capacity, generating resources, or storage to reliably power Oregon's future electricity needs, particularly if new data centers come online as quickly as forecasted." The Tribe supports the Draft Strategy's acknowledgement that policy development is needed to fairly allocate costs for transmission projects and mitigate affordability concerns from new investments. In implementing House Bill 3546 (2025), it is important to require that large energy use facilities, such as data centers, demonstrate that they or the utilities that will serve them have secured sufficient, reliable, clean-energy resources and adequate transmission available before they begin operations and that grid operators and utilities assure power-system adequacy and reliability when serving these users to avoid damage to fish and wildlife or higher costs to other consumers.

Policy 3c: *Consult and engage with Tribes to understand their concerns around energy development and to identify where state policies, funding, and programs can support tribal priorities while minimizing the effects of development on environmental and cultural resources (Tribal consultation and engagement)*

The Draft Strategy identifies that Oregon law requires state agencies to maintain government-to-government relations with Oregon's tribes, which is the framework for state agency consultation. Consultation is considered a formal two-way government-to-government dialogue between official representatives of the tribes and of the state government. While tribes can and often do engage in informal (staff level) conferrals, this engagement is not consultation.

In this policy, the State recognizes the need for both formal consultation and staff level engagement as a means for building relationships and understanding to better identify areas of cooperation and concern. The Tribe supports this commitment as each of the State's nine federally recognized tribes will have different interests, priorities, rights and concerns. We think it is important for the Draft Strategy to recognize that some tribes, including the Confederated Tribes of Warm Springs and the Confederated Tribes of the Umatilla Indian Reservation hold legally-enforceable federal treaty rights that could be impacted by the State's energy policies and implementation.

The current Oregon law framework on consultation may be incomplete to meet the challenges of the energy sector. For example, local governments are increasingly being entrusted with energy siting decisions, but these governments have no consultation obligations to tribes and in fact are prevented from effective consultation in light of Oregon land use laws which prohibit *ex parte* communications, impose incompatible decision timelines, and do not effectively weigh tribal expertise and indigenous and traditional knowledge. This shift to distributed local and accelerated siting has been initiated by Oregon's legislature in an effort to expedite siting without Tribal consultation on the impact of these policies.

Notably, the Draft Strategy does not identify an action item for this policy. The Tribe would like to emphasize that the consultation obligation must include not only State executive agencies but the Oregon legislature and appropriate consultation opportunities with local governments and suggests that the State consider an action item around this issue.

Clean Electricity Action 2: *Direct the Oregon Department of Energy to conduct a study on barriers preventing construction and interconnection of permitted projects and recommend actions to overcome barriers.*

The Tribe generally supports this evaluation and emphasizes that the study should include policies that may present barriers to tribal energy participation. For example, certain procurement, labor, and interconnection policies may have unintended consequences for tribally-sponsored projects without materially advancing the overall public interest goals of state regulation. Oregon's tribes have regularly raised dual state taxation of private, non-tribal activity on tribal lands as a key barrier to economic development on tribal lands.

Clean Electricity Action 5: *Update and enhance the Oregon Renewable Energy Siting Assessment Tool, with a goal of providing a robust database of lands suitable for various types of electricity infrastructure projects.*

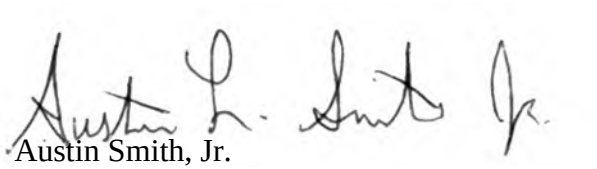
The Confederated Tribes of Warm Springs has concerns about relying on the Oregon Renewable Energy Siting Assessment (ORESA) tool. This tool, as noted above, depends on existing resource databases. The State maintains comprehensive databases of many resources, but not cultural resources. That is because cultural resources are usually confidential, and tribes are careful about protecting their data sovereignty as to these resources. And, as importantly, tribes by and large do not have comprehensive data sets off their reservation lands. Accordingly, tools like ORESA may drive siting decisions to avoid known resources and may inadvertently shift burdens to cultural resource areas which are not identified on the tool as conflict areas.

Feedback and Themes: Nine Federally Recognized Tribes

This section of the report includes feedback received from Oregon tribes around Energy Independence & Sovereignty, Affordable Energy Options, Access to Decision Making, Stabilization of Funding Cycles, and Consultation, Cultural And Natural Resource Values. The Confederated Tribes of Warm Springs generally supports the ideas in this section and offers the further comments noted above. The Draft Strategy appears intended to facilitate opportunities to support each Oregon tribe in their unique engagement with the energy sector. I encourage the Oregon Department of Energy to seek formal consultation with the Confederated Tribes of Warm Springs Tribal Council. To initiate this consultation, please contact Edward Henderson at edward.henderson@wstribes.org.

Thank you for your consideration of these comments.

Sincerely,



Austin Smith, Jr.
Natural Resources General Manager
for Confederated Tribes of the Warm Springs
Reservation of Oregon

AS:rk

cc: Edward Henderson
Cathy Ehli

Oregon Citizens' Utility Board
610 SW Broadway, Suite 400
Portland, OR 97205
(503) 227-1984
www.oregoncub.org

September 24, 2025

Via Email only

Edith Bayer
Energy Policy Team Lead
Oregon Department of Energy
Edith.M.BAYER@energy.oregon.gov

RE: Oregon Citizens' Utility Board Comments on draft Energy Strategy Report

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1. **Do the five pathways adequately reflect the direction needed to advance Oregon's energy policy objectives? If not, why not? Is anything missing?**

CUB appreciates that at the start the draft Oregon Energy Strategy clearly identifies that the energy strategy must be aligned with Oregon's clean energy requirements in HB 2021 (2021), the Climate Protection Program, and in Executive Order 20-04. These are the policies of the state of Oregon that are the backbone of the Oregon Energy Strategy. CUB also points out that in 2021, the Oregon legislature passed HB 2475 - the Energy Affordability Act. This is critical policy for Oregonians as it provides that the Oregon Public Utility Commission (PUC) the affordability of utility rates on historically marginalized communities, including but not limited to low-income and environmental justice households. The spirit of the law is seen in the draft Energy Strategy with the acknowledgment that equity must be considered in every realm, as well as the prioritization of energy efficiency.

CUB believes that the five pathways are generally on the right track to advancing Oregon's energy policy objectives and appreciates that the draft report acknowledges from the beginning that several factors affect access & affordability of hearing, beyond dollar amounts. We also appreciate that the report acknowledges the benefits of achieving Oregon's clean energy requirements, beyond utility bills, and given all household costs matter to households and energy affordability. **And importantly, that the report acknowledges that the processes to implement Oregon's Energy Strategy must be equitable.**

Yet, we have some requests for clarifications and outstanding questions we hope ODOE will be able to address in its final report. Some of the gaps we see are needed for greater analysis of the impact of extremely large load customers, like data centers, who are driving energy capacity growth in Oregon. As well as needing a deeper dive into the systemic barriers that impede

greater weatherization and energy efficiency investments in households, and how to coordinate those strategies with those community members and organizations most intimately aware of the barriers to energy assistance.

2. **Do the policies provide sufficient direction to inform near- and long- term decisions, and to balance the many considerations involved.**

Protecting Vulnerable Customers

CUB appreciates that the Report identifies energy efficiency as the top priority for bill affordability and decarbonization strategies. In fact, ORS 757.054(3) *requires* that electric investor-owned utilities "pursue all available energy efficiency resources that are cost-effective, reliable and reasonable" as well as demand response resources as directed by the Oregon Public Utility Commission, and that these programs shall be funded by ratepayers. CUB would like to see the strategy speak more about how to address the wide-ranging barriers to energy efficiency for low-income families, which are not limited to affordability for these households.

In *Buildings Action 6,* ODOE acknowledges that recognizes that updated administration cost levels should be established through consultation with organizations that implement energy programs and projects and a review of best practices. And *Buildings Action 5* acknowledges that maintenance and repairs will be necessary for some homes to take advantage of the weatherization and energy efficiency opportunities that exist in Oregon. Specifically mentioning Whole Home Repairs and importantly the Health, Safety, and Repair Measures, and concrete actions related to this within the Draft Energy Strategy would be useful. Currently, the Report only acknowledges at a high level the connection between these repairs, accessibility, and financing. Is it possible for the Energy Strategy to include specific recommendations to eliminate the existing barriers like the "upfront cost barriers, expand access to information, ensure a sufficiently supply of skilled labor…"? Should there be a policy working group with utilities, Energy Trust of Oregon, and Community Action Program agencies, and others intimately familiar with the implementation barriers to accessing energy assistance? CUB would like to see more discussion of the systemic barriers to getting that money out the door for households who need it, and how to overcome them. This may come out of a working group, but we are interested in ODOE's thoughts on overcoming these barriers, in addition to the need for more funding. Are there existing programs that ODOE is considering addressing these systemic issues? Concretely addressing in the Energy Strategy the various established barriers to getting existing low-income weatherization and energy-efficiency dollars out the door is paramount, as is finding additional revenue streams to fund these types of programs.

CUB appreciates that the in *Buildings Action 3*, that the Strategy emphases that programs and incentives must prioritize low-income households–this is critical to a strategic electrification strategy and to ensure our most vulnerable neighbors are not left behind. CUB would like to

know more how ODOE is thinking about prioritizing energy efficiency incentive programs that relieve pressure on the system, and how this is balanced with the need to prioritize environmental justice and low-income communities who are not the customers pushing the grid to capacity?

Currently, residential customers who are not driving growth, are paying more than their fair share toward energy efficiency programs, given the cap on how much industrial customers must contribute. It is time to reconsider whether that policy continues to make sense for Oregon, and whether it is equitable. These data centers are million-dollar companies that are straining the grid at a time where we have seen record utility disconnections in Oregon. The timing is right for a more equitable energy-efficiency funding mechanism.

Extremely Large Load Customers

The draft Report rightfully acknowledges that the biggest near-term driver of energy capacity needs in Oregon is new tech large loads, like data centers. CUB is concerned that there is not enough focus on strategies to address the fact that extremely large load customers like data centers will have the most profound effect on our state's future energy landscape. CUB appreciates *Cross-Cutting Action 6's* call for transparency in data. CUB agrees that more data is needed to better understand and implement the proposed energy strategies, particularly for extremely large load customers (and have testified to this in OPUC dockets). CUB is particularly interested in what ODOE sees as the potential role and strategies for extremely large load customers to incentivize energy efficiency, given the constant high energy needs associated with them which may make it difficult to implement load flexibility or demand response programs for these unique customers. What are the opportunities ODOE sees for these customers that are driving growing capacity needs to help mitigate energy affordability for residential customers?

ODOE rightfully acknowledged that extremely large load customers like data centers and the cryptocurrency industry are starting to connect to the grid with very high, constant energy demands. The increasing data center load combined with the existing cap on how much large industrial customers contribute to energy efficiency programs leaves residential customers as the largest source of funding for energy efficiency, including energy efficiency that provides benefits to large load customers. While energy efficiency programs are cost effective to the utility system, the benefits flow primarily to the class of customers that are the targets of energy efficiency programs. This leaves residential customers funding efficiency efforts that provide little benefit to residential customers.

The current reality is that large customer classes pay disproportionately less than the residential customer class towards energy efficiency. In PGE's electricity tariff, PGE Schedule 109 - Energy Efficiency Funding residential customers are charged the highest rates for system energy efficiency, while large loads pay the least amount toward energy efficiency (*see*

https://assets.ctfassets.net/416ywc1laqmd/u0fnBKLiQdK43yHDhFH5a/e63a609f60c9ebcbf8917ce1a772a950/Sched_109.pdf, and See UM 2377 – CUB's Opening Testimony and Exhibits of Bob Jenks, CUB/100/Jenks/5-6 and CUB/104 (Aug. 12, 2025), available at: https://edocs.puc.state.or.us/efdocs/HTB/um2377htb339004027.pdf). Moreover, this year the legislature doubled the cap on how much non-residential customers must contribute to the Oregon Energy Assistance Program (OEAP), indicating public policy support for reconsidering this contribution limitation (*see* HB 3792 (2025)).

Under the current approach to ratemaking, much of the fixed cost of the system is allocated on capacity (highest 4 months of coincidental peak or 12 months of coincidental peak). This means that when residential customers fund energy efficiency for non-residential classes, non-residential customers' contribution to peaks is reduced, which lessens their allocation of fixed costs. Accordingly, this increases the residential allocation of fixed costs.

One solution to this would be to require each customer class to fund its own energy efficiency programs. However, because of the statutory caps on large customer contributions, the Energy Trust of Oregon is unable to create equitable customer class programming. This limits its ability to invest in cost-effective energy efficiency and decarbonization resources and programs. **The alternative solution is to recognize the residential funding of energy efficiency programs when setting rates.** While this problem is not new, and although the ETO budget has grown in recent years and continues to grow, it is noteworthy that the growing demands on the grid are for extremely large customers—like data centers. **And these customers do not make significant contributions to energy efficiency.** Combining this with the affordability challenges of many residential utility customers, this structure is inequitable and unsustainable.

The challenge in recognizing and crediting residential customers for their share of energy efficiency funding when establishing rates is the lack of any analysis on how energy efficiency affects capacity, and particularly coincidental peak (CP). ETO presents its output as MWh (megawatt hour) of energy saved, not the MW reduction in peak load. But in cost allocation of fixed costs and in IRP energy planning, the focus is on peak loads. Programs that residential customers fund (such as heat pump market transformation) reduce residential peak load which reduces the residential allocation of fixed costs. But programs that residential customers fund that reduce the peak loads of other classes of customers, benefit those other classes and not residential customers. *If* we knew the peak load reduction from these programs, we could recognize the reduction in 4 CP or 12 CP that residential customers are purchasing and credit that reduction back to residential customers in ratemaking.

Relatedly, CUB believes it needs to be mentioned that while traditional large industrial entities typically are a contributor to jobs, data centers are the opposite of that mold, employing extremely few customers for the amount of energy they consume. Data centers, representing the

vast majority of load growth for the foreseeable future, should not be equated to traditional large entities as contributors to local economic activity.

CUB is grateful to see *Cross-Cutting Action 1* in the Energy Strategy. This will benefit from reporting requirements that shore up what ODOE admits is a key problem: relatively little information is available for these loads or what resources will serve them. CUB encourages ODOE to find ways to work around these hurdles. It would be incredibly helpful to obtain data on the energy needs and usage of extremely large load customers, individually and in the aggregate, in additions to the emissions data. Likewise, CUB appreciates *Cross-Cutting Action 66.* A necessary component of reporting might be the state's data center energy consumption forecast, potentially all the way down to the hourly level. Generating resources used to power individual data centers will differ based partly on the generation mix of the utility that services them. That can provide ODOE with a good starting point on the emissions of new large loads. Only equipped with these sorts of reporting requirements can ODOE start to precisely enact good policy around it, instead of shooting blanks in the dark. While individual energy consumption can be confidential information, ODOE can explore whether state-wide aggregated data center energy consumption is a serviceable workaround. Detailed reporting and data will help ODOE's plans to better understand the data center effects on the wholesale energy market, resource adequacy concerns, and their contribution to power costs for the region as a whole.

ODOE says, "by contrast, if these loads procure clean power through long-term contracts, it could help finance the development of new, clean generation for the region." CUB is concerned ODOE has this backwards. First, data centers are not going to invest any more in energy infrastructure than they need for themselves (they're a profit-driven business). Second, when data centers go into contracts to purchase power, it is more likely to drive up energy costs for everyone else in the whole region.

In a similar vein, because most of the near-term load growth comes from large loads such as data centers, *Cross-Cutting Action 4* should include an additional energy "burden" that represents the incremental energy burden placed on households that represent data centers' and new large load contributions to increasing electricity costs for all in the state. This can be done by observing counterfactuals as if data center loads did not exist, and the decrease in wholesale purchase prices as a result. This reporting information will additionally help ODOE think about how these large loads are affecting the public and consider energy policy that works for all, an energy concern that is top of mind for Oregon households now.

CUB recommends that ODOE provide more direction on the strategies and opportunities provided by extremely large load customers connecting to the grid and analyzed in a manner that allows ratemaking to provide for greater equity in how the programs are funded across customer classes.

Energy Efficiency

CUB notes that prioritizing programs in *Energy Efficiency 1a* should include the ability to braid ratepayer funds with state and federal funds to support Community Action Agencies in supporting the households they work to assist, the lack of contractors in rural and frontier communities available to implement the work of these programs, and any remaining program limitations on how much a benefitting household can obtain in terms of measures/repairs. Additionally, ensuring seamless pathways for qualifying households to understand, access, and benefit from these programs across Oregon Health and Community Services (OHCS), the various Community Action Agencies (CAAs), for-profit utilities, and the Energy Trust of Oregon (ETO) is growing increasingly important. It would be helpful to better understand what energy assistance providers, particularly those on the ground have identified as barriers they face to supporting low-income families, we encourage ODOE to do so.

All of this is very urgent as low-income households can and do see their energy utility bills increase when there is not sufficient consideration and planning for energy efficiency upgrades via heat pumps, worsening energy burden for these households. The Draft Energy Strategy rightfully mentions under "Risks and Barriers" for the Electrification Pathway that heat pumps may not always generate savings for households, additionally stating, "[t]o maximize heat pump operations, homes may require additional weatherization measures, increasing the amount of initial investment needed." Additional consideration is needed for low-income households to understand the upkeep and maintenance of a heat pump, and these policies and programs must consider the additional burdens of upkeep and maintenance on low-income households.

Cross Cutting Action 9 is a commendable goal, but CUB foresees a bumpy ride ahead when it comes to increasing coordination between community-based organizations, utilities, ETO, and other partners. That is because as they exist today, the delivery of energy efficiency and weatherization between these different entities are not the same, not to the fault of any of the entities, but based on how they structurally operate from different statutes, federal programs, and funding. Successful coordination would have a very positive effect for households. And advancing consumer education so that households have a centralized source of information to understand where they can receive services is likely to be beneficial.

Energy Burden

CUB supports the Draft Energy Strategy's proposal to develop a statewide definition of energy burden if it considers more holistically the economic realities of households beyond their energy bills. The Draft Energy Strategy puts in its current operational definition of energy burden the following: *Home energy burden is the percent of household income spent on home energy bills. Energy bills include electricity, natural gas, and other home heating fuels, and are compared to the total income of the people in that household. If a household is spending more than 6 percent*

of its income on home energy costs, it is considered burdened. This is the widely accepted definition of energy burden across the United States; however, we want to point out that 6% as a metric feels arbitrary when we consider that higher income households have energy burdens under this calculation of 2-3%. Why would we then expect 6% as a reasonable burden for low-income households? Thus, we encourage ODOE to move beyond the 6% and to consider the Self Sufficiency Standard and the qualitative realities of energy limiting behaviors to inform the development of a definition of energy burden (*see* https://selfsufficiencystandard.org; *see also*: https://selfsufficiencystandard.org/wp-content/uploads/2025/03/OR2024_SSS.pdf).

As environmental justice partners raised in Pacific Power's 2024 General Rate Case (OPUC Docket No. UE 433) it is important to assess shifts in thermal comfort while assessing energy burden because energy burden is likely underrepresented in households who have already taken drastic, and potentially health compromising measures to reduce their energy bills (*see* UE 433 Coalition/100/Fain-Segovia Rodriguez-Daryanani/10. See also our joint comments in Docket No. UM 2211: https://edocs.puc.state.or.us/efdocs/HAC/um2211hac330123116.pdf at 2; *see also* https://illumeadvising.com/files/A-Systems-Approach.pdf).

Fuel-Switching and Low-Carbon Fuel Alternatives

CUB appreciates that the Report emphasizes that low-carbon fuels should be reserved for those hard-to-electrify industries. And that the report acknowledges that as Oregon continues to decarbonize, we must implement strategic electrification, focusing on upgrading inefficient home heating and cooling equipment with the most energy efficient resource possible. *Electrification Action 2c* rightfully mentions the stranded assets and vulnerable customers left on the gas system. It is critical to develop a plan so that customers are not left paying for assets—including stranded assets—left on the gas system just because they could not afford to. That runs counter to Oregon policy and values. Households should not be prevented from being fully informed about the most energy efficient systems available, and Oregon policies should not hamper those households abilities to choose those systems. CUB appreciates that *Fuel Action* 2 recommends a low-carbon fuels roadmap which should help map out this plan and importantly, under an equity lens. CUB encourages ODOE to engage other state agencies like Oregon Department of Environmental Quality (DEQ), Oregon PUC, and the Oregon Building Codes Division (BCD) in this effort.

CUB is encouraged by *Building Action 1,* which intends to create a building decarbonization roadmap, and hope the process will be developed in collaboration with other state agencies like BCD, DEQ, and the PUC Relatedly, rather than saying "[a]gencies *may* develop interim recommendations…" (emphasis added), CUB encourages ODOE to be more directive and say agencies "must" develop interim recommendations. And propose a strategy for how the agencies can work together to share resources and get on the same page.

Referring to p 83, extraction, dissemination, and use of fossil fuel are relatively small industries in Oregon compared to other states. Oregon has almost no production of crude oil, natural gas, and coal. Any concerns about job displacement within these industries are likely to be overblown while Oregon has policy to quickly decarbonize. Meanwhile there are currently labor shortages in rural weatherization with adequate training available (both ODOE energy strategy and ETO multiyear plan are in full support of more funding for this workforce) that make an excellent opportunity for workforce development priorities.

Clean Electricity & Resilience

CUB will mention that we want to ensure that energy affordability and historical environmental injustices of energy decision-making are front and center in any clean energy strategy recommendations. CUB supports investigating a state Transmission authority and agree this could help save costs and avoid duplicative or redundant investments. CUB also supports the remaining *Clean Energy Action*s, like the emerging technologies report which we hope includes an analysis of grid enhancing technologies and lessons learned in other states. CUB is also excited about *Clean Energy Action 6*, which directs the PUC to investigate utility business models and ratemaking processes. With the passage of HB 3179 and SB 688 this year, these pieces are already moving. CUB will mention that an important piece of resilience is keeping customers connected to their utilities and we should keep this at the forefront of our other equity considerations.

CUB would like to see more direction in the strategy on the importance of planning and hope that *Cross-Cutting Action 6* will result in better understanding of load growth needs, but also spur a discussion about IOU planning and where there are opportunities for co-benefits and ways to meet the IOU's needs more holistically across planning strategies that are essentially regulated in silos. For example, what opportunities are there for IOUs to develop wildfire mitigation plans and clean energy plans to achieve co-benefits and save costs if the plans were considered holistically.

Revolving Loan Fund

CUB is very intrigued by the opportunity for a revolving load fund to help address energy efficiency and demand response program funding needs. It is unclear from the report whether there is one fund proposed for residential household needs and industrial investments, or if they are separate. CUB is interested in understanding more how ODOE expects this program to be funded and encourages ODOE to consider the equity implications of who receives those funds, finding a balance between funding energy reduction strategies for large load customers, while addressing the critical energy affordability needs of households.

3. **Does the equity and justice framework provide clear guidance for decision makers and include the key considerations needed to advance equity and justice in implementation of the energy strategy? If not, what would you add?**

CUB wants to reiterate that "costs" have various meanings, beyond the literal cost of energy bills. For example, other "costs" frontline communities face - like being stranded on the gas system if strategic electrification is not prioritized for them; "costs" related to energy siting; "costs" related to EV chargers in their neighborhoods with no access to owning or leasing an EV themselves. In addition, "opportunities and benefits" needs to include participation (procedural justice) to ensure what are seen as "opportunities and benefits" are not top down but bottom up.

While the Equity and Justice Framework is designed to be consulted to inform process and policy for any policy that comes out of the strategy, which is important, as mentioned above, there are not enough concrete actions within the Draft Energy Strategy related to energy equity and affordability for low-income families. For example, "low-income" is only mentioned 11 times in the Draft. While using the Equity & Justice Framework as a sifting tool for all aspects of the Energy Strategy is extremely important to hopefully better ensure equitable policies, we worry about how more concrete actions related to energy equity and low-income families will come forth from this–specifically what the expectations are from ODOE around establishing such concrete outcomes from this framework.

4. **How well does the draft strategy, including the pathways, policies, and actions, address and incorporate equity and justice considerations? Would the recommendations improve, worsen, or make no change to existing disparities? Is there anything that you would add to improve equitable outcomes?**

While the equity and justice framework is designed to be consulted for any policy that comes out of the strategy, to inform process and policy itself, CUB is concerned there may not be enough concrete actions within the draft Report related to equity and an environmental justice framework. For example, "low-income" is only mentioned 11 times in the report. CUB would like to see ODOE's thoughts on developing more concrete goals related to energy equity in each of the pathway strategies, not just a framework to incorporate the various justice principles (procedural, distributive,).

5. **Do the actions address a critical near-term barrier to achieving one of the five pathways and related policies?**

Within the context of affordability, we know ODOE is aware of the public outcry from rising utility bills. Short term affordability strategies should be given as much weight as possible. if short term affordability has not been given enough weight, even if it really is affordable from the perspective of the long term. ODOE can use this as a cautionary tale.

While there is much more CUB can say on this report, we hope the above offers helpful guidance to ODOE. We are grateful that the Report acknowledges the importances of fuel-switching to more efficient energy equipment, that equity considerations must be front and center in all pathways, and that energy efficiency investments are paramount, with the additional prioritization of vulnerable households. Again, overall the Energy Strategy seems to be on track. We look forward to digging into further details on strategy implementation.

Respectfully,

/s/ *Jennifer Hill-Hart*
Policy & Program Director
Oregon Citizens' Utility Board

Oregon Energy Strategy

Public Comment

Dan Tedrow, Pacific ECS, 9.8.2025

Please include language to advocate for building or campus electrification when these systems have the lowest total cost of ownership. The commercial building industry represents only 6% (approx) of the building industry emissions, yet is the most expensive and difficult to electrify. Heat pumps technology for commercial and industrial applications has not caught up with demand and is 3 to 4 times the cost of typical gas fired equipment. These systems also have a much shorter life span and on average last 10 years (depending on the application) before requiring replacement. Heat pumps should be investigated and implemented where cost effective, otherwise optimization of building systems should be pursued.

September 22, 2025

Oregon Department of Energy
550 Capitol Street, NE
Salem, OR 97301

Re: Oregon Department of Energy, Draft Oregon Energy Strategy for Public Comment

Oregon Department of Energy:

On behalf of the Data Center Coalition (DCC), thank you for the opportunity to provide input regarding the Oregon Department of Energy's Draft Oregon Energy Strategy ("the Draft Energy Strategy"). DCC is the national membership association for the data center industry. Our members include leading data center owners and operators, as well as companies that lease large amounts of data center capacity.[1]

Data centers provide the digital infrastructure that supports many sectors of the 21st-century economy, including cybersecurity, healthcare, essential government services, artificial intelligence, financial services, advanced manufacturing, and other key industries. Oregon is an important market nationally for data centers and digital infrastructure development.

In Oregon, the data center industry has a significant economic impact through substantial capital investment, job creation, and tax contributions. From 2022 to 2023, the data center industry's direct annual GDP contribution in the state increased by 17%, rising from $3.51 billion to $4.10 billion. During the same period the data center industry's total annual employment grew from 46,830 jobs to 47,690, a 2% increase, and labor income earned directly in the Oregon data center industry grew by 11% year-over-year, to $1.74 billion. The data center industry's total fiscal support to state and local governments in Oregon increased from $727 million to $789 million, a 9% increase. At a time when Oregon is otherwise experiencing negative revenue forecasts — the first time in nearly a decade — it is critical for the state to promote and support economic development opportunities and be competitive.

There are several recommendations in the Draft Energy Strategy that we believe represent actions that will facilitate the state's ability to modernize and expand the state's energy infrastructure while supporting an energy transition that delivers clean, reliable, and affordable energy to all Oregonians. The Draft Energy Strategy reflects a

[1] The Data Center Coalition is a membership organization of leading data center owners and operators. Public testimony and written comments submitted by DCC do not necessarily reflect the views of each individual DCC member. A list of current DCC members is accessible at https://www.datacentercoalition.org/members

thoughtful approach and important step in fulfilling the requirements established under HB 3630 (2023).

Specifically, DCC supports:

- Clean Electricity Action 1: Establish a state transmission entity with the authority to (1) identify and designate transmission corridors; (2) pursue partial siting and permitting approvals for future projects in those corridors; and (3) provide direct financial support through state bonds for projects that are determined to benefit the public interest.
- Clean Electricity Action 2: Direct the Oregon Department of Energy to conduct a study on barriers preventing construction and interconnection of permitted projects and recommend actions to overcome barriers.
- Clean Electricity Action 3: Report on developments in emerging technologies, including long-duration storage, enhanced geothermal, floating offshore wind, and small modular nuclear reactors, to identify the role they can play in meeting the state's electricity needs and opportunities for pilot programs in the near-term.
- Cross Cutting Action 7: Identify gaps in current and estimated occupation-level employment to meet Oregon's future energy needs and support and expand workforce development efforts. Direct ODOE to study gaps and recommend actions.

DCC believes the above actions create a comprehensive and forward-looking strategy that streamlines processes in support of new transmission corridors and addresses interconnection barriers by studying the specific challenges that prevent new clean energy projects from connecting to the grid with an eye toward developing solutions that get more power online, faster. By calling for a study to identify gaps in the energy workforce and provide recommendations to expand workforce development efforts, Oregon will help to ensure it has the skilled labor to build, operate, and maintain its future energy system and meet its long-term electricity needs.

However, DCC is concerned that other recommendations would impose additional administrative and compliance costs on businesses that could deter economic growth and innovation in the state while introducing barriers to the adoption of beneficial electrification technologies. Imposing additional regulations on new electric loads could put Oregon at a competitive disadvantage compared to other states. This will discourage businesses, particularly in the tech sector, from locating or expanding operations in Oregon, resulting in lost economic opportunities and jobs. These adverse impacts may be especially felt by smaller businesses or those in emerging technology sectors who may struggle to comply with newly established reporting regimes.

DCC is concerned about these specific recommendations:

- Energy Efficiency 1b: Evaluate and promote opportunities to improve energy efficiency in large commercial and industrial sectors. (Large commercial and industrial efficiency)

- Cross-cutting Action 1: Direct the Environmental Quality Commission to adopt rules imposing registration and reporting requirements upon all new large electric loads to inform greenhouse gas emissions analyses, and to evaluate whether policy changes are needed to bring emissions in line with state policies.

As Oregon considers potential opportunities to improve energy efficiency in large commercial and industrial sectors, DCC encourages collaborative partnerships with industry to leverage market solutions. As energy is typically the largest annual operating cost for a data center, data center owners and operators are naturally incentivized to maximize energy efficiency and heavily invest in optimizing data center efficiency to minimize operational costs and/or ensure cost-competitiveness. Data centers are highly efficient facilities that enable energy savings and efficiencies economy wide. In 2010, nearly 80 percent of data center computing was conducted in smaller traditional computer centers, largely owned and operated by non-technology companies. By 2018, approximately 89% of data center computing took place in larger cloud data centers.[2] And, by centralizing computing resources, data centers have been able to leverage innovations in design, equipment, and technology to maximize energy efficiency. While electricity consumption at data centers rose 6% from 2010 to 2018, computing output jumped 550%, marking significant gains in efficiency and productivity.[3]

Rather than establishing new rules imposing registration and reporting requirements upon all new large electric loads, DCC recommends leveraging existing clean energy requirements. Under HB 2021 (2021), retail electricity providers are required to reduce greenhouse gas emissions associated with electricity sold to Oregon consumers to specified percentages below baseline emission levels: 80 percent by 2030, 90 percent by 2035, and 100 percent by 2040 and every subsequent year.[4] This measure established one of the most ambitious clean energy timelines in the country and provides a clear and enforceable path toward a carbon-free electricity grid prioritizing the state's environmental goals in addition to those surrounding social equity and community benefits. The Oregon Department of Energy also has established the Building Performance Standard program, which addresses energy use and emissions, and requires many large commercial buildings to enhance energy management practices and implement efficiency measures to meet energy use targets. [5]DCC suggests that before any new energy efficiency requirements are required, the state should fully implement existing programs and mandates.

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[2] The New York Times, "Cloud Computing Is Not the Energy Hog That Had Been Feared," February 27, 2020, https://www.nytimes.com/2020/02/27/technology/cloud-computing-energy-usage.html.

[3] Lawrence Berkeley National Laboratory, "Recalibrating global data center energy-use estimates," Science Magazine, https://datacenters.lbl.gov/sites/default/files/Masanet_et_al_Science_2020.full_.pdf.

[4] *See* Or. HB 2021, 81st Leg. Assemb., Reg. Sess. (2021).

[5] Oregon Department of Energy. *Building Energy Performance Standards*, https://www.oregon.gov/energy/save-energy/Pages/BPS.aspx.

Adding another layer of reporting creates unneeded redundancy, complexity, costs and raises some basic questions. For example, it is unclear whether utilities or an electricity end user would be required to perform reporting requirements and at what time procedurally. Furthermore, separate large load reporting and registration requirements could require utilities to assign emissions, and potentially renewable energy credits, to specific customers, which is not aligned with DEQ's current reporting approach. DCC therefore suggests leveraging and optimizing existing frameworks rather than creating new ones.

DCC recommends that the Oregon Department of Energy partner with industries that have already strong sustainability commitments to support the state's clean energy goals. Many companies, particularly in the tech sector, have established ambitious renewable energy and carbon reduction targets that often exceed state requirements. In fact, there is significant private sector investment in clean energy and sustainability initiatives driven by customer demands, investor expectations, and corporate commitments.

Companies are voluntarily pursuing power purchase agreements for renewable energy, investing in energy efficiency, and developing innovative solutions to reduce their carbon footprint. Adding new reporting requirements will divert resources away from these actual sustainability investments and implementations. Conversely, promoting supportive state-level policies and incentives could enable and accelerate these corporate commitments and the state's clean energy goals. Through continued collaboration among industry, policymakers, and other stakeholders, strategies can be effectively employed to promote responsible energy use while maintaining Oregon as a competitive market in the global economy.

We appreciate the opportunity to provide input during the Oregon Department of Energy's open public comment period. Thank you for considering our feedback. If additional information is useful, please do not hesitate to contact me.

Sincerely,

Dan Diorio
Vice President, State Policy
Data Center Coalition
dan@datacentercoalition.org

Comments submitted by Debra Higbee

The following comments are in response to the Oregon Department of Energy's Oregon Energy Strategy (OES). In these comments I will focus on nuclear energy as referenced in the Draft Oregon Energy Strategy:

There are recent and significant changes in federal energy policy that will impact Oregon's energy system. These short-sighted federal policies favor fossil fuels and nuclear energy. The fact that the Federal policy will turn away from the many forms of alternative energy, such as solar, conservation, wind, etc., will make energy more expensive for many Americans including Oregonians. Therefore, it's important that Oregon instead turns toward alternative energy.

Given a pro nuclear energy bias in the federal energy policy, many financial incentives are available. In support of nuclear energy, the Trump Administration has done the following:

- Written Executive Orders to accelerate deployment and target a huge build-out.
- Directed DOE to fund and pilot programs for advanced reactors & fuel lines.
- Provides contracts and funding for HALEU (advanced reactor fuel) production.
- Provides loan guarantees and financial support for restarts and projects.
- Gives tax and spending incentives that favor new nuclear

However, there are many reasons nuclear energy in all its forms is an out-dated energy source that has proved to be a financial, environmental, and human rights concern[1].

In Oregon, Measure 7 will stand in the way of adding nuclear energy to a state energy strategy. There are good reasons, other than financial, environmental, and human rights, that Oregon's Ballot Measure 7 prohibits nuclear energy plants. One reason, as stated in the OES, is Oregon's history of over-investment in nuclear energy. In the OES, you cite the example of the Washington Public Power Supply System investments in large nuclear projects in the 1950s. You are right in referring to it as a "cautionary tale where over-investment and cost overruns led to the largest municipal bond default in US history."[2] That over-investment was called WPPSS in the 1980's that consisted of four of five costly nuclear plants, which were cancelled due to construction cost overruns, and inaccurate load forecasts. It was a costly lesson that should be considered in Oregon's future energy strategy.

We should also heed a similar and more recent cautionary tale from three costly investments in nuclear energy plants. One was in 2024, Georgia's Vogtle Units 3 and 4, the first plants to come online in the United States in three decades. They cost twice the original estimate and were delayed seven years after the original planning. The second is the V.C. Sumner plants that were

[1] The nuclear fuel chain is mostly completed on Indigenous lands, or in communities of color or poverty. The front end of the nuclear fuel chain includes the mining, milling, conversion, and enrichment of uranium and these are done almost exclusively in frontline communities. Nuclear Power plants are usually sited in communities of color or poverty.

[2] Draft Oregon Energy Strategy, page 65 footnote XXIV

built in South Carolina, but were never put in operation. The two new reactors are the subject of a failed $9 billion project. Construction was halted in 2017 due to rising costs, project delays, and the bankruptcy of Westinghouse. While the project was abandoned, ratepayers still continue to pay for the debt incurred for construction. The final cautionary tale is NuScale's proposed reactors in the Utah Associated Municipal Power System project, which was cancelled in 2023 because of delays and rising costs.

We encourage you to listen to the advice in the Draft Oregon Energy Strategy, "to track demand projections closely to avoid over-investment, which can burden ratepayers even more with stranded costs."[3] This means that you should examine the cost of renewable energy compared to nuclear energy. As explained below, it is among the costliest ways of generating electricity. So if cost is a concern, you will decide to move away from nuclear energy as a bad investment for your customers, but also for the safety of our planet and those who live here.

In the OES section **"Clean Electricity Action 3" on page 72,** you recommend "reporting on developments in emerging technologies such as small modular nuclear reactors." To call small modular nuclear reactors (SMNR) "emerging technologies" is inaccurate. SMNRs have been around since nuclear energy was first introduced in the 1950s**.** The U.S. military built and ran several early models, and abandoned them for economic reasons. If you want "to identify the role they can play in meeting the state's electricity needs" you must examine the economic cost, and not get swayed by the nuclear energy industry's rebranding and commercial push. Economies of scale is the main reason why small nuclear reactors were abandoned after the 1950s.

In the OES on page 72 it explains that "ODOE will also look for opportunities to access federal funding and resources for the evaluation and potential demonstration projects." As explained above, the federal energy policy is biased toward dirty energy like fossil fuels and nuclear energy, therefore, many financial incentives are available. However, nuclear power today is among the costliest ways of generating electricity. The levelized cost is over five times that of power from wind turbines and utility-scale solar plants respectively.[4] The costs of renewables and energy storage are going down rapidly, whereas nuclear construction costs are rising.[5] As explained, the most recent nuclear energy plant (Georgia's Vogtle – $35 Billion) brought online in 2024 is the most expensive power plant ever built. It is costing ratepayers $10,784 per kilowatt, compared to $900 – $1,500 per kilowatt for wind, solar, or natural gas.[6] Please take this under consideration when looking at "opportunities to access federal funding for "demonstration projects."

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[3] Draft Oregon Energy Strategy, page 65 footnote XXIV

[4] *Nuclear Is Not The Solution: The folly of atomic power in the age of climate change*. M.V. Ramana, Published by Verso, 6 Meard St. London 2024, pg. 78.

[5] Lazard 2023 Levelized Cost Of Energy+ https://www.lazard.com/media/2ozoovyg/lazards-lcoeplus-april-2023.pdf

[6] Plant Vogtle: The True Cost of Nuclear Power in the United States, https://www.nonukesyall.org/pdfs/Truth%20about%20Vogtle%20report%20May%2030%20release.pdf ; Ratepayers First: The Economic Case Against Nuclear's Data Center Dreams, https://www.powermag.com/blog/ratepayers-first-the-economic-case-against-nuclears-data-center-dreams/

Clean Electricity

Let's be clear, nuclear energy is dirty, not clean. The main product of nuclear power is nuclear waste that pollutes the air, water and our soil. In the timeline of a nuclear energy plant, electricity is just a small blip early on, the rest is determining what to do with the long-term radioactive waste. Even if a high level nuclear waste repository existed, no one knows if it will successfully store this toxic radioactive waste for the tens of thousands to millions of years it must be removed from the environment. In Hanford Washington, 3 tanks are leaking toxic, radioactive nuclear waste into the soil.[7] Future generations, deriving no benefit from the creation of this highly toxic waste will inherit the legacy.

On page 87 in the OES you are to "Report on developments in emerging technologies, including …. small modular nuclear reactors, to identify the role they can play in meeting the state's electricity needs and opportunities for pilot programs in the nearterm. In that process, I hope that you take into consideration the many downsides of nuclear energy and turn away from it as Oregon's future energy source.

Thank you for the opportunity to provide comments.

Sincerely,



Debra Higbee
1281 Dalton Drive
Eugene, Oregon 97404
541-554-6979

[7] https://ecology.wa.gov/waste-toxics/nuclear-waste/hanford-cleanup/leaking-tanks

Oregon Energy Strategy

Public Comment

Donna Bonetti, 8.28.2025

I want the strongest renewable energy policies possible and programs to help people and businesses convert to efficient energy use in their homes and businesses. This could include heat pumps, solar power, efficient appliances and industrial equipment.

Oregon Energy Strategy

Public Comment

Donna Bonetti, 9.19.2025

Thank you for reading my comments. My name is Donna Bonetti and I live in North Bend. I am concerned about climate change and studied atmospheric science at a university and then worked at the National Center for Atmospheric Science for a few years. I assure you that climate change is real and applaud your efforts to switch to clean energy. I am aware that my community has high poverty and low awareness of climate change. I am hoping that people in this area can be helped with programs offering assistance in getting home insulation, energy efficiency, heat pumps and solar power that will help them financially while reducing consumption of greenhouse gases. I would also see struggling local businesses helped in the same way. Thank you for your work and for your consideration.

Oregon Energy Strategy

Public Comment

Elayna Trucker, 9.19.2025

We need to design an actionable pathway to meet the state’s 100% clean energy goals, keep false solutions out of Oregon and defend against harmful federal actions! For example, rorest biomass is NOT renewable energy, and there's evidence it pumps more carbon into our atmosphere than even coal.

Wood Pellet Production in the U.S. South and Exportation for 'Renewable' Energy in Europe: The New Green Sacrifice Zone

Emma Shumway*

In recent years, European demand for wood pellets has surged due to a misconception of carbon neutrality. The current legal frameworks posit that simply replacing a harvested tree renders the burning of wood pellets for energy use renewable energy. This oversimplification does not consider a number of factors, including the difference in carbon sequestration capabilities between original, natural forests and replacement monoculture plantations, the cumulative impact of CO_2 emissions in the atmosphere, and the years required for a replacement tree to sequester as much carbon as the harvested tree. The EU and U.K. can currently utilize emissions "reductions" due to burning wood pellets to reach domestic renewable energy goals along with commitments under the Paris Agreement. The corresponding increase in demand for wood pellets in Europe has resulted in a hotspot of wood pellet production in the U.S. South with several significant consequences. This Note presents the environmental justice and climate change impacts of the growing wood pellet industry in historically marginalized communities in the U.S. South, with a close look at the Enviva wood pellet plant in Hamlet, North Carolina. It provides an overview of the inadequacies of U.S., EU, U.K., and international environmental law in protecting both the global climate and local communities from the impacts of wood pellet production and combustion. This Note then builds on calls to change IPCC and EU carbon accounting rules for wood harvested for energy use to propose a solution to the environmental justice side of the wood pellet dilemma in international environmental law: namely, adding environmental justice safeguards to the UNFCCC Paris Agreement.

* J.D. Columbia Law School, 2023; B.A. Middlebury College, 2018. Thank you to Professor Michael Gerrard and the student editors at the Columbia Journal of Environmental Law for their invaluable contributions to this Note.

I. The 'Renewable' Wood Pellet Dilemma 480
II. The Environmental Justice and Climate Change Implications of Inadequate Wood Pellet Regulation in the U.S. and Abroad 482
A. Impacts on Local Communities in the U.S. South 483
1. The Enviva Case Study 488
B. Climate Impacts 491
1. CO_2 Emissions from Production and Transportation 492
2. CO_2 Emissions from Deforestation 493
3. CO_2 Emissions from Combustion 496
III. The Existing Legal Frameworks for Wood Pellets as an Energy Source 496
A. U.S. Law 497
B. EU and U.K. Law 503
C. International Law 509
1. IPCC Carbon Accounting 509
2. UNFCCC: Kyoto and Paris 513
a. Paris Agreement: Sustainable Development Mechanism 514
b. Paris Agreement: National Determined Contributions (NDCs) 515
IV. Solutions in International Environmental Law 516
A. Correcting Carbon Accounting and Removing Status as Renewable Energy 516
B. Paris Rulebook: NDCs and Reporting Requirements 517
1. Planning-Oriented Instruments 518
2. Reporting-Oriented Instruments 519
3. Existing EJ Safeguard Models 520
V. Conclusion 525

I. THE 'RENEWABLE' WOOD PELLET DILEMMA

As the renewable energy transition accelerates, policymakers and industry have turned to the promise of carbon-neutral biomass. Burning biomass for energy use is an appealing alternative to burning fossil fuels, because trees already emit carbon dioxide (CO_2) during the natural process of decomposition, and harvested trees can be replaced. In turn, the replacement trees will sequester a lifetime of carbon, in theory rendering the carbon debt of emissions in both the harvesting and combustion process repaid. In reality, however, this assumption overlooks the cumulative impact of CO_2 emissions, along with the time it takes for a newly planted tree to adequately sequester carbon and the difference in carbon sequestration capabilities between original forests and fast-growing replacement plantations.

Nonetheless, the repayable theory of carbon-neutral combustion of woody biomass as an energy source underlies the greenhouse gas (GHG) accounting[1] guidelines from the Intergovernmental Panel on Climate Change (IPCC), the international authority on climate change science and policy. To avoid double-counting, the IPCC guidelines advise countries to only account for harvested biomass emissions in the land-use sector, leaving the combustion emissions unaccounted for in the energy sector. Moreover, the proposed accounting framework allows for consideration of only the producing country's estimated changes in carbon stocks in the harvested wood products pool.[2]

The inadequacies of this accounting approach are twofold. Firstly, the assumption that the lifecycle of a wood pellet can be accounted for in forest and wood-product pool stock changes creates the impression of carbon neutrality, overlooking the significance of the harvesting technique, category of wood, and time required for carbon sequestration; while combustion leads to immediate CO_2 emissions,

1. "Carbon accounting is the process by which organizations quantify their GHG emissions, so that they may understand their climate impact and set goals to limit their emissions." *Carbon Accounting 101*, SUPPLY CHAIN SOL. CTR., https://supplychain.edf.org/resources/carbon-accounting/ [https://perma.cc/4KPN-P84D] (last visited Jan. 27, 2023).

2. The IPCC defines a carbon pool as a "system which has the capacity to accumulate or release carbon." ROBERT WATSON ET AL., IPCC SPECIAL REPORT ON LAND USE, LAND-USE CHANGE AND FORESTRY APP. III (2000). The Harvested Wood Project (HWP) pool includes CO_2 sequestered by the forest, CO_2 emitted during slash and harvest, CO_2 stored in HWP, and CO_2 released at the end of the HWP's life. The HWP pool significantly does not include CO_2 emissions derived from combustion of HWP. Sebastian Rüter et al., *Harvested Wood Products*, *in* VOL. 4 2019 REFINEMENT TO THE 2006 IPCC GUIDELINES FOR NATIONAL GREENHOUSE GAS INVENTORIES: AGRICULTURE, FORESTRY, AND OTHER LAND USE 12.1, 12.42 (Eduardo Calvo Buendia et al. eds., 2019).

sequestering the same amount of carbon via newly planted trees can take up to a hundred years,[3] which is in direct conflict with the exceedingly time-sensitive nature of the climate crisis. Additionally, wood-fired power plants actually generate more CO_2 per kWh than coal.[4] Scientists estimate that it would take between 44 and 104 years for new trees to sequester enough carbon dioxide to make wood greener than coal.[5] Secondly, the IPCC land-use accounting approach poses a major problem when the country that harvests and exports biomass is not a Party to the accounting framework. This presents a significant loophole: The United States, Canada, and Russia did not ratify the Second Commitment of the Kyoto Protocol and thus were not subject to its reporting requirements, but they continued to export woody biomass to Parties.[6] As a result, emissions were not accounted for under the Kyoto Protocol, because the land-use emissions occurred in non-Parties and the energy sector emissions from combustion are not accounted for under the IPCC approach.

This loophole in international carbon accounting has increasingly engendered criticism from advocates and scientists alike.[7] In response to the pressure, the IPCC's latest guidance, the 2019 Refinement to the 2006 IPCC Guidelines on National Greenhouse Gas Inventories ("2019 Refinement"), included an acknowledgement that fugitive emissions guidelines for harvested wood products need to be developed.[8] However, the land-use reporting loopholes were not addressed, and the consequences of this carbon accounting oversight are not limited to climate change. The carbon-neutral label has led to increasing demand for woody biomass[9] and subsequent legal systems

3. Michael Ter-Mikaelian et al., *Carbon Debt Repayment or Carbon Sequestration Parity? Lessons from a Forest Bioenergy Case Study in Ontario, Canada*, 7 GCB BIOENERGY 704, 704 (2015); NAT. RES. DEF. COUNCIL (NRDC), THE SUSTAINABLE BIOMASS PROGRAM: SMOKESCREEN FOR FOREST DESTRUCTION AND CORPORATE NON-ACCOUNTABILITY 3 (2017).

4. John Sterman et al., *Does Replacing Coal with Wood Lower CO_2 Emissions? Dynamic Lifecycle Analysis of Wood Bioenergy,* 13 ENV'T RSCH. LETTERS 1, 2 (2018).

5. *Id.*

6. DUNCAN BRACK, WOODY BIOMASS FOR POWER AND HEAT: IMPACTS ON THE GLOBAL CLIMATE 5 (2017).

7. Majile de Puy Kamp, *How Marginalized Communities in the South Are Paying the Price for 'Green Energy' in Europe*, CNN (July 9, 2021), https://www.cnn.com/interactive/2021/07/us/american-south-biomass-energy-invs/ [https://perma.cc/3V7M-XYZH].

8. Christian Boettcher et al., *Fugitive Emissions*, *in* VOL. 2 2019 REFINEMENT TO THE 2006 IPCC GUIDELINES FOR NATIONAL GREENHOUSE GAS INVENTORIES: ENERGY 4 APP 4A.2 (Eduardo Calvo Buendia et al. eds., 2019).

9. Jozsef Popp et al., *Bioeconomy: Biomass and Biomass-Based Energy Supply and Demand*, 60 NEW BIOTECHNOLOGY 76 (2021).

that serve to incentivize with limited regulatory oversight. United States (U.S.), United Kingdom (U.K.), and European Union (EU) laws all subsidize biomass as an energy source with varying levels of protection afforded to forests.[10]

The international biomass demand that has followed from the existing legal frameworks has led to the disproportionate impact of wood pellet production in the U.S. South on historically marginalized communities. While "sacrifice zones" are traditionally considered to be the geographic zones home to fence line communities living in proximity to dangerous pollution from dirty industries like oil and gas,[11] the wood pellet industry has created a new "green" sacrifice zone. The environmental justice (EJ) implications of this trend can be seen in the public health impacts of the Enviva wood pellet production plant in Hamlet, North Carolina, and will be discussed *infra* Part II(A)(1). The effect of biomass production on local communities is a vital consideration that is noticeably absent from both the respective biomass laws of the U.S., U.K., and EU, and the latest international UN Framework Convention on Climate Change (UNFCCC) treaty, the Paris Agreement.

Under the existing international framework, the EU and U.K. will be able to take credit for emissions reductions under the Paris Agreement without any accountability mechanism for either the CO_2 emissions resulting from combustion of wood pellets or the human cost on the ground of the exporting country. Given that existing domestic laws have proven inadequate and the inherent global nature of this problem, this Note argues that a solution lies in the realm of international environmental law: IPCC accounting guidelines should include combustion emissions, and the Paris Agreement must include an EJ safeguard that precludes emission reduction credit when specified EJ standards are not met in the producing country.

II. THE ENVIRONMENTAL JUSTICE AND CLIMATE CHANGE IMPLICATIONS OF INADEQUATE WOOD PELLET REGULATION IN THE U.S. AND ABROAD

The IPCC's carbon accounting methodology for harvested wood pellets for energy use has led to an oversimplified distillation of the 2006 and 2019 Guidelines on harvested wood products by forest

10. *See infra* Parts III(A)–(B).

11. *Let's Talk About Sacrifice Zones*, CLIMATE REALITY PROJECT (May 13, 2021), https://www.climaterealityproject.org/blog/lets-talk-about-sacrifice-zones [https://perma.cc/8CGU-WJ2P].

biomass industry proponents—that the IPCC deems wood pellets to be carbon neutral.[12] As a result, this perception has been integrated into the domestic policy of many countries as well as the carbon accounting and reporting requirements of the Paris Agreement. Given that Parties can make progress on their National Determined Contribution (NDC) emissions reductions goals under the Paris Agreement by replacing fossil fuels with biomass as an energy source, domestic laws have shifted to incentivize biomass, putting it on par with renewable energy sources like wind or solar and disregarding the costs of biomass as an energy source. The practical impacts of this lopsided cost-benefit analysis have serious EJ and climate change implications that highlight the need for a legal intervention in the current state of wood pellets as an energy source around the globe. The true carbon emissions of a wood pellet's lifecycle must be accounted for in the law, and an EJ framework must be established to prevent NDC emission reduction credits from being derived from exploitation of local communities by industry in another country. The impacts of widespread biomass incentivization are currently most starkly seen in the nation's "wood basket," the most industrially productive forest region in the world: the U.S. South.[13]

A. Impacts on Local Communities in the U.S. South

Wood pellet production in the U.S. South has exploded over the past decade, earning the region the title of the world's largest wood pellet supplier[14] and increasing exportation to the EU almost ten-fold, from 500,000 tons in 2009 to 4.7 million metric tons in 2018.[15] Industrial wood pellet plants in the U.S. convert trees into wood pellets, which in turn are utilized as biomass fuel to produce electricity via burning.[16]

12. *See infra* Part III(C)(1); Sasha Stashwick, *What the IPCC Really Says on Forest Biomass & Climate Change*, NRDC (Nov. 9, 2021), https://www.nrdc.org/experts/sasha-stashwick/what-ipcc-really-says-forest-biomass-climate-change [https://perma.cc/M8L6-YFB5]. This is, in fact, not the case. The IPCC explicitly states that it "do[es] not automatically consider or assume biomass used for energy as 'carbon neutral,' even in cases where the biomass is thought to be produced sustainably." *FAQs Q2-10*, IPCC: TASK FORCE ON NAT'L GREENHOUSE GAS INVENTORIES, https://www.ipcc-nggip.iges.or.jp/faq/faq.html [https://perma.cc/M2ZN-PAZ4] (last visited Mar. 4, 2023).

13. Apporva Joshi, *A Bleak Future for the U.S. 'Wood Basket'? Southern Forests Under Threat*, MONGABAY (Apr. 6, 2016), https://news.mongabay.com/2016/04/bleak-future-u-s-wood-basket-southern-forests-threat/ [https://perma.cc/F4WJ-4YHR].

14. PATRICK ANDERSON & KERI POWELL, ENV'T INTEGRITY PROJECT, DIRTY DECEPTION: HOW THE WOOD BIOMASS INDUSTRY SKIRTS THE CLEAN AIR ACT 4 (2018).

15. *Id.*

16. *Id.*

Demand for U.S. wood pellets is primarily driven by European renewable energy incentives,[17] with over 99% of U.S. wood pellet exports in 2017 going to the EU.[18] As this industry has rapidly grown under the guise of clean and renewable energy, an all too familiar problem has followed suit: the brunt of the consequences in the U.S. has been felt by low-income communities of color.

Wood pellet manufacturing operations pollute communities with particulate matter (soot) and volatile organic compounds (VOCs), which pose dangers to both the health of the public and the environment; fine particulate matter ($PM_{2.5}$) can cause heart attacks, decreased lung function, asthma, and premature death,[19] and VOC emissions produce ground-level ozone and also contain air pollutants classified as hazardous under the Clean Air Act (CAA) due to toxic or carcinogenic characteristics, including acetaldehyde, formaldehyde, and methanol.[20] In addition to pollution associated with day-to-day operations, wood pellet mills in the U.S. South have experienced frequent fires and explosions, endangering both employees and surrounding communities with episodes of more extreme air pollution on top of the traditional dangers of fire.[21] The storage of wood pellets in sizable piles creates conditions that are amenable for fires, which contribute to the sustained burning once a fire does in fact break out.[22]

In 2018, the Environmental Integrity Project (EIP) investigated the emissions and air permits of twenty-one American wood pellet mills exporting to Europe, fifteen of which were specifically constructed to meet international wood pellet demand, and calculated the total

17. *See infra* Part III(B).

18. U.S. INT'L TRADE COMM'N, INTERNATIONAL TRADE IN WOOD PELLETS: CURRENT TRENDS AND FUTURE PROSPECTS 1 (2018).

19. *See, e.g.,* ANDERSON & POWELL, *supra* note 14, at 6; Yu-Fei Xing et al., *The Impact of PM2.5 on the Human Respiratory System*, 8 J. THORACIC DISEASE 69 (2016); Yixing Du et al., *Air Particulate Matter and Cardiovascular Disease: The Epidemiological, Biomedical and Clinical Evidence*, 8 J. THORACIC DISEASE 8 (2016); *Health and Environmental Effects of Particulate Matter (PM)*, EPA (Aug. 30, 2022), https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm [https://perma.cc/J55M-ZJ6L].

20. ANDERSON & POWELL, *supra* note 14, at 6; *Volatile Organic Compounds' Impact on Indoor Air Quality*, EPA (Aug. 26, 2022), https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality [https://perma.cc/2MEV-8JZ6]; Regina Montero-Montoya et al., *Volatile Organic Compounds in Air: Sources, Distribution, Exposure and Associated Illnesses in Children*, 84 ANNALS GLOB. HEALTH 225 (2018); Jeffrey Wickliffe et al., *Increased Long-Term Health Risks Attributable to Select Volatile Organic Compounds in Residential Indoor Air in Southeast Louisiana*, 10 SCI. REPS. 21649 (2020).

21. ANDERSON & POWELL, *supra* note 14, at 2.

22. *Id.*

annual emissions of "health-threatening" pollutants to be 16,000 tons, with over 2,500 tons of particulate matter, 3,200 tons of nitrogen oxides, 2,100 tons of carbon monoxide, and 7,000 tons of VOCs.[23] The study further found that four plants had faulty permits under the CAA pollution control equipment requirements, and eleven out of twenty-one had either violated the law in failing to install the necessary pollution controls or in surpassing the legal limits of emissions.[24] For example, EIP found that the annual VOC emissions of the Drax plant in Amite County, Mississippi, surpassed 900 tons; the Enviva plant in Jackson County, Florida, surpassed 500 tons; and the Enviva plant in Northampton County, North Carolina, surpassed 377 tons—all well above the 250 ton limit required under the CAA.[25] These numbers are unsurprising, given that in both drying the wood and turning it into pellets, air pollution is an inherent element of the wood pellet production process.

After the trees are chopped down and transported to the facility, they are put into chipping machines, or "hammermills," and subsequently transferred to the dryer, which is typically heated by burning wood and bark.[26] This drying procedure emits the most air pollution because the application of heat to wood emits VOCs, but the corresponding burning is also an emitter, releasing fine particulate matter, carbon monoxide, nitrogen oxides, and greenhouse gases.[27] The wood then returns to the hammermills and is sent to the pellet press, which uses pressure and heat to press the wood through pellet-shaped holes.[28] Finally, the pellets are cooled and stored prior to being shipped.[29] Despite historically being understood by industry as emitting insignificant amounts of VOCs, in recent years the substantial VOC pollution of pressing and cooling has come to light.[30] This fundamental misunderstanding is in part to blame for violations of CAA permits by wood pellet facilities.[31] For example, the permitting

23. *Id.* at 1. As a point of comparison, based on the total emissions of U.S. coal power plants in 2014, twenty-one plants would on average emit 2,747 tons of particulate matter, 20,888 tons of nitrogen oxides, 8,024 tons of carbon monoxide, and 308 tons of VOCs. *Coal and Air Pollution*, UNION OF CONCERNED SCIENTISTS (Dec. 19, 2017), https://www.ucsusa.org/resources/coal-and-air-pollution [https://perma.cc/7HCP-UW6F].

24. ANDERSON & POWELL, *supra* note 14, at 1.

25. *Id.* at 2.

26. *Id.* at 5.

27. *Id.* at 6.

28. *Id.* at 5.

29. *Id*. at 5.

30. ANDERSON & POWELL, *supra* note 14, at 6.

31. *Id.* at 6–7.

limits for VOCs at Georgia Biomass were set under the assumption that the entire facility emitted fewer than 250 tons of VOCs per year, when in reality emissions reached over 1,000 tons.[32] In addition to the air pollution derived from routine production, the EIP study found that at least eight of the fifteen largest operations had fires or explosions after 2014, releasing pollution in large quantities and injuring workers, and in one case even killing a worker during cleanup following a fifty-two day fire.[33]

As is true for most environmental pollution in the United States, the localized negative impacts of wood pellet production are not evenly distributed. A peer-reviewed study published by authors from the Dogwood Alliance and Tufts University found that eighteen of thirty-two wood pellet operations in the U.S. South[34] were located in EJ-designated communities, meaning communities with poverty levels above the state median and a nonwhite population of at least 25% of the total community population.[35] Moreover, this study found that all biomass wood pellet mills in both North and South Carolina were located in EJ communities and that EJ communities were twice as likely as communities without the EJ designation to have wood pellet production facilities in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, and Virginia.[36] There is an imbalance in modern private land ownership: white people own approximately 95% of family-owned forest land,[37] and family forest ownerships control more forest land than any other ownership group in the United States.[38] But, the private landowners that lease land and sell timber to wood pellet companies are not the ones who are forced to live with the consequences.[39] This injustice continues a legacy of systemic racism in land ownership in the U.S. South. Historically, federal agencies have hindered private land ownership by people of

32. *Id.* at 6.

33. *Id.* at 2.

34. Stefan Koester & Sam Davis, *Siting of Wood Pellet Production Facilities in Environmental Justice Communities in the Southeastern United States*, 11 ENV'T JUST. 64, 67 (2018). The study included Alabama, Arkansas, Georgia, Florida, Louisiana, Mississippi, North Carolina, South Carolina, and Virginia.

35. *Id.* at 64.

36. *Id.*

37. Brett Butlet et al., *Family Forest Ownerships of the United States, 2013: Findings from the USDA Forest Service's National Woodland Owner Survey*, 114 J. FORESTRY 638, 641 (2016).

38. *Id.*

39. ALEXANDRA WISNER ET AL., RACHEL CARLSON COUNCIL, CLEAR CUT: WOOD PELLET PRODUCTION, THE DESTRUCTION OF FORESTS, AND THE CASE FOR ENVIRONMENTAL JUSTICE 12 (2019).

color through discrimination in federally-administered loans, technical assistance, and land extension programs.[40]

Although industry and the local governing bodies that approve the construction of wood pellet plants tout economic benefits, including direct employment for over 1,000 people in the U.S. South and stimulation of local logging and trucking businesses,[41] the siting of wood pellet production plants is not without opposition from local communities. Multiple NAACP chapters in Southern communities have come out in opposition to the siting of wood pellet production operations, in part due to an NAACP finding that "African Americans who live near biomass power plants are more likely to suffer from increased exposure to a number of dangerous emissions, such as smog, asbestos, sulfur dioxide, and other toxins, than any other racial group in America."[42] In fact, one chapter deemed the siting of wood pellet production facilities to be "a clear cut example of environmental racism."[43] Both the American Lung Association and American Heart Association also oppose the expansion of wood pellet production due to the health risks to the surrounding communities.[44]

Moreover, wood pellet production plants burden the community with emissions from the on-site biomass and/or coal required to generate the electricity to fuel the plant itself,[45] and noise pollution, increased traffic, and degradation of water quality and ecosystem services resulting from production of wood pellets in rural

40. *See, e.g.*, Melissa Gordon, *"Revolution is Based on Land:" Wealth Denied via Black Farmland Ownership Loss,* TUFTS UNIV., https://sites.tufts.edu/gis/files/2019/05/Gordon-Melissa_UEP232_Fall2018.pdf [https://perma.cc/B29Q-9R6H] (last visited Mar. 4, 2023); John Schelhas et al., *Engaging African American Landowners in Sustainable Forest Management*, 115 J. FORESTRY 26, 27 (2017); Jess Gilbert et al, *The Loss and Persistence of Black-Owned Farms and Farmland: A Review of the Research Literature and Its Implications*, 18 J. RURAL SOC. SCI. 1, 9–12 (2002); William Nelson Jr., *Black Political Power and the Decline of Black Land Ownership*, 8 REV. BLACK POL. ECON. 253, 260 (1978).

41. Gabriel Popkin, *There's a Booming Business in America's Forests. Some Aren't Happy About It.*, N.Y. TIMES (Apr. 19, 2021), https://www.nytimes.com/2021/04/19/climate/wood-pellet-industry-climate.html [https://perma.cc/5DND-Y6U5]. *See also* CHMURA ECON. & ANALYTICS, ECONOMIC & FISCAL IMPACT: ENVIVA'S OPERATIONAL FOOTPRINT IN THE SOUTHEASTERN UNITED STATES (2021) (finding that Enviva is on track to create/support approximately 4,200 jobs within its operational footprint, and for every job created in the states housing Enviva facilities, 2.8 jobs are supported elsewhere in the U.S. South in other businesses).

42. Stefan Koester & Sam Davis, *Siting of Wood Pellet Production Facilities in Environmental Justice Communities in the Southeastern United States*, 11 ENV'T JUST. 64, 65 (2018).

43. *Id.*

44. *Id.* at 67. For more on the health impacts of burning biomass, *see* Torben Sisgaard et al., *Health Impacts of Anthropogenic Biomass Burning in the Developed World*, 46 EUR. RESPIRATORY J. 1577 (2015).

45. Koester & Davis, *supra* note 42, at 65.

communities.[46] The harvesting of trees for wood pellet operations produces even more disproportionate burdens on EJ communities. In addition to the global benefits, forests are critical to local regions in both absorbing water during storm events and removing pollution from the atmosphere.[47] Despite the localized impacts of wood pellet production, the opposition of the very communities in which wood pellet plants are sited often goes unheeded. The following case study illustrates this problem.

1. The Enviva Case Study

A close look at the presence of the Enviva biomass company in the state of North Carolina reveals the gravity of the wood pellet-induced EJ problems in the U.S. South. Enviva is the largest wood pellet producer in the world, with seven processing plants across North Carolina, South Carolina, Virginia, Florida, Alabama, and Mississippi, totaling an annual production capacity of almost 3.5 million metric tons of pellets[48] out of approximately 10.3 million total tons in the U.S. South and 13.3 million in the United States nationally.[49] North Carolina suffers disproportionately at the hands of Enviva. The state is deemed ground zero for the wood pellet industry by the executive director of environmental advocacy group, the Dogwood Alliance.[50] Every day, 164 acres of North Carolina's forests are lost to the biomass industry.[51] Moreover, the Dogwood Alliance study found every single North Carolina wood pellet facility to be situated in an EJ community.[52]

One recent Enviva project has been particularly controversial, garnering widespread critique and legal challenges. The Enviva Pellets Hamlet LLC biomass pellet manufacturing plant in Hamlet, North Carolina, became operational in 2019.[53] Identified as an EJ community, Hamlet is nearly half Black, Hispanic, and Native American, and approximately three in ten residents live below the

46. *Id.*
47. *Id*. at 67.
48. WISNER ET AL., *supra* note 39, at 12.
49. U.S. ENERGY INFO. ADMIN., MONTHLY DENSIFIED BIOMASS FUEL REPORT tbl.2, Form EIA-63C (Sept. 15, 2021).
50. de Puy Kamp, *supra* note 7.
51. *Id.*
52. Koester & Davis, *supra* note 41, at 64.
53. *Hamlet, NC*, ENVIVA, https://www.envivabiomass.com/facility/hamlet-nc/ [https://perma.cc/Y6E8-N65E] (last visited Feb. 19, 2022).

poverty level.[54] The plant is located in the neighborhood of Dobbins Heights, which is 80% Black and over a third of residents live below the federal poverty line.[55] In the greater Richmond County, the median poverty rate is 27.3% (compared to North Carolina's median poverty rate of 20.15%) and the county is 37.5% nonwhite.[56] According to EPA's Environmental Justice Screening and Mapping Tool (EJSCREEN), Hamlet is ranked in the 90–95th percentile for air toxics respiratory hazard, air toxics cancer risk, and traffic proximity; the 80–90th percentile for superfund site proximity; and 70–80th percentile for ozone pollution.[57]

Although the Enviva project was approved by Richmond County commissioners and received $1.7 million in state and local tax credit subsidies, partly due to seventy-nine jobs created and $107 million in "planned investment,"[58] due to the existing pollution in Hamlet, community members opposed the project: a local grassroots nonprofit, the Concerned Citizens of Richmond County, organized the community to fight the plant's siting.[59] However, opportunities for community members to voice their opposition were few and far between—according to residents, Richmond County commissioners did not allow residents to speak before the commission on the issue before approving the siting of the project, and the Southern Environmental Law Center (SELC) subsequently filed a petition in May 2017, alleging that the North Carolina Department of Environmental Quality (NCDEQ) improperly issued the original Enviva air permit without the required opportunity for public comment.[60]

In 2018, community members were eventually given an opportunity to provide input at an NCDEQ public hearing concerning Enviva's application for a modified air quality permit due to the expansion of its Hamlet facility[61] in Richmond County, and over 100

54. WISNER ET AL., *supra* note 39, at 24.

55. *See id.*

56. Koester & Davis, *supra* note 42, at 69.

57. *EJScreen: EPA's Environmental Justice Screening and Mapping Tool (Version 2.1),* EPA, https://ejscreen.epa.gov/mapper/ (last visited Jan. 8, 2023).

58. Koester & Davis, *supra* note 42, at 68.

59. *Id.* at 69.

60. *See id.*

61. BRUCE INGLE, ENVIVA PELLETS HAMLET, HEARING OFFICER'S REPORT AND RECOMMENDATIONS 1–15 (2018) (public hearing pertaining to permit application no. 7700096.18A and draft air permit no. 10635R03; hearing officer's report and recommendation of Bruce Ingle, regional supervisor, 2019).

people attended.[62] Seventeen people spoke in favor of the project and twenty-six spoke against it.[63] Additionally, 581 emails and thirty-three comments were received, one accompanied by a letter with forty signatures from organizations purporting to represent over 1.5 million North Carolinians in a plea for NCDEQ to deny Enviva's expansion in the state until cumulative impacts of the wood pellet industry were studied.[64] The hearing report does not disclose the number of emails and comments that were in support and opposition, but 390 of the emails included language expressing concern for both the climate and health impacts of the Enviva plant.[65]

Despite the activism of community members, the project went forward, with plans to emit 300 tons of VOCs per year at a minimum.[66] Based on the technologies in place at similar facilities, a report penned by environmental advocates from the Rachel Carson Council and Duke University alleges that the Enviva facility was legally required to install the best available emissions control technologies (BACT) to prevent these emissions under Section 165 of the CAA, yet North Carolina chose not to require installation of any VOC controls due to cost.[67] EIP and SELC challenged the Enviva Hamlet air pollution permit in the North Carolina Office of Administrative Hearings in 2019, alleging that NCDEQ improperly classified the facility as a minor rather than a major air pollution source under the CAA in addition to failing to properly scrutinize Enviva's air pollution estimates.[68] Enviva ultimately settled, agreeing to install pollution control technologies that will achieve at least a 95% reduction in VOCs and hazardous air pollutants.[69]

Whether Enviva will effectively improve emissions remains to be seen, and its track record is not strong: NCDEQ fined the Hamlet facility for over $11,000 in 2020 due to air permit violations resulting from equipment malfunctions.[70] North Carolina Policy Watch also

62. WISNER ET AL., *supra* note 39, at 26.
63. INGLE, *supra* note 61, at 1–15.
64. WISNER ET AL., *supra* note 39, at 26.
65. INGLE, *supra* note 61, at 1–15.
66. WISNER ET AL., *supra* note 39, at 24.
67. *Id.* at 26.
68. *Legal Challenge Forces NC Wood Pellet Facility to Install Pollution Controls*, S. ENV'T L. CTR. (June 4, 2019), https://www.southernenvironment.org/news/legal-challenge-forces-n-c-wood-pellet-facility-to-install-pollution-controls/ [https://perma.cc/RY9W-EM6Q].
69. *Id.*
70. Lisa Sorg, *Fire Breaks Out at Enviva Wood Pellet Plant with History of Environmental Violations*, NC POL'Y WATCH: THE PULSE (May 1, 2021), https://pulse.ncpolicywatch.org/2021/05/01/fire-breaks-out-at-enviva-wood-pellet-plant-

reports that NCDEQ records indicate five air quality violations at Enviva's Sampson County plant since 2017, including excess emissions of VOCs, carbon monoxide, and particulate matter, and in 2021, NCDEQ fined Enviva $7,300 for permit violations due to Sampson County equipment failures.[71] There have also been at least six fires at Enviva plants in the U.S. South since 2014.[72] It is apparent that the designation of wood pellets as clean energy is a misnomer in more than one respect, and Hamlet community members continue to suffer from some of the worst health outcomes in the state.[73]

B. Climate Impacts

In addition to the immediate health-threatening impacts of industrial-scale wood pellet production, these operations also pose a threat to the global climate crisis, contrary to the impression created by the designation as carbon-neutral or renewable energy. A life-cycle analysis of wood pellet biomass casts doubt on this label. Proponents of biomass argue that replanting trees at the same rate at which they are harvested occasions carbon neutral energy given that decomposition of trees releases CO_2, but a Chatham House study in 2019 showed:

> Accounting for emissions from their combustion, their supply chain, forgone removals of carbon dioxide from the atmosphere due to the harvesting of live trees and emissions from the decay of roots and unused logging residues left in the forest after harvest . . . US-sourced wood pellets burnt in the UK were responsible for 13 million–16 million tonnes of CO_2 emissions in 2019, equivalent to the emissions from between 6 million and 7 million passenger vehicles.[74]

For reference, the total GHG emissions in CO_2 equivalent totaled at approximately 453 million metric tons in the U.K. in 2018 and 6 billion

with-history-of-environmental-violations/#sthash.K62qkOJG.i5eZkHlF.dpbs [https://perma.cc/HGF2-SLU6].

71. *Id.* Without more information, it is difficult to determine the precise severity of these violations.

72. *Id.*

73. *Legal Challenge Forces NC Wood Pellet Facility to Install Pollution Controls*, S. ENV'T L. CTR. (Jun. 4, 2019), https://www.southernenvironment.org/news/legal-challenge-forces-n-c-wood-pellet-facility-to-install-pollution-controls/ [https://perma.cc/RY9W-EM6Q]. *See also* RICHMOND COUNTY HEALTH DEP'T, STATE OF THE COUNTY HEALTH REPORT 2018 (2018); *Richmond, NC*, COUNTY HEALTH RANKINGS & ROADMAPS, https://www.countyhealthrankings.org/app/north-carolina/2022/rankings/richmond/county/outcomes/overall/snapshot [https://perma.cc/WW43-S876] (last visited Mar. 4, 2023).

74. DUNCAN BRACK ET AL., GREENHOUSE GAS EMISSIONS FROM BURNING US-SOURCED WOODY BIOMASS IN THE EU AND UK (2021).

metric tons in the U.S.[75] In the same year, North Carolina energy-related CO_2 emissions totaled at 124.2 million metric tons.[76]

1. CO_2 Emissions from Production and Transportation

The EIP Study found twenty-one wood pellet mills to emit 3.1 million tons of GHG annually, primarily through the wood pellet drying process.[77] Another source of emissions is associated with transport.[78] From the running of truck routes between forests and production plants in the U.S. South to the shipment of wood pellets across the Atlantic to Europe, the industry's life cycle emissions are substantial. The EU does purport to factor domestic transport and transatlantic shipment emissions into the carbon neutral calculation,[79] but the IPCC and UNFCCC only account for domestic transport emissions in national calculations.[80] Emissions from international shipment and aviation are the prerogative of the International Civil Aviation Organization (ICAO) and International Maritime Organization (IMO) and were consequently omitted from the Paris Agreement.[81] Estimates indicate that the making of the wood pellets and transport from the U.S. to Europe (i.e., supply chain emissions) totaled approximately 1.3 million metric tons in 2019, up from 695,000 metric tons in 2014.[82] Other life cycle emissions that are excluded from carbon accounting calculations include:

> The fuel used in replanting, fertilizing, tilling, trucking to and from the forests, the natural gas used in processing the wood pellets, [and] the diesel used to ship those pellets thousands of miles overseas.[83]

75. *Total Greenhouse Gas Emissions (kt of* CO_2 *Equivalent)*, WORLD BANK, https://data.worldbank.org/indicator/EN.ATM.GHGT.KT.CE?most_recent_value_desc=true [https://perma.cc/5D8Q-JY5P] (last visited Feb. 21, 2022).

76. *Energy-Related* CO_2 *Emission Data Tables, Table 1: State Energy-Related Carbon Dioxide Emissions by Year, Adjusted*, U.S. ENERGY INFO. ADMIN. (Mar. 2, 2021), https://www.eia.gov/environment/emissions/state/ [https://perma.cc/5FFT-NR38].

77. ANDERSON & POWELL, *supra* note 14, at 1.

78. BRACK ET AL., *supra* note 74, at 30.

79. Simon Bager, Unintended or Unanticipated Consequences? The Indirect Greenhouse Gas Effects of Wood Pellet Consumption for Energy Generation (Feb. 1, 2016) (M.Sc. thesis, University of Copenhagen).

80. Dario Gomez et al., *Mobile Combustion*, *in* 3 2006 IPCC GUIDELINES FOR NATIONAL GREENHOUSE GAS INVENTORIES (Simon Eggleston et al. eds., 2006).

81. *Shipping Aviation and Paris,* U.N. CLIMATE CHANGE (May 18, 2016), https://unfccc.int/news/shipping-aviation-and-paris [https://perma.cc/QKH8-S7TL].

82. BRACK ET AL., *supra* note 74, at 35.

83. Carson Vaugh, *American Forests Fuel Europe's Appetite for "Green" Energy*, WEATHER CHANNEL: COLLATERAL (Apr. 27, 2019), https://features.weather.com/collateral/forest-biomass-carbon-neutral-energy-climate-change/ [https://perma.cc/AZ7Z-ENCG].

2. CO_2 Emissions from Deforestation

In addition to providing the vital ecological services of climate control, clean air and water, and biodiversity,[84] forests and other forms of plant communities around the globe are responsible for absorbing approximately 30% of the CO_2 emitted into the atmosphere.[85] Forests are thus an essential piece of the puzzle to avoid the catastrophic 1.5 degrees of warming before the close of the century.[86] Rainforests often lie at the forefront of the global discourse on preventing deforestation to preserve climate sinks and fight climate change, but the rate at which U.S. Southern forests are logged, over 31% loss between 2000 and 2012, is four times greater than the rainforests in South America.[87] This rate has the potential to reduce carbon sequestration capacity by approximately 35%.[88]

Wood pellets can be produced from a variety of forest sources with varying carbon footprints. Fast-growing softwood trees can be grown on managed plantations and swiftly replaced after each round of harvesting.[89] Although problematic for biodiversity,[90] harvesting softwood trees results in lower net emissions than harvesting

84. WISNER ET AL., *supra* note 39, at 12. North Carolina residents rely on forests for natural filtration of the groundwater supplying 98% of public water systems, along with the flooding control that is increasingly crucial as severe weather events become more frequent in the state. *Id.* at 13.

85. Alan Buis, *Examining the Viability of Planting Trees to Help Mitigate Climate Change*, GLOB. CLIMATE CHANGE: VITAL SIGNS OF THE PLANET (Nov. 7, 2019), https://climate.nasa.gov/news/2927/examining-the-viability-of-planting-trees-to-help-mitigate-climate-change/ [https://perma.cc/9TBM-4NQ5].

86. WISNER ET AL., *supra* note 39, at 17.

87. M.C. Hansen et al., *High-Resolution Global Maps of 21st-Century Forest Cover Change*, 342 SCI. 850, 850–852 (2013).

88. WISNER ET AL., *supra* note 39, at 17 (citing N. L. Harris et al., *Attribution of Net Carbon Change by Disturbance Type Across Forest Lands of the Conterminous United States*, 11 CARBON BALANCE MGMT. 24 (2016)).

89. Roger Drouin, *Wood Pellets: Green Energy or New Source of CO_2 Emissions?*, YALE ENV'T 360 (Jan. 22, 2015), https://e360.yale.edu/features/wood_pellets_green_energy_or_new_source_of_co2_emissions [https://perma.cc/6WPS-TDUH].

90. F.G. COURTNEY-BEAUREGARD ET AL., NAT'L WILDLIFE FED'N & S. ENV'T L. CTR., FORESTRY BIOENERGY IN THE SOUTHEAST UNITED STATES: IMPLICATIONS FOR WILDLIFE HABITAT AND BIODIVERSITY (2013). Conservationists claim that policymakers, including the UN Food and Agriculture Organization, conflate development of monoculture plantations with forest restoration. This conflation is dangerous given that natural forests are estimated to be forty times better at storing carbon than plantations, yet companies and countries can currently advertise conversion of forestland to commercial plantations for biofuels as forest restoration. It is difficult to track deforestation when companies refer to replacement plantations as forests. Simon Lewis et al., *Restoring Natural Forests is the Best Way to Remove Atmospheric Carbon*, 568 NATURE 25 (Apr. 4, 2019).

bottomland hardwood trees, which tend to be slow-growing, older trees that are substantial carbon sinks.[91] Some scientists argue that monoculture plantations benefit the climate by incentivizing private land-owners to maintain working forests rather than clear-cutting for agriculture or urban development.[92] However, natural forests store more carbon than plantations;[93] forests are estimated to be forty times better at storing carbon than plantations.[94] The wood pellet manufacturing industry also claims to source wood pellets from forest residuals, material discarded by other wood-based industries that would otherwise decompose, but investigations have shown this is often not the case.[95] A European Commission report revealed that EU imports of wood pellets from the U.S. South are being sourced from large-diameter wood, including whole trees.[96] After monitoring Enviva's Ahoskie, North Carolina plant, both the Natural Resources Defense Council (NRDC) and a forest industry consulting company, Forisk, determined that Enviva was harvesting hardwoods from bottomland areas and wetland forests, which tend to be found in ecologically-significant, biodiverse, older growth forests, despite claims to the contrary.[97]

Most recently, Mongabay published the allegations of an Enviva whistleblower, a former senior department head at two plants, in December 2022:

> 'The company says that we use mostly waste like branches, treetops and debris to make pellets,' the whistleblower told me. 'What a joke. We use 100% whole trees in our pellets. We hardly use any waste. Pellet density is critical. You get that from whole trees, not junk.'[98]

91. F.G. COURTNEY-BEAUREGARD ET AL., *supra* note 90, at 15.

92. Eric Niiler, *How 'Green' Are Wood Pellets as a Fuel Source*, WIRED (Nov. 18, 2021), https://www.wired.com/story/how-green-are-wood-pellets-as-a-fuel-source/?utm_source=ActiveCampaign&utm_medium=email&utm_content=Climate+news%3A&utm_campaign=TDC+Daily [https://perma.cc/SJA6-GPNP].

93. Bonnie Waring et al., *Forest and Decarbonization—Roles of Natural and Planted Forests*, FRONTIERS FORESTS & GLOB. CHANGE, May 8, 2021, at 1.

94. Simon Lewis et al., *Restoring Natural Forests is the Best Way to Remove Atmospheric Carbon*, 568 NATURE 25 (Apr. 4, 2019).

95. *See* ANDERSON & POWELL, *supra* note 14 at 4; Timothy Searchinger et al., *Europe's Renewable Energy Directive Poised to Harm Global Forests*, NATURE COMMC'NS, Sept. 12, 2018, at 1.

96. EUR. COMM'N, ENVIRONMENTAL IMPLICATIONS OF INCREASED RELIANCE OF THE EU ON BIOMASS FROM THE SOUTH EAST US 252 (2016).

97. Drouin, *supra* note 89.

98. Justin Catanoso, *Whistleblower: Enviva Claim of 'Being Good for the Planet. . . All Nonsense,'* MONGABAY (Dec. 5, 2022), https://news.mongabay.com/2022/12/envivas-biomass-lies-whistleblower-account/ [https://perma.cc/VM5L-LPDT].

In this same exposé, the Mongabay reporter witnessed the clearcutting of fifty-two acres for future industrial development, despite Enviva's claims of complete reforestation.[99] The gravity of this story is evidenced by the December 14, 2022 motion of the Netherlands' Parliament, which seeks to prevent the government from subsidizing wood pellet manufacturers that are found to be untruthful about methods of harvest.[100] Introduced by Representative Lammert van Raan, the motion cited the whistleblower's claims as evidence of fraud in so-called renewable biomass designation and as inspiration for the motion.[101] With increasing scrutiny surrounding the sustainability of Enviva's practices, the Seattle law firm Hagens Berman is now said to be reaching out to Enviva investors for a potential greenwashing class-action.[102]

Since forests are vital carbon sinks, increased deforestation is detrimental to climate change, and even when trees are replaced in the wood pellet production industry, mature hardwood forests are often replaced with the faster-growing softwood plantations that are less ecologically valuable.[103] Given that trees sequester more carbon with age, NRDC estimates that the carbon debt created by biomass power plant emissions and lost sequestration "can take trees anywhere from 35 to 100 years or more to repay."[104] It is also worth noting that forest residuals still require initial clear cutting of forests, albeit by a different industry. Secondary residuals are by-products of wood product operations including sawmills, pulp mills, paper mills, and wood product operations that take the form of sawdust, wood shaving, wood chips, etc.[105] Companies advertise sourcing wood from secondary residuals as sustainable because the residuals would otherwise go to waste. However, the most climate-friendly option

99. *Id.*

100. Justin Catnoso, *The Netherlands to Stop Paying Subsidies to 'Untruthful' Biomass Firms*, MONGABAY (Dec. 23, 2022), https://news.mongabay.com/2022/12/the-netherlands-decides-to-stop-paying-subsidies-to-untruthful-biomass-firms/ [https://perma.cc/X2BL-BXBS].

101. *Id.*

102. *Id.*

103. ANDERSON & POWELL, *supra* note 14, at 4.

104. Repayment entails sequestering enough carbon to make up for the carbon emitted in both the harvest and combustion of the biomass. NRDC, THE SUSTAINABLE BIOMASS PROGRAM: SMOKESCREEN FOR FOREST DESTRUCTION AND CORPORATE NON-ACCOUNTABILITY 3 (2017).

105. Brian Kittler et al., *Assessing the Wood Sourcing Practices of the U.S. Industrial Wood Pellet Industry Supplying European Energy Demand*, ENERGY, SUSTAINABILITY & SOC'Y, 2020, at 1, 3.

would be avoiding clear cutting entirely; despite the connotation of "by-products" and "waste," the loss of these trees is not inevitable.[106]

3. CO_2 Emissions from Combustion

The gravity of the renewable energy misnomer for wood pellets is made apparent by the fact that scientists have found that wood-fired power plants generate more CO_2 per kWh than coal.[107] This is because wood is a less efficient energy source due to higher concentrations of water. As previously mentioned, scientists estimate that it would take between 44 and 104 years for new trees to sequester enough carbon dioxide to make wood greener than coal.[108] Eight hundred scientists wrote a letter in 2018 imploring the European parliament to acknowledge this discrepancy in efficiency, and hundreds of scientists echoed this sentiment in a recent letter to President Biden.[109] Regardless of the long-term sequestration potential of replacement trees, the instant consequence of burning wood in lieu of coal is an increase in atmospheric levels of CO_2.[110]

The largest woody biomass power plant in the world, the U.K.'s Drax Power station, burns 13 million tons of wood pellets and emits as much as 23 million tons of carbon annually.[111] It would require the planting of 60 million trees and ten years of growth to sequester this much carbon.[112] The combustion phase of a wood pellet's life cycle is in fact the largest source of carbon emissions,[113] which highlights the incongruity of not calculating these emissions in wood pellet carbon accounting. The existing legal frameworks surrounding wood pellet production and combustion for energy fall short both in terms of protecting the health, and input, of local communities and working to slow the progression of the global climate crisis.

III. THE EXISTING LEGAL FRAMEWORKS FOR WOOD PELLETS AS AN ENERGY SOURCE

The recent spike in global biomass demand and resulting production of wood pellets in the U.S. South can be attributed to the

106. WISNER ET AL., *supra* note 39, at 12.
107. Sterman et al., *supra* note 4, at 2.
108. *Id.*
109. de Puy Kamp, *supra* note 7.
110. Sterman et al., *supra* note 4, at 2.
111. WISNER ET AL., *supra* note 39, at 29.
112. *Id.*
113. BRACK ET AL., *supra* note 74, at 35.

existing legal frameworks, and lack thereof. Consistent treatment of biomass as carbon-neutral has culminated in large subsidies and other incentives with limited safeguards for surrounding communities and their forests. Although this Note will focus on improvements that can be made to the Paris Agreement given the international scope of this problem, a general overview of wood pellet treatment by U.S., U.K., EU, and international law aids in exposing the consistent holes in carbon accounting and inadequate protection of communities that have resulted in the wood pellet problem in the U.S. South. The following is a brief overview of the major legal mechanisms in each area of law.

A. U.S. Law

In spite of the serious implications for both local communities and the climate crisis, wood pellets, and biomass in general, are underregulated in the United States, and the limited existing framework primarily incentivizes biomass with little oversight. This is in part because the majority of harvesting operations are located in private forests rather than on public lands; 86% of Southern forests are held by private landowners.[114] As a result, regulation of harvesting operations is largely limited. Moreover, siting of the affiliated wood pellet production plants is a land-use determination left to state and local authorities, with procedures varying by state.[115] Local zoning decisions are particularly vulnerable to the relegation of health concerns by city officials due to the prospect of economic benefits.[116]

Although stationary source CAA restrictions do not reach CO_2 emissions involved in international transport or international combustion of the wood pellets, these pollution controls theoretically should aid in protecting the public health of communities surrounding wood pellet plants. However, in practice, the CAA fails to protect communities in a number of ways.[117] The CAA requires EPA to set

114. U.S. DEP'T OF AGRIC., U.S. FOREST SERV., THE SOUTHERN FOREST FUTURES PROJECT TECHNICAL REPORT 103 (David Wear & John Greis eds., 2013).

115. WISNER ET AL., *supra* note 39, at 29.

116. Andrew Whittemore, *Racial and Class Bias in Zoning: Rezonings Involving Heavy Commercial and Industrial Land Use in Durham (NC), 1945–2014*, 83 J. AM. PLAN. ASS'N 235 (2017).

117. In the U.S., racial-ethnic minorities are exposed to disproportionately high levels of ambient fine particulate air pollution ($PM_{2.5}$), a criteria pollutant regulated under the CAA National Ambient Air Quality Standards (NAAQS) and the largest environmental cause of human mortality. Christopher Tessum et al., *$PM_{2.5}$ Polluters Disproportionately and Systematically Affect People of Color in the United States*, SCI. ADVANCES Apr. 28, 2021, at 1, 7.

emission standards for certain categories of pollutants and industries and requires adherence to technological standards for new and modified stationary sources,[118] which include wood pellet production facilities. These limits are enforced through state-level permitting of projects. New wood pellet production plants that qualify as major sources are subject to Title V operating and New Source Review (NSR) permitting requirements.[119] Differing technological standards apply to major sources built in areas that are in attainment and nonattainment of National Ambient Air Quality Standards (NAAQS).[120] Section 112 Hazardous Air Pollutant technological requirements may also apply if the major source facility emits air pollutants determined to be hazardous.[121] For minor sources under NSR, states are given much more discretion; states can customize minor NSR programs as long as they meet minimum requirements.[122] Although effective in reducing national pollution levels, these protections fail to account for pollution hotspots in disadvantaged communities.[123] Compliance with NAAQS is monitored using stations at "representative" locations in a region, which in practice can result in a region being designated as in attainment despite certain neighborhoods surpassing NAAQS, depending on proximity to hotspots and the number of monitoring sites.[124] Moreover, issuing permits is a prospective exercise in estimating emissions, which is not

118. *Summary of the Clean Air Act*, EPA (Sept. 12, 2022), https://www.epa.gov/laws-regulations/summary-clean-air-act [https://perma.cc/Z82F-7LWG]; *Learn About New Source Review*, EPA (Nov. 23, 2022), https://www.epa.gov/nsr/learn-about-new-source-review [https://perma.cc/ZJH2-GNRC].

119. *Who Has to Obtain a Title V Permit?*, EPA (May 25, 2022), https://www.epa.gov/title-v-operating-permits/who-has-obtain-title-v-permit [https://perma.cc/4MF7-CZVY].

120. Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) standards apply to major sources built in areas that are in attainment of National Ambient Air Quality Standards (NAAQS) while Nonattainment NSR permits require adherence to the Lowest Achievable Emission Rate (LAER) and emission offsets. *Learn About New Source Review*, EPA (Nov. 23, 2022), https://www.epa.gov/nsr/learn-about-new-source-review [https://perma.cc/ZJH2-GNRC].

121. *Summary of the Clean Air Act*, EPA (Sept. 12, 2022), https://www.epa.gov/laws-regulations/summary-clean-air-act [https://perma.cc/Z82F-7LWG].

122. *Minor NSR Basic Information*, EPA (Oct. 26, 2022), https://www.epa.gov/nsr/minor-nsr-basic-information [https://perma.cc/TER5-4DUN].

123. Meredith Fowlie et al., *Climate Policy, Environmental Justice, and Local Air Pollution*, BROOKINGS (Oct. 20, 2020), https://www.brookings.edu/research/climate-policy-environmental-justice-and-local-air-pollution/ [https://perma.cc/GSA6-VELK].

124. *Id*. at 7. For a more general discussion of flawed monitoring and hotspots, *see* David Coursen, *Environmental Justice Requires Adequate Air Quality Monitoring System*, BLOOMBERG L. (Mar. 9, 2021), https://news.bloomberglaw.com/environment-and-energy/environmental-justice-requires-adequate-air-quality-monitoring-system [https://perma.cc/N7TY-GEZ2].

guaranteed to be ultimately accurate.[125] Thus, in addition to claims that the limits of operating permits themselves are insufficiently stringent due to the economic appeal of industry, wood pellet plants in the U.S. South have received criticism for violating CAA operating permit limits.[126] Although violations of permit limits allow for citizen suits and enforcement actions, inadequate monitoring often poses an obstacle.[127] CAA standards for certain pollutants, including PM 2.5, have also been criticized for being inadequately protective.[128] EPA may begin addressing these inadequacies in the near future, however, having established the Environmental Justice and External Civil Rights Office in October 2022.[129]

Turning from the wood pellet production plants to the regulation of biomass itself, most federal biomass regulations are limited to liquid biofuel; the Energy Policy Act of 2005 established Federal Renewable Fuel Standards (RFS), which requires the blending of a specific quantity of "renewable" fuel with gasoline.[130] The Energy Independence and Security Act of 2007 (EISA) requires that woody biomass be sourced from lands that are not federal, nor ecologically-sensitive, and limits sourcing in a few different ways.[131] However, EISA only applies to liquid cellulosic biofuels and therefore does not apply to wood pellet production for solid biomass use.[132]

In addition to a variety of subsidies for renewable energy in the United States,[133] biomass-specific subsidies can be found at both the

125. Meredith Fowlie et al., *Climate Policy, Environmental Justice, and Local Air Pollution*, BROOKINGS 8 (Oct. 20, 2020), https://www.brookings.edu/research/climate-policy-environmental-justice-and-local-air-pollution/ [https://perma.cc/GSA6-VELK].

126. ANDERSON & POWELL, *supra* note 14, at 1; Email from Louisiana Environmental Action Network et al., to Louisiana Department of Environmental Quality, Public Participation and Permit Support Division (Aug. 7, 2018).

127. Coursen, *supra* note 124.

128. Sarah Millender et al., *Stronger Standards on Soot Pollution Are Critical for Public Health and Environmental Justice*, CTR. FOR AM. PROGRESS (Nov. 3, 2022), https://www.americanprogress.org/article/stronger-standards-on-soot-pollution-are-critical-for-public-health-and-environmental-justice/ [https://perma.cc/8WNT-MCMB].

129. *EPA's New Office of Environmental Justice and External Civil Rights: A Moment in History*, EPA (Oct. 6, 2022), https://www.epa.gov/perspectives/epas-new-office-environmental-justice-and-external-civil-rights-moment-history [https://perma.cc/XEL4-XRKY].

130. *Renewable Fuel Standard*, U.S. DEP'T OF ENERGY, https://afdc.energy.gov/laws/RFS [https://perma.cc/653D-QRQR] (last visited Jan. 12, 2023).

131. KAREN L. ABT ET AL., EFFECT OF POLICIES ON PELLET PRODUCTION AND FORESTS IN THE U.S. SOUTH 12 (2014).

132. *Id.*

133. *Direct Federal Financial Interventions and Subsidies in Energy in Fiscal Year 2016*, U.S. ENERGY INFO. ADMIN. (Apr. 24, 2018), https://www.eia.gov/analysis/requests/subsidy/ [https://perma.cc/H5ZV-VBXG].

national and state level. Federal grants are offered for forest biomass utilization,[134] research and development of biofuel production technologies,[135] and production of agricultural and forestry biomass feedstocks.[136] Another method of incentive takes the form of federal and state stewardship contracts. Contractors can remove woody biomass from lands managed by the Bureau of Land Management (BLM) in exchange for the value of the harvested wood.[137] An example of a state stewardship program is North Carolina's Present-Use Value Program, which reduces property taxes for land that is actively engaged in the commercial production of timber.[138] The U.S. does not appear to be reconsidering subsidization of wood pellet production, as the 2022 Infrastructure Investment and Jobs Act exempts certain logging operations from the National Environmental Policy Act (NEPA),[139] approves 30 million acres of logging on federal lands,[140] and subsidizes carbon capture and storage (CCS) at wood pellet manufacturing and power plants.[141] The 2022 Inflation Reduction Act (IRA) provides subsidies for logging on National Forest System and non-federal forest land[142] along with subsidies for wood innovation on non-federal forest land, which includes wood pellet facilities.[143] Critically, the omnibus spending bill, which passed on December 22, 2022, defines forest bioenergy as carbon neutral and directs federal agencies to adopt corresponding policies.[144]

At the state level, as of November 2022, thirty-six states and the District of Columbia had established Renewable Portfolio Standards (RPS), which are state-wide policies requiring minimum percentages

134. Energy Policy Act §§ 209, 210, and 944, 7 U.S.C. § 918c., 42 U.S.C. § 15855, 16253 (2005).

135. Energy Independence and Security Act § 223, 42 U.S.C. § 17032 (2007).

136. Agriculture Improvement Act of 2018, Pub. L. No. 115-334, § 9010, 132 Stat. 4887 (2018).

137. U.S. DEP'T OF THE INTERIOR, MS 5920, STEWARDSHIP END RESULT CONTRACTING PROJECTS (2016).

138. N.C. DEP'T OF REVENUE, PRESENT-USE VALUE PROGRAM GUIDE (2019).

139. Open Letter to President Biden and Members of Congress from Scientists: It is essential to Remove Climate-Harming Logging and Fossil Fuel Provisions from Reconciliation and Infrastructure Bills (Nov. 4, 2021) (on file with the John Muir Project).

140. *Id.*

141. *Id.*

142. Inflation Reduction Act of 2022, Pub. L. No. 117-169, Subtitle D § 23001–23002, 136 Stat. 1818, 2023–26 (2022).

143. *Id.* Subtitle D § 23002, 136 Stat. at 2025–26.

144. Marc Heller, *'Carbon Neutral' Scores Another Victory in Omnibus*, E&E DAILY (Dec. 22, 2022), https://www.eenews.net/articles/carbon-neutral-scores-another-victory-in-omnibus/ [https://perma.cc/TX3V-WQGH].

of renewable energy in electricity sold in retail by utilities.[145] While electricity generated from biomass is uniformly considered to be a form of renewable energy in state RPS programs, the definition of eligible biomass varies by state.[146] In comprehensively assessing each state's definition, one article determined that "nearly every state's RPS definition of eligible woody biomass fails to address GHG emissions from biomass and allows the use of whole trees not grown as energy crops without requiring that facilities demonstrate GHG emissions reductions."[147] To meet the applicable minimum renewable energy percentage, states with RPS programs incentivize burning of wood pellets for electricity through a variety of measures, including tax credits, tax exemptions, and loans.[148] Under the

145. *Renewable Energy Explained*, U.S. ENERGY INFO. ADMIN. (Nov. 30, 2022), https://www.eia.gov/energyexplained/renewable-sources/portfolio-standards.php [https://perma.cc/FM4B-B3L8].

146. Christine E. Zeller-Powell, *Defining Biomass as a Source of Renewable Energy: The Life Cycle Carbon Emissions of Biomass Energy and a Survey and Analysis of Biomass Definitions in States' Renewable Portfolio Standards, Federal Law, and Proposed Legislation*, 26 J. ENV'T L. & LITIG. 367, 401 (2011). The North Carolina RPS defines qualifying biomass as: "including agricultural waste, animal waste, wood waste, spent pulping liquors, combustible residues, combustible liquids, combustible gases, energy crops, or landfill methane" and the North Carolina Utilities Commission has held that this list is merely illustrative, approving the renewable energy label for a fuel mix including both forest residues and whole trees. Suz-Anne Kinney, *Definition of Biomass Clarified in North Carolina,* FOREST2MARKET (Sept. 20, 2010), https://www.forest2market.com/blog/definition-of-biomass-clarified-in-north-carolina [https://perma.cc/V59U-ZXHA]. The Massachusetts RPS biomass definition is: "low emission advanced biomass power conversion technologies using fuels such as wood, by-products or waste from agricultural crops, food or animals, energy crops, biogas, liquid biofuel including but not limited to biodiesel, organic refuse-derived fuel, or algae." MASS. GEN. LAWS ch.25A, §11F (2022). Maryland's is as follows:

> Qualifying biomass (l)(1) "Qualifying biomass" means a nonhazardous, organic material that is available on a renewable or recurring basis, and is: (i) waste material that is segregated from inorganic waste material and is derived from sources including: 1. except for old growth timber, any of the following forest-related resources: A. mill residue, except sawdust and wood shavings; B. precommercial soft wood thinning; C. slash; D. brush; or E. yard waste; 2. a pallet, crate, or dunnage; 3. agricultural and silvicultural sources, including tree crops, vineyard materials, grain, legumes, sugar, and other crop by-products or residues; or 4. gas produced from the anaerobic decomposition of animal waste or poultry waste; or (ii) a plant that is cultivated exclusively for purposes of being used at a Tier 1 renewable source or a Tier 2 renewable source to produce electricity. (2) "Qualifying biomass" includes biomass listed in paragraph (1) of this subsection that is used for co-firing, subject to § 7-704(d) of this subtitle. (3) "Qualifying biomass" does not include: (i) unsegregated solid waste or postconsumer wastepaper; (ii) black liquor, or any product derived from black liquor; or (iii) an invasive exotic plant species.

MD. CODE ANN., PUB. UTIL. § 7-701 (West 2021).

147. Zeller-Powell, *supra* note 146, at 401.

148. U.S. DEP'T OF AGRIC., RENEWABLE ENERGY TRENDS, OPTIONS, AND POTENTIALS FOR AGRICULTURE, FORESTRY, AND RURAL AMERICA 35 (2021).

Regional Greenhouse Gas Initiative (RGGI), which is a voluntary cap-and-trade scheme between eleven states,[149] states do not have to purchase emission allowances for CO_2 emitted by power plants that burn eligible biomass.[150] States also have varying forestry best management practices (BMPs) for harvesting, which only consider protection of water quality.[151]

Some states supplement BMPs with the Forest Guild's model guidelines for biomass harvesting, but the only southeastern states that do so are Kentucky, Maryland, and South Carolina.[152] Moreover, these guidelines are outdated; they take the form of regional reports with the most recent being the Pacific Northwest 2013 publication.[153] In the 2012 Report for the Southeast, the discussion of carbon considerations for biomass harvesting is sparse; the report acknowledges the importance of carbon sequestration and discusses the carbon benefits of harvesting "logging slash" (debris left by logging operations) and trees that are likely to die, over young, healthy trees.[154] Rather than recommending that logging slash be utilized for biomass, however, the report suggests consideration of conflicting goals, like biodiversity and productivity, when determining harvesting practices.[155] These Forest Guild guidelines are both inadequately protective and underutilized.

For the states that have independent biomass harvesting guidelines in addition to, or in place of, the Forest Guild guidelines, they mostly focus on down woody debris and logging residue removal limits.[156] However, the Massachusetts guidelines for biomass harvested explicitly for RPS are much more comprehensive, requiring certain

149. The RGGI participating states are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont, and Virginia. *The Regional Greenhouse Gas Initiative*, REG'L GREENHOUSE GAS INITIATIVE, INC. (2023), https://www.rggi.org/rggi-inc/contact [https://perma.cc/3XUH-YVTZ].

150. *Emissions,* REG'L GREENHOUSE GAS INITIATIVE, INC. (2023), *https://www.rggi.org/allowance-tracking/emissions* [https://perma.cc/SPK6-8ZZ2].

151. *Best Management Practices*, NAT'L ASS'N OF STATE FORESTERS, https://www.stateforesters.org/bmps/ [https://perma.cc/BKW2-TFUC] (last visited, Jan. 10, 2023).

152. Other states include Massachusetts, Kentucky, Maryland, Maine, Michigan, Minnesota, Missouri, Pennsylvania, Indiana, South Carolina, and Wisconsin. U.S. DEP'T OF AGRIC., EFFECT OF POLICIES ON PELLET PRODUCTION AND FORESTS IN THE U.S. SOUTH 13 (2014).

153. *See Research and Management Publications*, FOREST STEWARDS GUILD, https://foreststewardsguild.org/research-and-management-publications [https://perma.cc/SPM3-TVGG] (last visited Feb. 21, 2022).

154. FOREST GUILD SOUTHEAST BIOMASS WORKING GRP., FOREST BIOMASS RETENTION AND HARVESTING GUIDELINES FOR THE SOUTHEAST 11 (2012).

155. *Id.* at 13.

156. ABT ET AL., *supra* note 131, at 14.

GHG reductions and efficiency levels in biomass energy production and placing limits based on biomass harvest weight, percentage of residues left after harvests, and limiting harvests to certain categories of wood, excluding steep slopes, old growth, naturally down woody material, and cavity trees.[157] In contrast, the state guidelines of Southern states are insufficient; for the few that provide guidelines outside of BMPs for water quality, they are voluntary and outdated.[158] These guidelines miss an opportunity to require sustainable harvesting practices, which would aid in alleviating the climate impacts of wood pellet production in addition to decreasing the scale of wood pellet operations, putting less strain on surrounding communities.

In sum, state and federal incentives for wood pellets exist both at the harvesting and energy production stages of the life cycle and take a number of forms. Sustainable harvesting requirements are not enforced at the federal level, and at the state level, they vary by state but are consistently inadequate in the U.S. South. Moreover, the CAA fails to comprehensively protect the air quality in communities surrounding wood pellet production plants. When paired with the carbon accounting loopholes and lack of community safeguards in U.K. and EU law, the result is a perfect storm: rapid expansion of wood pellet harvesting and production in the U.S. South without oversight, at the expense of historically marginalized communities.

B. EU and U.K. Law

Consuming approximately 29 million metric tons of wood pellets in 2018, EU wood pellet demand represents roughly 50% of the global market.[159] The driving policy behind increased biomass demand in the EU, and consequently increased production of wood pellets in the United States, is the European Commission's EU Renewable Energy Directive (RED).[160] Originally passed in 2009 and later revised in 2018, 2021, and 2022, RED requires in pertinent part that member

157. *Id.*

158. *See Frequently Asked Questions about Logging in North Carolina*, N.C. FOREST SERV., https://www.ncforestservice.gov/managing_your_forest/logging_faq.htm [https://perma.cc/CBC3-XEV6] (last visited Mar. 27, 2022); Ky. Div. of Forestry, Recommendations for the Harvesting of Woody Biomass (2011); S.C. Forestry Comm'n, South Carolina's Best Management Practices, Forest Biomass Harvesting Recommendations (2012); ABT ET AL., *supra* note 131, at 13–14.

159. This total includes U.K. consumption. BOB FLACH ET AL., BIOFUELS ANN. 6 (2020).

160. ABT ET AL., *supra* note 131, at 1.

states generate a percentage of energy using renewable fuels.[161] Despite the noble goal of achieving EU carbon-neutrality by 2050, scientists and advocates have publicly criticized RED for its treatment of biomass.[162] Specifically, in spite of the formal climate warnings of hundreds of scientists regarding the classification of wood as renewable,[163] the EU's RED II amendment explicitly classified wood as a renewable energy and low carbon biomass fuel source in 2018.[164] In response to the controversial move, the Center for Climate Integrity backed plaintiffs from six countries, Estonia, Ireland, France, Romania, Slovakia, and the United States, in a 2019 lawsuit before the European General Court in Luxembourg.[165] The plaintiffs alleged a violation of their fundamental rights and freedoms under Articles 32 and 57 of the EU Charter on Fundamental Rights, but ultimately failed on the issue of standing without reaching the merits, due to the directive's general rather that individualized application.[166] In January 2021, the Court of Justice rejected the plaintiffs' appeal on the same grounds.[167] While the future of similar litigation is uncertain, it underlines the growing dissatisfaction with the categorization of burning wood pellets as renewable energy.

In spite of this opposition, on September 14, 2022, the European Parliament voted to retain the characterization of forest biomass as renewable in RED III.[168] The categorization of biomass as renewable energy is significant in its responsibility for climbing demand for wood pellets to meet mandated emissions reductions, which in turn

161. *Renewable Energy Directive*, EUR. COMM'N, https://energy.ec.europa.eu/topics/renewable-energy/renewable-energy-directive-targets-and-rules/renewable-energy-directive_en [https://perma.cc/7728-BEN9] (last visited Feb. 21, 2022).

162. Majile de Pu Kamp, *How Marginalized Communities in the South Are Paying the Price for 'Green Energy' in Europe*, CNN (July 9, 2021), https://www.cnn.com/interactive/2021/07/us/american-south-biomass-energy-invs/ [https://perma.cc/ACW5-FQGY].

163. Letter from John Beddington et al., Professor, Oxford Martin Sch., to Members of the Eur. Parliament (Jan. 9, 2018) (on file with Empower Plants).

164. Caragh McMaster, *The Green Veneer of Renewable Energy in the European Union*, 36 CONN. J. INT'L L. 22, 24 (2020).

165. Press Release, EU Biomass Plaintiffs v. European Union, CLIMATE CHANGE LITIG. DATABASES (Mar. 3, 2019), http://climatecasechart.com/non-us-case/eu-biomass-plaintiffs-v-european-union/ [https://perma.cc/88PM-4FSZ].

166. *Id.*

167. *Id.*

168. Takanobu Aikawa, *European Parliament adopted REDIII: Voting to Maintain the Status of Forest Biomass as Renewable Energy,* RENEWABLE ENERGY INST. (Oct. 7, 2022), https://www.renewable-ei.org/en/activities/column/REupdate/20221007.php [https://perma.cc/2YYC-XX8P].

has led to conversion of coal-fired power plants to biomass plants rather than the more expensive construction of wind and solar installations.[169] The U.K.'s largest power plant, Drax, has converted four of its six generating units from coal to wood pellets and plans to soon run entirely on biomass.[170]

Acknowledging the significance of carbon sequestration in forests, RED II includes sustainability criteria that place limits on deforestation for biomass in certain circumstances, but critics argue that these fall short.[171] The criteria require that the harvesting country have national laws applicable in the area of harvest along with monitoring and enforcement systems ensuring:

> the legality of harvesting operations; forest regeneration of harvested areas; that areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands and peatlands, are protected; that harvesting is carried out considering maintenance of soil quality and biodiversity with the aim of minimising negative impacts; and that harvesting maintains or improves the long-term production capacity of the forest.[172]

These standards apply extraterritorially, meaning that U.S. wood pellet exports must meet the standards.[173] However, in practice, these standards fall short of protecting forests in the U.S. South given that harvesting operations are legal and "forest regeneration" and "long-term production capacity of the forest" can be satisfied by replacing original forests with fast-growing plantations that have inferior carbon sequestration potential.[174] Additionally, the criteria only apply to biomass burned in new facilities producing 20 MW or more and therefore only apply to "a small fraction of the biomass burned in the EU."[175]

169. Justin Catanoso, *Burning Forests to Make Energy: EU and World Wrestle with Biomass Science*, MONGABAY (Aug. 19, 2021), https://news.mongabay.com/2021/08/burning-forests-to-make-energy-eu-and-world-wrestle-with-biomass-science/ [https://perma.cc/2YYC-XX8P].

170. *How to Switch a Power Station Off Coal*, DRAX (Aug. 22, 2018), https://www.drax.com/sustainable-bioenergy/switch-power-station-off-coal/ [https://perma.cc/A94S-5XC2].

171. Searchinger et al., *supra* note 95, at 2.

172. Renewable Energy Directive II, art. 29 (UK), https://www.legislation.gov.uk/eudr/2018/2001/article/29/data.xht?view=snippet&wrap=true [https://perma.cc/RHM7-58XY].

173. U.S. TRADE REPRESENTATIVE, 2020 NATIONAL TRADE ESTIMATE REPORT ON FOREIGN TRADE BARRIERS 182 (2020).

174. MARY S. BOOTH & BEN MITCHELL, PAPER TIGER: WHY THE EU'S RED II BIOMASS SUSTAINABILITY CRITERIA FAIL FORESTS AND THE CLIMATE 8 (2020) ("The [RED II] LULUCF criteria seek to equate 'sustainability' with carbon neutrality").

175. *Id*. at 10.

The most heavily criticized element of RED sustainability criteria is the gap in carbon accounting. While RED requires greenhouse gas reductions in bioenergy use, carbon emissions are only counted for biomass production (cultivation, harvesting, processing, and transport of biomass feedstocks), and the emissions released when the biomass is burned for energy are not.[176] This faulty method of carbon accounting is not unique to EU policy: The IPCC GHG accounting rules allow countries to omit emissions from combustion of biomass under the assumption that the countries responsible for the deforestation will count the carbon lost in their land use emissions calculations.[177] Not only does this method of carbon accounting pose major problems when a country like the United States has not ratified the applicable treaty, specifically the Kyoto Protocol, but it also operates under the assumption that deforestation is carbon neutral as long as trees are replanted. This is not the case when dealing with an issue as time-sensitive as the global climate crisis: "Large, old trees do not act simply as senescent (aging) carbon reservoirs, but actively fix large amounts of carbon compared to smaller trees; at the extreme, a single big tree can add the same amount of carbon to the forest within a year as is contained in an entire mid-sized tree."[178] The practical result of this policy loophole is that biomass in Europe is incentivized as carbon-neutral, receiving widespread subsidies alongside truly renewable energy sources like wind and solar, effectively erasing the carbon emitted by the thirty million metric tons of pellets burned annually.[179]

On July 21, 2021, the European Commission proposed revisions to RED to follow through with the European Green Deal,[180] which is a "set of proposals to make the EU's climate, energy, transport and taxation policies fit for reducing net greenhouse gas emissions by at least 55% by 2030" with an aim for carbon neutrality by 2050.[181] The European Parliament voted in favor of these amendments (RED III) on September 14, 2022.[182] The revisions include an increase from the

176. Searchinger et al., *supra* note 95, at 3.

177. *See infra* Part III(C)(1).

178. N. L. Stephenson et al., *Rate of Tree Carbon Accumulation Increases Continuously with Tree Size*, 507 NATURE 90 (2014).

179. Catanoso, *supra* note 169.

180. EUR. COMM'N, *supra* note 161.

181. *Id*.

182. Takanobu Aikawa, *European Parliament adopted REDIII*, RENEWABLE ENERGY INST. (Oct. 7, 2022), https://www.renewable-ei.org/en/activities/column/REupdate/20221007.php [https://perma.cc/EQ26-9NYE].

existing objective of reaching 32% renewable energy source consumption in the EU by 2030 with a 14% transport sub-target, to achieving 45% in the same amount of time.[183] While the amendments did not change the renewable energy designation of biomass, the EU Parliament responded to concern about increased biomass production with a requirement that the share from total energy consumption of primary forest biomass remain at levels from 2017 to 2022.[184] In response to increasing pressure, the revisions do include stronger forest biomass sustainability provisions,[185] in addition to provisions that phase out subsidies for primary forest biomass power plants.[186] However, the director of the Partnership for Policy Integrity, Mary S. Booth, has expressed doubts about the potential for these policy changes to make a tangible impact on the industry given the "huge geographical carve outs"[187] as well as excessive exemptions from the definition of "primary woody biomass."[188] Moreover, while harvesting will be limited in primary forests, which are the most biodiverse and ecologically valuable, only 25% of U.S. forestland is primary forest,[189] leaving most forests in the U.S. South vulnerable to deforestation for biomass.[190]

In 2020, renewable energy overtook fossil fuels as the U.K.'s largest source of electricity for the first time, with biomass as the second-largest source of renewable energy at around 12% of the U.K.'s

183. *Commission Presents Renewable Energy Directive Revision,* EUR. COMM'N (July 14, 2021), https://ec.europa.eu/info/news/commission-presents-renewable-energy-directive-revision-2021-jul-14_en [https://perma.cc/8NX7-HKJU].

184. Aikawa, *supra* note 182.

185. *Id.*

186. Paul Messad, *European Parliament Backs 45% Renewable Energy Goal*, EURACTIV (Sept. 14, 2022), https://www.euractiv.com/section/energy-environment/news/european-parliament-to-adopt-a-45-renewable-energy-goal-for-2030/ [https://perma.cc/L9Z6-GQXX].

187. James Bruggers, *The Biomass Industry Expands Across the South, Thanks in Part to UK Subsidies. Critics Say It's Not 'Carbon Neutral,'* INSIDE CLIMATE NEWS (Oct. 17, 2021), https://insideclimatenews.org/news/17102021/biomass-wood-pellet-us-uk-subsidies/ [https://perma.cc/L9Z6-GQXX].

188. *European Parliament Vote Signals the Beginning of the End for Forest Biomass as Renewable Energy*, FOREST DEF. ALL. (Sept. 14, 2022), https://forestdefenders.eu/european-parliament-vote-signals-the-beginning-of-the-end-for-forest-biomass-as-renewable-energy/ [https://perma.cc/6FG5-GHEC].

189. Mila Alvarez, *The State of America's Forests: An Interactive Guide*, STATE OF AM.'S FORESTS, https://usaforests.org [https://perma.cc/A4DL-3G36] (last visited Feb. 27, 2023).

190. For a recent study on primary forest in the United States, *see* Dominick A. DellaSala et al., *Mature and Old-Growth Forests Contribute to Large-Scale Conservation Targets in Conterminous United States*, 5 FRONTIERS FORESTS & GLOB. CHANGE 1 (Sept. 28, 2022).

electricity.[191] This significant reliance on biomass underlines the importance of effective regulation. Although no longer bound by RED due to Brexit, the U.K. has not yet indicated an intention to abandon these obligations.[192] Given the U.K.'s demonstrated commitment to reducing carbon emissions, it is feasible that the country will continue to adhere to the EU requirements. While the U.K. has not transposed RED II into U.K. law, the RED definition of renewable energy as including biomass is applied in the U.K.'s Promotion of the Use of Energy from Renewables Sources Regulations 2011 (SI 2011/243).[193] Viewing biomass as renewable is significant in the context of the Climate Change Act of 2008, which imposed legally binding carbon reduction targets on the U.K. The most recent amendments have put forth a commitment to cut greenhouse gas emissions within the U.K.'s borders by 78% by 2035 (Statutory Instrument 2021/750) and to reduce greenhouse gas emissions by 100% by 2050 (SI 2019/ 1056).[194]

To aid in meeting these goals, the U.K. heavily subsidizes biomass energy. The U.K. utility and wood pellet burning and production company, Drax, received over eight hundred million pounds in subsidies in 2020, and if the current rate continues, will receive ten billion pounds in subsidies between 2012 and 2027.[195] Another significant subsidy scheme is the Energy Act of 2013 Contracts for Difference (CfD) scheme, under which "a generator is paid the difference between a 'strike price' (i.e., a price for electricity that reflects the cost of investing in a certain low carbon technology) and the 'reference price' (which is the average market price for electricity in the U.K. wholesale market) over a 15-year period."[196] There is no indication that this system of incentives will change until the subsidies expire in 2027.[197]

The current legal frameworks for woody biomass function to encourage the use of wood pellets as an energy source with inadequate sustainability requirements and nonexistent protections

191. David Jones, *EU Power Sector in 2020,* EMBER (Jan. 24, 2021), https://ember-climate.org/insights/research/eu-power-sector-2020/ [https://perma.cc/6J6G-UQJR].

192. Andrew Whitehead, *Brexit and the Energy Sector*, 9 RENEWABLE ENERGY L. & SOC'Y 7, 15–16 (2018).

193. OLIVER IRWIN ET AL., INTERNATIONAL COMPARATIVE LEGAL GUIDES RENEWABLE ENERGY 2022, 125 (Mhairi Main Garcia ed., 2d ed. 2022).

194. *Id.*

195. Bruggers, *supra* note 187.

196. LOUISE DALTON & SABRINA POLITO, THE RENEWABLE ENERGY LAW REVIEW: UNITED KINGDOM, L. REVS. (July 26, 2022). 187

197. Bruggers, *supra* note 187.

for communities located near wood pellet production operations. Although the RED III revisions provide a glimmer of hope for sustainable harvesting for wood pellet production supplying EU member energy, it is unclear how effective they will be in deterring unsustainable deforestation practices. With the renewable energy label for biomass codified in U.K. law, it remains to be seen whether the U.K. will continue to adhere to the limited RED sustainability requirements or instead cast aside all forest protections in an effort to meet its GHG reduction commitments. Given the failures across EU and U.K. law surrounding both accounting for wood pellet combustion emissions and safeguarding communities, international law can and should play a role in resolving the wood pellet dilemma.

C. International Law

This Note will now turn to parallel flaws in international environmental law that are perpetuating the wood pellet sacrifice zones in the U.S. South. Given the varying legal frameworks concerning wood pellet production and its use as energy, international law presents an opportunity to bridge the gap and prevent transatlantic problems of this nature. However, the existing treaties fall short in both accurately accounting for the carbon emissions of harvested wood products and in protecting the communities in which wood pellet facilities are located.

1. IPCC Carbon Accounting

The IPCC is the UN body established in 1988 by the UN Environment Program and World Meteorological Organization to assess climate change science to aid policymakers.[198] The IPCC has a Task Force on National Greenhouse Gas Inventories (TFI), which develops carbon accounting methodologies for GHG emissions and removals.[199] The TFI has released a number of methodology reports dating back to as early as 1994.[200] The most recent report, the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, is the current methodology, subject to a few updates from the 2019 Refinement.[201] Under the 2006 Guidelines, CO_2 emissions from burning of biomass fuels are not

198. *IPCC Updates Methodology for Greenhouse Gas Inventories*, IPCC (May 13, 2019) https://www.ipcc.ch/2019/05/13/ipcc-2019-refinement/ [https://perma.cc/NYV7-6J65].

199. *Id.*

200. *Id.*

201. *Id.*

included in a country's national total in the energy sector, although they are reported as an information item.[202] CH_4 and N_2O, on the other hand, are estimated and included in the energy sector and national totals because their impact is independent from the forest stock changes estimated in the Agriculture, Forestry, and Other Land Use (AFOLU) sector,[203] which is not the case for net CO_2 emissions or removals.

Chapter twelve of the 2006 AFOLU sector report specifically details guidelines for "harvested wood products," which includes all wood material that leaves harvest sites.[204] Material left at harvest sites is considered to be dead organic matter and is accounted for in the respective land-use category in other chapters.[205] Chapter twelve presents three methodological options for harvested biomass accounting: when the harvested wood product (HWP) contribution value should be zero, when the annual change in HWP carbon in solid waste disposal sites is zero, and when an estimation method is appropriate to compute HWP contribution.[206] The report indicates that the values should be reported as zero when the annual change in stocks or carbon in solid waste disposal sites is "insignificant."[207]

When an estimation method is appropriate, without endorsing any approach for HWP, the report introduces four potential methodologies: the "stock-change approach" (consuming country reports changes in wood carbon stocks in the forest pool and changes in wood-products pool), "production approach" (producing country estimates changes in carbon stocks in forest pool and wood-products pool), "atmospheric flow approach" (consuming country estimates carbon fluxes to/from atmosphere for forest pool and wood products pool within national boundaries), and "simple decay approach" (producing company estimates net emissions or removals of carbon to/from atmosphere when wood products are traded and removals from atmosphere due to forest growth and emissions resulting from harvested wood product oxidation).[208] The first two approaches,

202. Amit Garg et al., *Introduction* to 2 2006 IPCC GUIDELINES FOR NATIONAL GREENHOUSE GAS INVENTORIES (Simon Eggleston et al. eds., 2006).

203. Dario R. Gomez et al., *Stationary Combustion*, in 2 2006 IPCC GUIDELINES FOR NATIONAL GREENHOUSE GAS INVENTORIES (Simon Eggleston et al. eds., 2006).

204. IPCC, *supra* note 198.

205. Kim Pingoud et al., *Harvested Wood Products*, in 4 2006 IPCC GUIDELINES FOR NATIONAL GREENHOUSE GAS INVENTORIES (Simon Eggleston et al. eds., 2006).

206. *Id.*

207. *Id.*

208. *Id.*

stock-change and production, infer net emissions and removals of CO_2 from HWP from stock changes in HWP pools, while atmospheric-flow and simple-decay are based on CO_2 fluxes to and from the atmosphere from HWP.[209] Section 12.5.1 of the 2019 Refinement explicitly considers "treatment of CO_2 emissions from wood biomass burnt and used for energy purposes."[210] It sets forth that CO_2 emissions must be *reported* in the AFOLU sector but may be estimated as either an implicit component of carbon stock changes for land categories, or alternatively as carbon stock changes in the HWP pool.[211]

In addition to those from deforestation and combustion of wood pellets, fugitive emissions and emissions from transport are also addressed in the IPCC 2006 and 2019 reports. Fugitive emissions are defined as the "intentional or unintentional release of greenhouse gases . . . during the extraction, processing, transformation and delivery of fossil fuels to the point of final use."[212] While an official methodology is not provided for estimating wood pellet production fugitive emissions, Appendix 4A.2 for the Fugitive Emissions Chapter of the energy sector indicates that this will likely soon change.[213] It acknowledges that there was insufficient information to assess methodological approaches when the 2019 Refinement was drafted and goes on to provide a basis for future methodological development, citing the wood pellet drying, cooling, pelletizing, hammering, and conveying as fugitive emission sources (CO_2, CO, and CH_4) during manufacturing in addition to emissions during handling, storage, and transport of the materials.[214] Domestic transport in the wood pellet production process is accounted for under the energy sector based on a country's fuel consumption or vehicle kilometers traveled (VKT).[215] Guidelines are provided for international aviation and water-borne navigation, which includes international shipment of wood pellets, to be reported separately from domestic emissions and significantly, excluded from the national total.

209. Sebastian Rüter et al., *Harvested Wood Products*, in 4 2019 REFINEMENT TO THE 2006 IPCC GUIDELINES FOR NATIONAL GREENHOUSE GAS INVENTORIES (Eduardo Calvo Buendia et al. eds., 2019).

210. *Id.*

211. *Id.*

212. Christian Boettcher et al., *Fugitive Emissions*, in 2 2019 REFINEMENT TO THE 2006 IPCC GUIDELINES FOR NATIONAL GREENHOUSE GAS INVENTORIES (Eduardo Calvo Buendia et al. eds., 2019).

213. *Id.*

214. *Id.*

215. Christina D. Waldron et al., *Mobile Combustion*, *in* 2 2006 IPCC GUIDELINES FOR NATIONAL GREENHOUSE GAS INVENTORIES (Simon Eggleston et al. eds., 2006).

The IPCC accounting guidelines are incorporated into both the Kyoto Protocol and Paris Agreement, international treaties adopted under the United Nations Framework Convention on Climate Change (UNFCCC).[216] Applying the HWP framework creates a problematic loophole in UNFCCC wood pellet carbon accounting. Under the production approach, the producing country estimates the changes in carbon stocks in the domestic forest pool and wood-products pool, which does not account for combustion by the consuming country or fugitive emissions. The implications of this methodology for accurate carbon accounting are troubling; if the producing party is not a Party to the current UNFCCC treaty, as was the case for the United States, Canada, Japan, and Russia for the second commitment of Kyoto,[217] then wood pellet emissions are entirely excluded from accounting under that treaty.

To remedy the risk that producing countries don't account for emissions in land-use, Article 29(7) now requires the forest biomass country of origin to be a Party to the Paris Agreement and to have submitted an NDC covering changes in carbon stock associated with biomass harvest, or alternatively, to have national laws in place to conserve and enhance carbon stocks in the area of harvest with evidence that reported emissions don't exceed removals.[218] However, the calculation error that is assuming combustion emissions can be accounted for in changes to forest stock remains. Even if the producing country is a Party to the treaty and therefore does account for emissions in the land-use sector, the importing country is nonetheless off the hook for these emissions and can thus take credit for biomass as a means of reducing domestic emissions. Moreover,

216. Article 5 of the Kyoto Protocol indicates that methodologies for estimating anthropogenic emissions by sources and removals of GHGs "shall be those accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties at its third session." Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 2303 U.N.T.S. 162. Similarly, paragraph 7 of Article 13 of the Paris Agreement indicates that each Party shall provide a national inventory report of anthropogenic emissions prepared using "good practice methodologies accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties serving as the meeting of the Parties to this agreement." Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.

217. Chloé Farand, *Nigeria, Jamaica, Bring Closure to the Kyoto Protocol Era, in Last-Minute Dash*, CLIMATE HOME NEWS (Feb. 10, 2022), https://www.climatechangenews.com/2020/10/02/nigeria-jamaica-bring-closure-kyoto-protocol-era-last-minute-dash/ [https://perma.cc/Z4GM-GZ7L].

218. Directive 2018/2001, of the European Parliament and of the Council of 11 December 2018 on the Promotion of the Use of Energy from Renewable Sources PE/48/2018/REV/1, 2018 O. J. (L 328/82) 7.

the assumption that combustion emissions can be captured by changes in the forest pool overlooks the time required for adequate carbon sequestration and the significant differences in emissions and removals based on a number of factors, including local climate, soil, and water availability, but most importantly, type of wood being harvested and type of tree being replanted.[219]

2. UNFCCC: Kyoto and Paris

Established in 1992, the UNFCCC is the parent treaty of both the 1997 Kyoto Protocol and 2015 Paris Agreement.[220] The Kyoto Protocol entered into force in 2005 with 192 Parties and operationalized the UNFCCC with binding GHG emission commitments for developed countries.[221] Although Kyoto is technically still in force, it has been largely superseded by the current legally binding international climate change treaty, the Paris Agreement, which was adopted by 196 Parties and entered into force in November 2016.[222] The objective of the Paris Agreement is to limit global warming to below 2 or 1.5 degrees Celsius and the means of achieving this objective turn on reporting and planning requirements for both climate change mitigation and adaptation along with financial, technical and capacity building support for developing countries.[223] As it currently stands, the Paris Agreement incentivizes the use of wood pellets for energy by treating them as carbon neutral and allowing Parties to correspondingly take credit for emissions reductions. Despite the promising mention of human rights and EJ values in the Paris Preamble,[224] explicit mention of human rights, local communities, and environmental and climate justice is otherwise

219. Searchinger et al., *supra* note 95, at 3.

220. *About the Secretariat*, U.N. CLIMATE CHANGE, https://unfccc.int/about-us/about-the-secretariat [https://perma.cc/8YTT-RLHT] (last visited Feb. 26, 2023).

221. *What is the Kyoto Protocol?*, U.N. CLIMATE CHANGE, https://unfccc.int/kyoto_protocol [https://perma.cc/6A8B-PC86] (last visited Feb, 26, 2023).

222. *The Paris Agreement*, U.N. CLIMATE CHANGE, https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement [https://perma.cc/SL6C-6ZX3] (last visited Feb. 26, 2023).

223. *Id.*

224. "*Acknowledging* that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity." Paris Agreement to the United Nations Framework Convention on Climate Change, Dec 12, 2015, T.I.A.S. No. 16-1104.

absent, leaving the communities home to wood pellet operations vulnerable to abuse.

a. Paris Agreement: Sustainable Development Mechanism

The mechanism that most directly implicates the rights of local communities is the Paris Sustainable Development Mechanism (SDM), which is an updated iteration of the Kyoto Clean Development Mechanism (CDM). A holistic view of the wood pellet problem in the U.S. South reveals concerning parallels to a 2005 Kyoto Protocol effort to incentivize sustainable development in developing countries (non-Annex I countries) by allowing developed countries (Annex I countries) to invest in renewable energy projects and receive carbon emission offset credits (Certified Emissions Reductions) in return. This CDM faced widespread criticism for EJ issues in project host countries.[225] Problematic CDM projects included the development of monocultural palm oil plantations in which foreign corporations contracted with the government regardless of the desires and the customary rights of land ownership of locals.[226] Sometimes referred to as "sacrifice zones," communities and local environmental values were relegated at the expense of climate mitigation for the "greater good."[227] The Paris Agreement Article 6.4 Sustainable Development Mechanism (SDM) replaced the CDM after parties came to a final deal on November 13, 2021, during COP26 negotiations in Glasgow, outlining a similar carbon credit trading system without distinctions based on Annex category in an effort to avoid some of these EJ issues.[228]

The EU and U.K. are not funding wood pellet production projects in the United States as would be the case under these UN mechanisms, but they have created a market that is perpetuating analogous problems; low-income communities made up of a majority of people of color are suffering at the hands of purportedly renewable energy credits being cashed across the Atlantic. These communities in the

225. Dayna N. Scott & Adrian A. Smith, *"Sacrifice Zones" in the Green Energy Economy: Toward an Environmental Justice Framework,* 62 MCGILL L.J. 861, 898 (2017).

226. Dayna N. Scott & Adrian A. Smith, *Sacrifice Zones in the Green Energy Economy: The "New" Climate Refugees*, 26 TRANSNAT'L L. & CONTEMP. PROBS. 371, 373–74 (2017).

227. *Id.*

228. Frank Watson, *COP26: Nations Strike Deal on International Cardon Markets at Glasgow Summit*, S&P GLOBAL (Nov. 14, 2021), https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/energy-transition/111421-cop26-nations-strike-deal-on-international-carbon-markets-at-glasgow-summit [https://perma.cc/UAX6-SMJY].

U.S. South have effectively become the new green energy sacrifice zones. International law is falling short in both offering communities a voice as to whether wood pellet production plants should move in[229] and in protecting local air and water from wood pellet production pollution. While U.S. wood pellet production is outside the current scope of the SDM, it is relevant to the central mechanism of the Paris Agreement: National Determined Contributions (NDCs).

b. Paris Agreement: National Determined Contributions (NDCs)

Article 4 of the Paris Agreement presents the primary mechanism through which countries create and honor commitments pursuant to the treaty, nationally determined contributions (NDCs): "Each Party *shall* prepare, communicate and maintain successive nationally determined contributions that it *intends* to achieve. Parties *shall* pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions."[230] NDCs differ from the binding emissions targets of the Kyoto Protocol in that the only binding obligations are procedural in nature. In an effort to foster global participation, the Paris Agreement does not obligate a Party to achieve its proposed emissions reductions, instead merely requiring preparation and communication of the NDC along with the pursuit of domestic mitigation measures.[231] Guidance as to how countries should develop and communicate NDCs can be found in the Katowice Climate Package adopted at COP 24 in 2018, colloquially referred to as the Paris Rulebook.[232] Despite providing comprehensive requirements for NDC plans and implementation, the local impacts of energy projects are not considered.

Under the existing Paris Agreement framework, there are no protections for communities on the front lines of energy production projects, especially if these projects are not captured by the prescribed Article 6 voluntary cooperation in implementation of NDCs between countries. This gap in EJ protections coupled with the

229. Biomass Magazine estimates 1.7 million tons of wood pellet capacity production are proposed or under construction in North America. Anna Simet, *Building Out Capacity*, BIOMASS MAG. (Aug. 25, 2022), https://biomassmagazine.com/articles/19243/building-out-capacity [https://perma.cc/63EF-FC73].

230. Paris Agreement to the United Nations Framework Convention on Climate Change, Dec 12, 2015, T.I.A.S. No. 16-1104 (emphasis added).

231. *See infra* Part IV(B).

232. *Navigating the Paris Agreement Rulebook*, WORLD RES. INST., https://www.wri.org/paris-rulebook [https://perma.cc/G55T-FDPR] (last visited Feb. 27, 2023).

carbon accounting loophole have led to unacceptable circumstances on the ground in disadvantaged communities in the U.S. South.

IV. SOLUTIONS IN INTERNATIONAL ENVIRONMENTAL LAW

As it stands, international and domestic law consistently incentivize production of wood pellets, classified as renewable energy, with some limited sustainable harvest requirements and little to no consideration of affected communities. More specifically, operating under the assumption that the United States is adequately accounting for wood harvest in its land use sector and protecting its communities from unsafe pollution levels, the EU and the U.K. can take credit for combustion of wood pellets for domestic emission reduction goals along with Paris NDC goals. However, the United States is not holding up its side of the bargain with regard to EJ concerns, and despite ratifying the Paris Agreement, the future of U.S. participation in UNFCCC treaties is not guaranteed. It is critical that IPCC carbon accounting and the corresponding EU and U.K. legal treatment of wood pellets as carbon-neutral be modified to prevent all loopholes and that a framework of EJ safeguards be introduced to the Paris Agreement and future UNFCCC treaties for energy feedstock-producing countries.

A. Correcting Carbon Accounting and Removing Status as Renewable Energy

Stripping wood pellet biomass of its renewable energy status is not a novel concept—calls for this change are becoming increasingly common,[233] and on December 15, 2022, Australia made history by reversing its characterization of woody biomass derived from native forests as renewable.[234] This is a straightforward solution that could be implemented in the EU's RED and U.K.'s Promotion of the Use of Energy from Renewables Sources Regulations. In the United States, while a federal renewable energy standard is politically unlikely, states should be encouraged to adopt stringent definitions of renewable biomass, modeling after Massachusetts.

233. Jean-Pascal van Ypersele, *It's Time to End Subsidies for Burning Wood from Forests*, CLIMATE HOME NEWS (Nov. 2, 2021), https://www.climatechangenews.com/2021/02/11/time-end-subsidies-burning-wood-forests/ [https://perma.cc/8NCB-Y6YS].

234. Justin Catanoso, *Australia Rejects Forest Biomass in First Blow to Wood Pellet Industry*, MONGABAY (Dec. 21, 2022), https://news.mongabay.com/2022/12/australia-rejects-forest-biomass-in-first-blow-to-wood-pellet-industry/ [https://perma.cc/5RDA-TST3].

However, the IPCC GHG accounting guidelines have never labeled biomass as inherently renewable. Thus, closing the accounting loophole for the purposes of future UNFCCC international environmental treaties poses a more complicated problem. Solving the discrepancy between emissions estimates based on land-use stocks and emissions estimates based on combustion would involve shifting the HWP biomass accounting framework from the AFOLU Sector to the Energy Sector. In order to accurately calculate whether replanting trees accounts for combustion emissions in addition to lost removal capacity due to harvesting, standards would have to vary based on the category of the original forest (i.e., old growth, monoculture plantation, etc.) and its corresponding carbon sequestration capacity, the type of forest being used as a replacement, and how long it will take to sequester the same amount of carbon as was lost during harvesting.

An alternative option that is more extreme, yet appropriate to the urgency of the climate crisis, would be no longer treating replanting of trees as a viable carbon removal in response to immediate combustion emissions. In other words, the emissions from harvesting a tree, fugitive emissions of wood pellet production, and the emissions from combustion of wood pellets would all be accounted for in the energy sector. This would also in effect eliminate the renewable label except for fast-decaying wood wastes and residues that would otherwise go unused.

B. Paris Rulebook: NDCs and Reporting Requirements

The Paris rulebook outlines NDC planning requirements along with reporting requirements that reach beyond the NDC provisions. Both areas present the opportunity to introduce procedural EJ safeguards that can be modeled after existing UNFCCC EJ safeguard frameworks. The goal of these safeguards would be to incentivize companies to allow meaningful participation of local communities in wood pellet plant siting decisions, to prevent unsustainable harvesting practices, and to ensure compliance with laws aimed at preventing pollution. In the event of nonobservance, Parties like the EU and U.K. would be forced to turn to other sources of renewable energy, such as domestic solar and wind.

1. Planning-Oriented Instruments

The Paris Agreement Rulebook sets forth mandatory information to be incorporated into NDCs, including quantifiable information on the reference point, implementation time frames, scope and coverage (i.e., included sectors/gases, co-mitigation benefits, how parties have considered paragraph 31(c) and (d) of decision 1/CP.21),[235] planning processes (preparation and implementation), assumptions and methodological approaches including GHG accounting, Party's consideration of the fairness and ambition of its NDC contemplating its national circumstances, and how the NDC contributes to achieving the objectives of the Paris Agreement (Article 2).[236] While the Paris Rulebook details the appropriate accounting mechanism to be used in NDCs,[237] EJ concerns are entirely omitted. The closest reference to EJ can be found in the guidance concerning the NDC planning process:

> (a) Information on the planning processes that the Party undertook to prepare its nationally determined contribution and, *if available*, on the Party's implementation plans, including, *as appropriate*:
>
> (i) Domestic institutional arrangements, public participation and *engagement with local communities and indigenous peoples, in a gender-responsive manner;*
>
> (ii) *Contextual matters*, including, inter alia, as appropriate:
>
> a. *National circumstances*, such as geography, climate, economy, sustainable development and poverty eradication;
>
> b. Best practices and experience related to the preparation of the nationally determined contribution;
>
> c. Other contextual aspirations and priorities acknowledged when joining the Paris Agreement;[238]

235. Paragraph 31 reads as follows:

> *Requests* the Ad Hoc Working Group on the Paris Agreement to elaborate, drawing from approaches established under the Convention and its related legal instruments as appropriate, guidance for accounting for Parties' nationally determined contributions, as referred to in Article 4, paragraph 13, of the Agreement, for consideration and adoption by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement at its first session, which ensures that. . . (c) Parties strive to include all categories of anthropogenic emissions or removals in their nationally determined contributions and, once a source, sink or activity is included, continue to include it; (d) Parties shall provide an explanation of why any categories of anthropogenic emissions or removals are excluded;

U.N. Framework Convention on Climate Change, Decision 1/CP.21, Adoption of the Paris Agreement, U.N. Doc. FCCC/CP/2015/10/Add.1 at ¶ 31 (Jan. 29, 2016).

236. *Navigating the Paris Agreement Rulebook: NDC Mitigation: Deeper Dive*, WORLD RES. INST., https://www.wri.org/paris-rulebook/paris-rulebook-mitigation-deeper-dive [https://perma.cc/QZG4-B9RR] (last visited Feb. 27, 2023).

237. *Id.*

238. *Id.* (emphasis added).

In addition to being the only NDC guidance that mentions impacts on local communities yet still lacking any real EJ safeguards, these guidelines are inadequate for a number of reasons: the softening phrases "if available" and "as appropriate" allow Parties to simply ignore the subsequent guidance, "engagement" and "contextual matters" are vague terms that require further explication, and this section appears to only contemplate domestic communities, excluding application to energy sourced from abroad.

In requiring that certain information be included in the NDCs, the Paris Rulebook missed an opportunity to require a community impact assessment of each strategy contemplated to meet NDC goals. This EJ safeguard could have comfortably rested under the scope and coverage or planning processes umbrellas, or alternatively could have been its own required category of information. Procedural requirements of this nature may not seem immediately impactful, but the increasing success of EJ National Environmental Policy Act (NEPA) claims tells another story.[239] In the same way that the impact of NEPA suits often turns on accountability to the public, which is created by mandatory and publicized consideration of a project's impacts on local communities, climate, etc., a community-impact NDC requirement would force Parties to acknowledge the sources of their ostensibly clean energy. The EU and U.K. specifically have a reputation to uphold as they are traditionally leaders in the international environmental arena, so a procedural mechanism of this nature may well deter reliance on wood pellets sourced from destructive plants in the U.S.

2. Reporting-Oriented Instruments

Another missed opportunity to include EJ safeguards in the Paris Agreement lies in the reporting-oriented instruments (as opposed to the planning-oriented instruments like the NDC guidelines). In recognition that the impact of the Paris Agreement relies on the communication of accurate information, reporting requirements can be found in the Article 13 Enhanced Transparency Framework. The Paris Agreement Rulebook provides the applicable modalities, procedures, and guidelines, differentiating between both UNFCCC Annex I and non-Annex I Party obligations and Parties and non-

239. *See generally* NINA M. HART & LINDA TSANG, ADDRESSING ENVIRONMENTAL JUSTICE THROUGH NEPA (2021).

Parties to the Paris Agreement.[240] As Annex I Parties to Paris, the reporting obligations of the U.S., the U.K., and the EU include an Annual GHG Inventory, a Biennial Transparency Report, and a National Communication.[241]

The sufficiency of these outputs is in turn evaluated by the mechanisms established under Article 13.11: a technical expert review process and a facilitative, multilateral consideration of progress.[242] Parties must report five pieces of information via the Biennial Transparency Report, including the Article 4 information necessary to tracking the implementation and achievement of NDCs discussed above, a national inventory report of GHG emissions and removals, Article 7 adaptation communications concerning the impacts of climate change and adaptation measures, information on support (financial, technology-transfer, and capacity-building) provided to developing countries, and information on the same support that is needed and received by developing countries.[243]

The Biennial Transparency Report Paris Rulebook implementation guidelines present a second ideal location for an EJ safeguard. This safeguard could take many forms, ranging from inclusion in the Article 4 information previously discussed, to requiring EJ "communications" as is done for Article 7 adaptation purposes, which could entail a report on the anticipated and actual local-impacts of actions taken to achieve the Paris objectives, including both mitigation and adaptation. Again, these safeguards would put forth procedural rather than substantive requirements, but increased transparency surrounding the localized impacts of wood pellet production on communities in exporting countries would assist in importing Party decision-making and citizen participation by highlighting potential failures.

3. Existing EJ Safeguard Models

There are two existing UNFCCC safeguard systems that can serve as a model for the proposed EJ safeguard amendment to the Paris Rulebook, both of which incorporate monitoring and reporting requirements that mirror the NDC guidance outlined in the Paris Rulebook. The first, "the Cancun Safeguards," were adopted by the

240. WORLD RES. INST., *supra* note 236.

241. *Id.*

242. Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104

243. WORLD RES. INST., *supra* note 236.

UNFCCC COP in 2010 as part of the REDD+ mechanism that incentivizes conservation and sustainable forest management by monetizing the carbon sequestered by forests in developing countries.[244] REDD+ was established under Article 2 of the Kyoto Protocol and is now codified in Article 5 of the Paris Agreement. Relevant language in the Cancun Safeguards includes: "Respect for the knowledge and rights of indigenous peoples and *members of local communities*, by taking into account relevant international obligations, national circumstances and laws [. . .] The full and effective participation of relevant stakeholders, in particular indigenous peoples and *local communities,"* and "taking into account the need for *sustainable livelihoods of indigenous peoples and local communities and their interdependence on forests* in most countries."[245]

In order to be eligible for results-based payments for carbon sequestration under REDD+, summary information disclosing how the safeguards are being addressed and respected is required from developing countries according to the 2013 Warsaw COP19.[246] Moreover, after Decision 12/CP.19, paragraph 3, Parties must include a summary of information on how the Cancun Safeguards are being addressed in national communications or otherwise communicate the summaries in approved communication channels,[247] including the UNFCCC REDD+ web platform.[248] Parties are therefore financially incentivized to adhere to the Cancun Safeguards.

The second form of EJ safeguard under the UNFCCC is the Environment and Social Policy of the Green Climate Fund (GCF). Originally established under the 2010 Cancun Agreements, the GCF serves as the Financial Mechanism of the UNFCCC and Paris

244. *REDD+ Safeguards*, REDD+ SOC. & ENV'T STANDARDS, https://www.redd-standards.org/index.php?option=com_content&view=article&id=112&Itemid=104 [https://perma.cc/6ATT-MBSW] (last visited Feb. 27, 2023).

245. U.N. Framework Convention on Climate Change, *The Cancun Agreements: Outcome of the Work of the Ad Hoc Working Group on Long-Term Cooperative Action Under the Convention*, U.N. Doc. FCCC/CP/2010/7/Add.1, app. 1 ¶ 2(c), 2(e) n.1, (Mar. 25, 2011).

246. *Safeguards*, REDD+ WEB PLATFORM, https://redd.unfccc.int/fact-sheets/safeguards.html [https://perma.cc/MM7U-7D7H] (last visited Feb. 27, 2023).

247. U.N. Framework Convention on Climate Change, *Guidance on Systems for Providing Information on How Safeguards Are Addressed and Respected and Modalities Relating to Forest Reference Emission Levels and Forest Reference Levels as Referred to in Decision 12/CP.19*, December 9, 2011, FCCC/CP/2013/10/Add.1 (Dec. 9, 2011).

248. *Id.*

Agreement.[249] The GCF aids developing countries in meeting NDC ambitions through mandating financial contributions to support developing countries and operating a network of "Accredited Entities" that work directly with countries on project design and implementation.[250] This policy requires that all GCF-supported activities, including REDD+ initiatives, commit to:

> a) Avoid, and where avoidance is impossible, *mitigate adverse impacts to people* and the environment . . .
>
> d) Give due consideration to *vulnerable and marginalised [sic] populations*, groups, and individuals, *local communities*, indigenous peoples, and other marginalized groups of people and individuals that are affected or potentially affected by GCF-financed activities.[251]

The policy sets forth a number of mechanisms to ensure adherence to these objectives, including monitoring, reporting, and disclosure requirements that parallel many of the NDC requirements discussed prior. The GCF has also established an independent Redress Mechanism that facilitates complaints and feedback from communities affected by the projects of accredited entities. Enforcement options vary depending on the legal agreement between the GCF and a specific accredited entity:

> Where the accredited entities fail to comply with the safeguard requirements, GCF will work with the accredited entities to develop and implement timebound corrective actions that will bring the activities back into compliance. GCF will also work with the accredited entities and the affected people to develop and implement measures to remedy the harms that occurred. Where the accredited entities fail to re-establish compliance within the applicable time frame and manner, GCF may exercise its remedies under its legal agreement with the accredited entities.[252]

The REDD+ Cancun Safeguards and UNFCCC GCF demonstrate the feasibility of implementing an EJ safeguard through planning and reporting requirements, although the GCF safeguards have more substantive teeth. While these frameworks have arguably stronger compliance incentives in that funding is withheld in the event of violation, barring reported emissions reductions in a Party's NDC when specified EJ requirements are not met could similarly induce compliance in the place of a monetary incentive.

249. *About GCF: Timeline*, GREEN CLIMATE FUND, https://www.greenclimate.fund/about/timeline [https://perma.cc/Z4GE-WCAX] (last visited Feb. 23, 2022).

250. *Id.*

251. Green Climate Fund, Revised Environmental and Social Policy 3–4 (2021).

252. *Id.* at 10.

Potential drawbacks to safeguards of this nature include confusion surrounding implementation of the vague yet ambitious objectives. It is not readily apparent what "Giv[ing] *due consideration* to vulnerable and marginalised populations, groups, and individuals, local communities . . ." and "the *full and effective participation* of relevant stakeholders, in particular indigenous peoples and local communities" mean in practice. In application to communities in the U.S. South specifically, discrepancies may arise in identifying the "local community" if community members do not in fact align in opinion with local or state officials. In developing the safeguard, it may be beneficial to include more specific targets, like offering a public hearing in the local community as an opportunity to hear concerns. On the other hand, increased comprehensiveness of the requirements would likely come at the expense of willingness to comply due to cost and efficiency considerations for Parties. Flexibility in modes of compliance would both provide for plans specifically tailored to varying circumstances of different Parties, which would ultimately be more impactful, in addition to avoiding deterrence of compliance with overly burdensome restrictions. Thus, it is advisable to err on the side of flexibility, which is ultimately the reason for the Paris Agreement's triumph of participation.

Obtaining the information necessary to meet these requirements would require cooperation from the U.S. government and wood pellet companies, which could present further complications that relate to issues of enforcement. However, if other countries follow the lead of the Netherlands in voting to require heightened sustainability certification standards surrounding imported wood pellet production, wood pellet companies will be incentivized to cooperate. As discussed above, the Paris Agreement provides a body to monitor compliance with the agreement: a technical expert review team established by the Secretariat. There is also a twelve-member Compliance Committee established pursuant to Article 15, which creates "a mechanism to facilitate implementation of and promote compliance with the provisions of this Agreement."[253] It was later established that the Committee may initiate consideration of issues if a Party does not communicate or maintain an NDC, fails to submit a biennial transparency report and information required under Article

253. Paris Agreement to the United Nations Framework Convention on Climate Change art. 15 ¶ 1, Dec. 12, 2015, T.I.A.S. No. 16-1104.

13, or does not participate in the facilitative, multilateral consideration of progress.[254]

These shortcomings all pertain to omission of reporting requirements entirely, but in the event of "significant and persistent inconsistencies of the information submitted . . . with the modalities, procedures, and guidelines" based on the technical expert review reports, the Committee may consider issues with the consent of the Party.[255] For an EJ safeguard to be effective, the Compliance Committee must have more power than the mere ability to consider issues and provide recommendations to Parties. This Note proposes that the Committee should have the authority to disqualify NDC emissions reductions that are sourced from an energy project for which EJ safeguard reporting requirements were omitted entirely or inadequate in some capacity. This would be an expansion of the Committee's power but the requirements would all remain procedural.

In sum, an EJ safeguard entailing required communication with local communities and consideration of adverse impacts, particularly those that pertain to public health, and corresponding reporting of these communications and considerations, should be introduced to the Paris Rulebook. This should be introduced via the NDC planning requirements, or alternatively, the overarching reporting requirements. These safeguards would not dictate how a Party would ensure respect for the rights of community members but would be consistent with the Paris Agreement's framework of procedural rather than substantive obligations by only requiring that the Party report how it is working to meet the objectives. To more effectively facilitate enforcement, the stakes must be made higher than what they currently are for inadequate planning and reporting. To do so, the Compliance Committee should take on the authority to assess the sources of emissions reductions in a Party's NDCs and ensure that the Party discounts reductions that can be linked to inadequate reporting. This would mean that the EU and U.K. would have to include an assessment of the impacts on local communities of their wood pellet sources in order to take credit for wood pellet-related emissions reductions.

254. *Navigating the Paris Agreement Rulebook: Compliance: Deeper Dive,* WORLD RES. INST., https://www.wri.org/paris-rulebook/paris-rulebook-compliance-deeper-dive [https://perma.cc/WTW9-E5SQ] (last visited Mar. 23, 2022).

255. *Id.*

V. CONCLUSION

As the questionable climate impacts of wood pellets continue to be spotlighted by concerned scientists, advocates, and politicians, it is the hope that reliance on woody biomass energy will decrease in the coming years. This necessary transition will depend upon the successful amendment of existing laws to exclude wood pellets from the renewable energy designation and the correction of carbon accounting for harvested wood products utilized by the IPCC. However, a new industry will inevitably take its place. The vulnerability of local communities to powerful economic interests is a pervasive and global problem that requires an international solution—particularly when international treaties are designed to incentivize specific sectors, and in turn, the corresponding industries necessary for a given sector to function. An enduring accountability mechanism is necessary to protect local communities from becoming the sacrifice zones for allegedly green energy projects that are driven by Parties' worthy aspirations to meet NDC goals and slow the warming of the planet. Inserting an EJ safeguard into the NDC planning and/or reporting requirements of the Paris Rulebook is a relatively straightforward means of requiring countries to at the least consider the impacts of their energy consumption on vulnerable populations and draw attention to potential EJ implications. More optimistically, this safeguard could thwart elaborate greenwashing efforts around the world and facilitate an equitable global transition from polluting energy sources to those that are authentically carbon-free.

ECUMENICAL MINISTRIES OF OREGON

OREGON INTERFAITH Power & Light

September 22, 2025

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Subject: Draft Oregon Energy Strategy Comment

I write on behalf of the Creation Justice Committee at Ecumenical Ministries of Oregon (EMO) and as Chair of the Creation Justice Committee in support of comments submitted by the Stop Northwest Gas Expansion Coalition, of which EMO is a part, addressing the draft Oregon Energy Strategy, and in support of the comments of the joint environmental caucus, comments EMO has joined. Thank you for the opportunity to uplift energy equity and electrification in Oregon.

EMO is an active member of the Stop Northwest Gas Expansion coalition. EMO is also a faith-based organization that includes faith leaders and worship communities across Oregon. As such, EMO is active as an advocate for policies that align with interfaith and ecumenical values and imperatives.

Care for creation–our Earth, this planet–is a core value held by EMO and by people of faith in every established faith tradition over millennia. Further, people of faith understand the importance of stewardship as an act that is helpful, useful, and compassionate for people and all living things.

With these values solidly in front of us, EMO affirms the efforts of the Draft Oregon Energy Strategy, particularly where it addresses an urgent and equitable transition to clean energy electrification, just use of energy resources, energy efficiency, and rapid phase-out of fossil fuels.

Oregon is not a petrostate. Its wealth is given by that which is greater than ourselves, the gifts of wildlands, rivers, mountains, forests, fisheries, coastlines, and good neighbors. Oregon has no economic interest in fossil fuel use or proliferation, the result of which imperils the gifts of water, food, forests, human health and welcoming community. We affirm a robust implementation and ongoing strengthening of Oregon's energy strategy to ensure a clean, vibrant Oregon for generations to come.

Faithfully,

Rev Richenda Fairhurst
Ecumenical Ministries of Oregon Board Member, and Creation Justice Committee and Oregon Interfaith Power and Light Chair.

Oregon Energy Strategy

Public Comment

Estelle Voeller, 9.22.2025

Dear Director Benner,

I am Estelle Voeller, and have resided in Jackson County since 1973. I am especially concerned about a healthy environment and affordable economy for the younger generations now and in the future.

We need to have an Energy Strategy that creates a pathway to meet Oregon's essential 100% clean energy goals. The amount of clean renewable energy needs to be rapidly increased, and the grid updated to distribute it more efficiently and fairly to communities across the state. Major industries need to pay their fair share.

Community solar projects, heat pump conversions, building upgrades such as insulation to increase efficiency are ways to spread the benefits of our energy transition to lower income people who are especially struggling to meet the rapidly rising energy costs.

Reject false solutions that will lessen affordability, and result in deleterious environmental and public health impacts – such as small nuclear reactors, "renewable" natural gas, and hydrogen blended with gas. Not only do they carry risks to public health and the environment, but they are more costly and take longer to implement than cleaner energies such as solar, wind and geothermal.

It is essential that Oregon makes rapid progress on meeting climate goals. It is important that our energy transition increases equity, affordability and reliability. Delay only results in greater costs, and compromises our children's futures.

I urge ODOE to take swift and thoughtful action to implement the strategy in a way that benefits environmental justice communities.

Thank you for your consideration.

Sincerely,

Estelle Voeller

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Portland, OR 97204

1.866.368.7878
energytrust.org

September 22, 2025

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301
Submitted electronically via https://odoe.powerappsportals.us/en-US/energy-strategy/

Re: Comments on Draft Oregon Energy Strategy

Energy Trust of Oregon welcomes the opportunity to provide comments on the Oregon Department of Energy's (ODOE) draft Oregon Energy Strategy. We commend ODOE's comprehensive engagement approach throughout the strategy's development, which involved Tribal engagement, an Advisory Group, technical and policy working groups and public information sessions. Energy Trust was pleased to engage in this process as a member of the Advisory Group and the working group focused on building efficiency, electrification and distributed energy resources. Our participation and these comments are provided within our non-lobbying role, pursuant to our agreement with the Oregon Public Utility Commission.

Energy Trust is a nonprofit organization administering ratepayer funds and other contracts and grants to deliver energy efficiency and renewable energy programs, incentives and services that benefit the customers of Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas and Avista. We are overseen by an independent board of directors and operate under an agreement with the Oregon Public Utility Commission to deliver the ratepayer funds. Guided by our vision of clean, affordable energy for everyone, we are dedicated to helping utility customers and communities reduce costs and achieve additional benefits through energy efficiency, small-scale renewable resources and battery storage systems. We have been a steward of utility customer funds since 2002, and our work has delivered significant benefits, helping participating customers save $8.5 billion on their utility bills, generating renewable energy, avoiding greenhouse gas emissions and helping customers become more confident in their clean energy actions. These investments also lower system costs for all utility customers by helping utilities defer investments in additional fuel purchases, generation, transmission and distribution system upgrades.

Overall alignment between Energy Trust plans and draft Oregon Energy Strategy

The draft Oregon Energy Strategy outlines the course for achieving the state's decarbonization goals, built from detailed modeling and engagement. Energy Trust's 2025-2030 Strategic Plan and Draft 2026-2030 Multiyear Plan are aligned with and can advance the Energy Strategy's pathways on energy efficiency, clean energy and resilience. We observe many of the same barriers described in the Energy Strategy to sustaining and advancing progress in these areas and see many of the identified solutions as being actionable and impactful ones we can leverage in our work to deliver energy efficiency, hydropower, biopower, solar and battery storage system investments.

As emphasized in the Energy Strategy, there should be thoughtful design and implementation of energy efficiency programs that consider the benefits and impacts on the economy at large as well as on individual customers and communities. This approach aligns with our strategic commitment to maximizing cost-effective, technically achievable energy efficiency and is the first step in the state's policy of least-cost energy resource acquisition. Energy Trust is also deploying customer- and community-sited renewable and battery storage resources as a central strategy to provide additional customer and system benefits.

We appreciate and agree with the Energy Strategy's principle of a managed transition — a principle that supports the balancing of priorities like decarbonization, reliability, resilience, affordability and equity — as the underlying approach to refining and implementing the pathways, policies and recommended actions. **In alignment with this principle, a consideration for ODOE is to offer more direction on the sequencing and prioritization of the policy needs and actions — particularly by distinguishing short-term actions that lay the groundwork for longer-term efforts.**

Leveraging the evolution of ratepayer-funded programs for multiple benefits

The Energy Strategy identifies that energy efficiency and distributed energy resources are pivotal to meeting state energy needs while also supporting decarbonization and equity goals. Energy Trust has long recognized and delivered programs that deliver multitude of benefits for customers and the energy system. For instance:

- Our incentives support the addition of high-performance, affordable and healthier homes through the state's Manufactured Home Replacement Program
- Paired solar and storage systems now deliver both renewable power and on-site resilience at more than 1,100 households and businesses in our service area.
- Efficiency and solar programs help lessen the stress on the grid and energy system. Over the past five years, our programs have led to 362 MW reduction in electric peak summer demand, 397 MW reduction in electric peak winter demand and 465,855 therm reduction in peak winter day gas demand.

Under our 2026–2030 Multiyear Plan, which is currently in draft form, we are accelerating the acquisition of energy savings and generation in response to resource modeling from our investor-owned utility partners. This modeling has identified additional energy efficiency to support decarbonization goals while maintaining a strong focus on customer affordability.

- For the next five years, Energy Trust aims to deliver 287.7 aMW of electric savings and 44.9 million annual therms of natural gas savings. This is 16% more electric savings and 36% more gas savings than we delivered in the prior five years. These savings are cost-effective, and along with 34.9 aMW of renewable generation, will continue to be reliable energy resources for utilities while also delivering peak reductions, avoided emissions, $6.8 billion in on-site utility bill savings and overall net benefits to the system totaling nearly $2 billion.[1]

There are additional areas of program evolution that could be areas of further consideration for ODOE and therefore a guide to Energy Trust over the next five years and beyond:

- While the Energy Strategy acknowledges the value of distributed energy resources,[2] it could benefit from more clearly defined strategies for scaling their deployment in ways that are responsive to customer and community affordability and resilience needs. **The Energy Strategy could include actions that support targeted policies, funding continuity or funding alternatives and coordination efforts that enable widespread adoption and integration. This is particularly needed in communities that stand to gain the most from localized clean energy solutions and**

[1] Figures are from the Draft 2026-2030 Multiyear Plan. Final targets will be featured in the final version of the plan published in December 2025. Due to federal policy changes enacted after the draft plan was developed, we expect the renewable generation target and resulting benefits to be lower.

[2] Per the Energy Strategy, distributed energy resources are defined as small, modular energy generation and storage technologies that provide electric capacity or energy near sites of use. Examples include rooftop solar panels and customer-sited battery storage.

to be prepared and then responsive to emerging microgrid regulation and performance-based ratemaking.

- **To support efficient deployment of customer-sited resources like energy efficiency, solar, battery storage and equipment capable of demand response, the Energy Strategy could consider how to pursue more integrated approaches to support reliability, resilience, affordability and decarbonization.** Supporting broader integration of programs and services can maximize the deployment and contribution of customer-sited resources and better support the implementation of strategic electrification as emphasized in the Energy Strategy.
- As the Energy Strategy considers a shift from single-fuel planning and identifies ODOE as a central resource for data and analysis on building decarbonization, **ODOE could leverage Energy Trust's initial work to respond to direction from the OPUC to better understand how investments from our programs affect both electric and natural gas systems.** Energy Trust is in the early stages of work in this area in response to OPUC staff comments on our 2025 budget. The OPUC directed Energy Trust to begin internal preparedness activities to support the collection and reporting of both the electric and natural gas impacts of certain measures, particularly when customers choose to electrify or pursue dual-fuel solutions.

Customer access to clean energy programs

With more program and funding opportunities available, the Energy Strategy highlights the challenge for customers in navigating a complex landscape of programs and requirements. It also recommends ODOE work with Energy Trust and others to align on approaches. We agree this is necessary, and we are eager to continue our work together with ODOE and community-based organizations, utilities and other agencies and entities to support customer navigation. In addition, we will conduct a market assessment and gap analysis to guide the development of accessible and inclusive resources, including information, education, advice and navigation, that empower customers to make informed energy decisions.

The Energy Strategy also recognizes underserved and frontline populations as needing more tailored support to access and participate in programs. We support the related actions in the Energy Strategy as some of those customer groups have been identified as priority customers in our strategic and multiyear plans. Our priority customers have historically lower participation rates in Energy Trust incentives and programs[3] and have received fewer of the direct benefits of participation such as lower bills and more safe and comfortable homes. Actions identified in the Energy Strategy will help us better serve these customers and build on our own activities, including:

- Redesigning our programs to prioritize energy burden reduction, including in homes with electric resistance heating or inadequate insulation.
- Expanding no-cost solutions, like our no-cost heat pump, ductless heat pump, heat pump water heater and insulation efforts.

[3] Our 2025-2030 Strategic Plan identified customers with low incomes, people of color and customers in rural areas pay into yet are underrepresented in program participation data. Going forward, we will continue to assess which groups remain underrepresented. This assessment will focus on customers within environmental justice communities as defined in Oregon statute as "communities of color, communities experiencing lower incomes, Tribal communities, rural communities, coastal communities, communities with limited infrastructure and other communities traditionally underrepresented in public processes and adversely harmed by environmental and health hazards, including seniors, youth and persons with disabilities". Additionally, renters, people with moderate incomes, small businesses, and customers with high energy burden (households that spend more than 6% of income on energy costs) will be considered as we work to evolve programs to ensure meaningful access and services.

- Seeking complementary funding sources to our ratepayer funds, including for funding health and safety repairs that can enable energy efficiency, solar and storage investments and for funding to support smaller trade ally contractors.
- Strengthening coordination with utilities, including by pairing no-cost energy efficiency offers with income-qualified bill discount programs.
- Building and maintaining community-based approaches, including by investing in capacity building with community partners to help them expand their outreach and service delivery to our priority customers.

Robust data and studies to inform action

Recognizing that data can help identify and characterize areas of need in the state, ODOE's proposal to pursue studies is a useful approach to inform thoughtful program design and implementation. Energy Trust is eager to support ODOE's efforts to develop a building decarbonization roadmap, a workforce needs assessment and a study on barriers to building and interconnecting renewable projects.

- The building decarbonization roadmap could serve as a strategic tool to pinpoint gaps, needs and opportunities, helping shape a building decarbonization approach that is consistent with managed transition principles and leverages existing regulatory processes, like building codes, to support building owners and tenants.
- A workforce needs assessment complements the Energy Strategy's jobs analysis, which identified potential shortages in key occupations critical to supporting decarbonization — particularly in remote and rural areas that are already facing limited access to trained contractors. Energy Trust's 2026-2030 Multiyear Plan underscores the importance of a robust and diverse Trade Ally Network and clean energy workforce in achieving our goals and in serving customers, particularly those we have not effectively served to date.
- The assessment of barriers preventing construction and interconnection of renewable projects could also evaluate barriers to small-scale renewable projects and microgrids. Understanding and addressing these barriers can unlock the customer and system benefits from expanded adoption of customer- and community-sited renewable and battery storage projects.

Complementary funding needs and financing tools

We commend ODOE for considering different mechanisms to make clean energy and energy efficiency more accessible and affordable, such as the revolving loan fund and Tribal block grants. **A consideration for ODOE is to ensure financing or funding approaches that are developed are not too narrow or one-size-fits-all approaches. It is important to remain open to exploring and testing multiple complementary funding strategies that can effectively serve the diverse needs of Oregon's customers**. Delivering on the state's equity and decarbonization goals requires thinking outside the box and allowing for multiple funding models to be leveraged, ensuring no single approach is a barrier to customer participation.

Tribal engagement

We appreciate the Energy Strategy's emphasis on Tribal engagement. We have supported several Tribal-led energy projects and continue to strengthen relationships with Tribal governments and communities. As we deepen our understanding and capacity to engage with Tribes, we recognize Tribes are not monolithic — each has distinct governance structures, priorities and levels of interest in clean energy. We have learned that early engagement is essential to avoid placing undue burden on Tribes or promoting a solution that is not feasible on Tribal lands. We are also learning that meaningful engagement must extend beyond government-to-government interactions. It requires building trust within Tribal communities to better understand their priorities and create space for collaboration, alignment and consent before decisions are made. **A consideration for the**

Energy Strategy is to ensure continued engagement with both Tribal governments and Tribal communities.

Summary

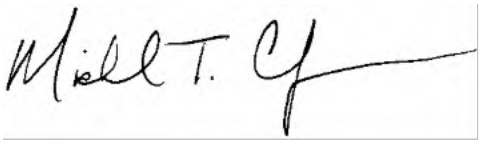
Looking ahead to 2050, the Energy Strategy provides a directional framework for guiding the decisions and actions needed to achieve Oregon's decarbonization goals. Energy Trust sees strong alignment with many of these priorities and views the Energy Strategy as pointing toward opportunities to continue to expand efforts in acquiring energy savings and supporting distributed energy resources over time. We are committed to doing so in a way that supports customer- and community-based solutions that respond to local energy needs and foster greater resilience.

We provided a few areas of consideration for ODOE in bold above and summarized here as:

- Offer more direction on the sequencing and prioritization of the policy needs and actions — particularly by distinguishing short-term actions that lay the groundwork for longer-term efforts.
- Include in the actions support for distributed energy resources like targeted policies, funding continuity or funding alternatives and coordination efforts that enable widespread adoption and integration, particularly in communities that stand to gain the most from localized clean energy solutions and to be prepared and then responsive to emerging microgrid regulation and performance-based ratemaking.
- Consider how to pursue integrated approaches for customer-sited resources (like energy efficiency, solar, battery storage and equipment capable of demand response) to support reliability, resilience, affordability and decarbonizations.
- Bolster ODOE's role as a central resource for data and analysis on building decarbonization by leveraging Energy Trust's initial work to respond to direction from the OPUC to better understand how investments from our programs affect both electric and natural gas systems.
- Ensure financing or funding approaches that are developed are not too narrow or one-size-fits-all approaches in order to effectively serve the diverse needs of Oregon's customers.
- Ensure continued engagement with both Tribal governments and Tribal communities.

We recognize achieving Oregon's 2050 decarbonization goals requires a balanced approach that ensures consistent progress while protecting customers from adverse impacts. This work requires collective effort and recognizing that each of us has a role to play in making the plan actionable and impactful. Energy Trust remains committed to collaborating on the design of innovative, customer-forward solutions that advance Oregon's energy, equity and decarbonization goals.

Sincerely,



Michael Colgrove
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Executive Director
Energy Trust of Oregon

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September 22, 2025

EWEB Public Comments on Draft Oregon Energy Strategy

The Eugene Water & Electric Board (EWEB) would like to express our appreciation for the opportunity to participate in the public engagement process for the Oregon Department of Energy's development of the Oregon Energy Strategy and for the chance to provide public comments on the draft strategy.

Incorporating Least Cost Planning

Least-Cost Planning is a bedrock fundamental in the utility sector. In the formulation of integrated resource plans (IRPs) and other utility planning, priority is given to selecting least-cost options that meet objectives like reliability, affordability and environmental responsibility. It will be prudent for the Oregon Energy Strategy to follow a similar approach to Least-Cost Planning. We appreciate that the draft energy strategy does in several instances include references to "least-cost" in the narrative of the document, although not always with a great deal of context. However, we would suggest that the plan go further to the extent possible, in more clearly delineating a fundamental least-cost approach within the Oregon Energy Strategy itself, including recommended actions. Can the draft Energy Strategy incorporate a cost-curve of the selected actions to meet the objectives of the Oregon Energy Strategy? The inclusion of a cost-curve would improve confidence suggesting that the Oregon Energy Strategy is designed to meet stated objectives at least-cost.

This inaugural formulation of the Oregon Energy Strategy was focused on new policies. Revision of existing policies, specifically how they might be modified to reach their target goals at less cost than the results of current design, was not considered in the draft strategy – there could be a public benefit for any future iteration/revision of an Oregon Energy Strategy to review potential improvements to pre-existing state energy policies and whether there are more cost-effective policies to accomplish the same goals/targets.

Identifying Trade-offs

The stated purpose of HB 3630 and the directive to develop an Oregon Energy Strategy is to help Oregon achieve emission reductions in line with state energy policy and climate policy goals. There are few if any state energy or climate policy actions that do not come with tradeoffs. For an Oregon Energy Strategy to assist state policy makers in making the most

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informed energy and climate policy decisions, the strategy could clearly articulate those tradeoffs, especially when HB 3630 legislation did not define the state's energy policy objectives. The background narrative passages in the draft Energy Strategy describe tradeoffs in several instances. The strategy should go further than that though – the crucial sections outlining Pathways and Policies & Actions should each have a more robust assessment of the tradeoffs for each of the complete list of respective pathways and policies.

Transmission Authority Input

The draft strategy includes the following policy recommendation: "Establish a state transmission entity with the authority to (1) identify and designate transmission corridors; (2) pursue partial siting and permitting approvals for future projects in those corridors; and (3) provide direct financial support through state bonds for projects that are determined to benefit the public interest."

Many entities are already engaged in efforts to plan, finance and construct electric generation – efforts that are lengthy, complicated and carry financial risk. While a transmission authority could potentially assist in transmission development, if root obstacles to transmission development are not addressed first, notably permitting and siting challenges, a newly created transmission authority would be stymied by the same obstacles other entities face that are limiting transmission builds. An effort to reform siting and permitting challenges within the states scope of authority should precede or occur in concert with the establishment of a state transmission authority. In conclusion, if a Transmission Authority is established, it is crucial that the new agency has strong utility experience and representation incorporated as well as an equitable funding source as far as who pays and who benefits.

Highlighting Resource Adequacy/Firm Capacity Needs

In May 2025, the NPCC released its initial 20-year forecast, projecting higher potential peak demand growth in the Pacific Northwest than previously anticipated. While the importance of resource adequacy is noted in the draft energy strategy, the challenge posed in our region to maintain resource adequacy should be highlighted more prominently. The role and need for firm energy capacity should be more clearly defined. The ability and characteristics of different electric generation sources to provide capacity that can help meet resource adequacy challenges should be more clearly emphasized, but also the extent to how new generation sources that could provide firm capacity may have less impacts on land use intensity and more flexibility to be located near population/load centers and existing or planned transmission.

Rely on us.

Jason Heuser

Public Policy and Government Affairs Director

Eugene Water & Electric Board (EWEB)

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Generation Atomic
1878 Pascal Street
Saint Paul, MN 55113

September 22nd, 2025

Oregon Department of Energy
RE: Public Comment on Draft Oregon Energy Strategy

Dear Oregon Department of Energy,

Generation Atomic submits these comments on the Draft Oregon Energy Strategy to advocate for the inclusion of nuclear power as a critical component of Oregon's clean energy portfolio. While we appreciate the comprehensive approach outlined in the five pathways, we believe the strategy would be significantly strengthened by explicitly recognizing nuclear energy's potential role in meeting Oregon's ambitious climate goals.

Oregon's Growing Energy Challenge Requires All Clean Energy Solutions

The Draft Strategy correctly identifies that Oregon faces unprecedented electricity demand growth, with projections showing demand could increase approximately 40 percent by 2030, driven primarily by data centers and electrification. Oregon's data center market ranks fifth nationally, and the Western Electricity Coordinating Council has identified new data centers as an "emerging risk" to grid reliability. Meeting this demand while achieving 80 percent greenhouse gas reduction by 2050 will require deploying every available clean energy technology.

Simultaneously, Oregon's historically reliable hydroelectric generation has become increasingly variable due to abnormally dry weather- no doubt exacerbated by climate change. In three of the past five years, drought conditions reduced in-state hydroelectric generation by more than half, forcing increased reliance on natural gas, which now provides 38 percent of Oregon's electricity- a significant increase from a decade ago.

Since Oregon's nuclear moratorium was enacted in 1980, the understanding of climate change and other energy issues have fundamentally shifted. The Intergovernmental Panel on Climate Change has consistently identified nuclear power as an essential component of deep decarbonization scenarios, with their latest reports emphasizing that achieving net-zero emissions requires all available low-carbon technologies, including nuclear energy. This scientific consensus, combined with growing concerns about energy security and grid reliability in an era of extreme weather and rising electricity demand, reflects a broader recognition that the scale and urgency of modern energy challenges demands an all-of-the-above approach to clean energy deployment. Oregon's restrictions, established during a different era with different priorities, no longer align with the energy and climate imperatives facing the state today.

Recommendations for Oregon Energy Strategy

1. *Do the five pathways adequately reflect the direction needed to advance Oregon's energy policy objectives?*

While the five pathways provide a comprehensive framework, they would be strengthened by explicitly including nuclear power within the Clean Electricity Pathway. The current framework acknowledges the need for firm, reliable generation but stops short of recognizing nuclear energy as a proven solution already operating successfully across the United States. This gap becomes particularly significant given that nuclear energy provides consistent, weather-independent baseload power that operates at capacity factors exceeding 90 percent, directly complementing variable renewable resources and supporting the pathway's reliability objectives. The pathways correctly identify Oregon's ambitious climate goals and growing electricity demand, yet they lack acknowledgment of nuclear power's proven track record in deep decarbonization.

2. *Do the policies provide sufficient direction to inform near- and long-term decisions?*

The policies would benefit from adopting technology-neutral language that encompasses all clean energy technologies, including nuclear power. Current policy direction focuses heavily

on renewables and storage but lacks specific guidance for evaluating firm, clean baseload options that can operate continuously regardless of weather conditions. Enhanced policy language should acknowledge that different clean technologies serve complementary roles in a reliable grid, with nuclear providing the consistent generation needed during extended periods of low renewable output or extreme weather events that have become increasingly common due to climate change.

The policies should also address the economic considerations of different clean energy technologies over their full lifecycles. Nuclear facilities represent significant upfront investments but provide decades of stable, predictable electricity generation with minimal ongoing fuel costs and no emissions. This economic profile differs substantially from renewables that may require frequent component replacement or natural gas plants that face volatile fuel costs and potential carbon pricing. Policy frameworks should guide decision-makers in evaluating these different investment profiles to optimize long-term affordability while meeting reliability and climate objectives.

Additionally, the policies should recognize nuclear energy's land use efficiency compared to other clean energy sources. Nuclear plants generate enormous amounts of clean electricity on relatively small footprints - a typical nuclear plant produces as much clean energy as hundreds of wind turbines spread across thousands of acres. This efficiency becomes increasingly important as Oregon seeks to minimize impacts on natural and working lands while scaling clean energy infrastructure.

3. *Does the equity and justice framework provide clear guidance for decision makers? How well does the draft strategy address and incorporate equity and justice considerations?*

The framework should explicitly consider nuclear power's potential to advance economic equity through high-quality employment opportunities that significantly exceed compensation levels in other electricity generation sectors. Decision-makers would benefit from guidance on evaluating energy projects that create substantial, long-term employment. For instance, nuclear provides workers with salaries averaging 50 percent higher than other

electricity generation sources, and each nuclear plant employs 500 to 800 permanent workers, with construction phases employing up to 9,000 workers at peak activity.

The framework could be enhanced by including criteria for assessing how different energy technologies contribute to workforce development across various educational and skill levels. Nuclear facilities create career pathways for workers from diverse backgrounds, recruiting from universities for engineering and scientific positions, community colleges for technical roles, the military for operations experience, and skilled trades for maintenance and construction work. This diversity of opportunities includes positions for carpenters, electricians, welders, pipefitters, heavy equipment operators, and many other trades essential to nuclear facility construction and operation.

The equity framework should also consider the multiplier effects of different energy investments on local economies. These facilities provide stable tax revenue streams for host communities and other economic benefits for up to 80 years, and for every 100 nuclear jobs created directly, an additional 250 jobs are generated in supporting industries and local services. This economic multiplier effect can be particularly significant for rural communities that may host nuclear facilities, providing sustained economic development that supports local businesses, schools, and community services over multiple decades.

4. *Do the actions address critical near-term barriers to achieving the pathways?*

The strategy should acknowledge advanced nuclear technologies in the emerging technologies assessment outlined in Clean Electricity Action 3. We commend and strongly support the recommendation in the draft Strategy for an emerging technologies assessment that will include assessment of small modular reactors, and the acknowledgement of Oregon's home-grown leadership in small modular reactor (SMR) development. However, the strategy should acknowledge advanced nuclear technologies generally, and not just SMRs, in the emerging technologies assessment outlined in Clean Electricity Action 3. Advanced reactor designs, which include but are not limited to small modular reactors, offer enhanced passive safety systems that automatically shut down without operator intervention or external power, reduced waste production through improved fuel efficiency, and modular

construction techniques that could reduce construction time and costs. These improvements make all forms of advanced nuclear technology worthy of evaluation alongside other emerging technologies like enhanced geothermal, floating offshore wind, and long-duration storage.

Clean Electricity Action 1's transmission planning framework should consider how firm baseload generation can reduce overall transmission infrastructure requirements and associated environmental impacts. Nuclear plants can be sited closer to load centers, reducing the need for extensive transmission lines that may impact sensitive ecosystems or require significant rights-of-way through natural areas. This locational flexibility becomes increasingly valuable as Oregon seeks to minimize infrastructure impacts while ensuring reliable electricity delivery to growing data center loads and electrified transportation systems.

The actions should also address regulatory barriers that may prevent consideration of advanced nuclear technologies. This includes Oregon's nuclear moratorium, which should be lifted. Illinois and West Virginia have lifted similar restrictions as they recognize advanced nuclear technologies' essential role in achieving decarbonization goals while maintaining grid reliability.

5. *Does the draft capture the benefits and risks of actions?*

The draft inadequately captures the risks of excluding nuclear power from Oregon's clean energy portfolio, particularly the potential for increased carbon emissions during renewable energy shortfalls. When hydro, wind, and solar generation is insufficient - which can occur for several consecutive days during certain weather patterns - Oregon may be forced to rely on natural gas plants or import electricity generated from fossil fuels in neighboring regions.

The benefits assessment overlooks nuclear power's potential role in maintaining a stable electricity grid as Oregon transitions away from fossil fuel plants. Nuclear plants provide consistent, around-the-clock power that helps balance the electricity system when wind and solar generation fluctuate throughout the day and across seasons. As Oregon retires natural gas plants and adds more variable renewable energy, the grid will need reliable sources of

steady power to maintain stability and prevent blackouts. Without this consistent generation, Oregon may face higher electricity costs and increased reliability challenges as renewable energy becomes a larger share of the state's power supply.

Clean Electricity Action 4's policy incentives study should evaluate the long-term fiscal sustainability of different clean energy pathways. A renewable-heavy strategy may create boom-bust cycles in local tax revenue as projects benefit from temporary federal incentives but provide limited ongoing economic benefits to host communities. This contrasts with nuclear facilities that provide stable, predictable tax revenue for 60-80 years, supporting sustained funding for schools, emergency services, and infrastructure in host counties.

The risk analysis should also consider supply chain vulnerabilities associated with renewable-dependent strategies. Solar panels and wind turbines rely heavily on imported materials and components, creating potential security and cost risks during geopolitical disruptions. Nuclear fuel, by contrast, provides exceptional energy security - a single fuel pellet contains as much energy as a ton of coal, and plants typically maintain 18-24 months of fuel supply on-site, reducing vulnerability to supply chain disruptions.

6. *Do the draft actions provide clear guidance for decision makers?*

The draft actions would benefit from comprehensive guidance that evaluates all clean energy technologies using consistent criteria across multiple dimensions. Decision-makers need complete information about workforce development opportunities, environmental impacts, grid reliability contributions, and long-term economic benefits to make informed technology choices that best serve Oregon's energy goals.

Cross-Cutting Action 7's workforce development planning should incorporate nuclear industry career pathways, which offer distinct advantages including higher compensation levels, longer-term employment stability, and diverse educational entry points from universities to skilled trades. This comprehensive workforce analysis would help decision-makers understand how different clean energy sectors contribute to Oregon's economic development and employment objectives over multiple decades.

The actions should reflect current scientific consensus on achieving deep decarbonization. As mentioned above, the Intergovernmental Panel on Climate Change reports consistently identify nuclear power as essential alongside renewables for reaching net-zero emissions, providing decision-makers with authoritative guidance on technology portfolios needed to meet Oregon's climate commitments. This scientific framework becomes particularly important given the urgency of climate action and the scale of emissions reductions required.

Decision-makers also need guidance on evaluating technologies through comprehensive lifecycle assessments that include manufacturing, construction, operation, and end-of-life impacts. Such analysis would allow for proper comparison of nuclear energy's lifecycle carbon emissions against wind and solar when accounting for complete energy system requirements, including backup power needs. Similarly, clear guidance should address how different technologies contribute to grid resilience during extreme weather events, as analysis may reveal nuclear power's operational advantages during hurricanes, ice storms, and other severe weather that can disrupt renewable generation and natural gas supply chains.

Final suggestions and feedback

Oregon's energy strategy should embrace a technology-inclusive approach that recognizes nuclear power's unique contributions to grid reliability, economic development, and climate goals. The strategy's effectiveness would be enhanced by acknowledging that deep decarbonization requires multiple complementary technologies working together, with nuclear providing the firm, clean baseload power needed to support high renewable penetration while maintaining grid stability and affordability.

We recommend updating the strategy to include nuclear considerations across pathways, policies, and actions, ensuring Oregon considers all available clean energy solutions to meet its ambitious objectives.

As fossil fuel dependency increases despite our climate commitments, perspectives on nuclear energy are being reconsidered nationwide. Today's advanced nuclear technologies

can address challenges that didn't exist four decades ago when the nuclear moratorium was introduced, and offer an opportunity to rethink our approach to reliable, carbon-free power generation in a changing world.

Sincerely,

The Generation Atomic Team

Madison Schroder- Eugene, Oregon
Policy Coordinator
Generation Atomic

Oregon Energy Strategy

Public Comment

Greeley Wells, 9.19.2025

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advance clean, reliable, and affordable energy

To: Edith Bayer
Oregon Department of Energy
energy.strategy@energy.Oregon.gov

Re: **Comments on the Oregon Energy Strategy Draft Report**

My name is Helena Birecki. I now live in Portland, Oregon, but spent the first few years of my life in Richmond, California.

That matters because my first community has been– and is still being– ravaged by hydrogen production and fuel refining, and I know from friends and reporting in Rodeo and Martinez that the conversion to "renewable" diesel production hasn't mitigated the flaring and pollution issues.

I appreciate the Draft OES's goal of committing to seek the "least regrets solution" but would delete the two words – "wherever possible" – that follow. Otherwise, in whose "where" does it become permissible to impose extra regrets?

Beyond that, I largely agree with and encourage you to consider the in-depth joint organizational comment letter submitted by Green Energy Institute, OLCV, and other organizations.

I also would like to bring attention to a few additional important considerations, specifically on the low carbon fuels policies and actions. (A list of references follows my comments.)

I appreciate that the Draft EOS indicates that "low-carbon" fuels should be used only in the hardest to electrify uses. We are all in agreement that direct electrification is generally the most efficient, least energy intensive, and least costly option. Electrification also provides human and health-cost reducing benefits due to reductions in NOx, particulates, and other pollutants.

With that in mind, how can the Oregon Energy Strategy better foster direct electrification, reduce regrets, and promote strategies that reduce greenhouse gas pollution in the real world rather than just on paper?

Re Low Carbon Fuels Policy 4a and and Action 4a:

The state should **not** support the *expansion* of low carbon fuels for several reasons.

First, as "low carbon fuels" are scaled, their greenhouse gas intensity– as well as their negative impacts on food and energy affordability, water resources, and human health and justice– tends to increase. So-called low carbon fuels can actually exceed the real-world greenhouse gas impacts of their fossil fuel counterparts.

- Demand for virgin oils for "renewable diesel" and other biofuels is already leading to planet-warming deforestation through indirect land use change.
- Used cooking oil and other true waste products are extremely limited, and fraud is hard to identify.

- Cellulosic fuels – despite having more than a 100 year history of attempts– have failed to be produced at scale.
- “Low carbon” fuel incentives are leading livestock producers to switch to *more* methane intensive practices, and the majority of that methane is *not* captured by the anaerobic digester that produces biogas. *It is notable that feed additives that reduce methane emitted by cattle are being tested, and if they work effectively would be a better use of state incentives.
- Hydrogen production – whether via steam reformation, pyrolysis, or even electrolysis – is extremely energy intensive.

Current levels of biofuel production already depend on burning food and forests. Hydrogen production also has many upstream costs and unintended consequences that must be considered. The state of Oregon should not increase these.

Second, the federal government is already putting its thumb hard on the scale for the continuation of combustion fuels – both fossil and “renewable” – and stymying clean electricity and efficient electrification. The state of Oregon should **not** add fuel to the fire of that costly mistake.

Third, support from the state of Oregon for building additional infrastructure for polluting “renewable” fuels – and yes, whether you burn “renewable” diesel, “renewable” natural gas, or hydrogen, it pollutes– does nothing to reduce the production of fossil combustion fuels. Instead, it creates an incentive for companies to advertise and lobby to increase consumption of both types of fuel.

Instead of focusing additional resources on supporting “low carbon” combustion fuels, the state of Oregon should direct those resources to additionally support clean electrification: electricity production, grid improvements, energy efficiency, and infrastructure for and access to efficient electrification.

Re Low Carbon Fuels Action 2

First, I agree with the comments top-lined by Green Energy Institute, OLCV, and others that developing a low-carbon fuels roadmap for low-carbon fuel policy is unnecessary because regulatory support for low-carbon fuels currently, such as the Clean Fuels Program and the Climate Protection Program, already exists.

Second, Oregon should explicitly divorce itself from “national frameworks for low-carbon fuels in transportation and in commercial and industrial sectors” due to the 2025 US Budget bill (HR1, section 70521) prohibition on counting indirect land use change in carbon intensity calculations. Additionally, it’s essential that Oregon investigate fully and discount any spurious carbon sequestration claims.

Re Low Carbon Fuels Action 3

Emergency preparedness is an extremely important thing for the state of Oregon to work on and provide help in. I generally agree with Action 3 with the caveat that the explosion and fire dangers of combustion fuels in emergencies - especially in rural areas - should be kept at top of mind. When and where can solar panels, increasingly safe battery storage, and other evolving energy storage systems replace some or all of the combustion fuels?

To summarize: The combustion fuel companies will keep trying to press their single-use product on us either way. We agree that electrification is the most efficient and lowest cost alternative. Therefore: Direct state funds away from combustion and towards clean electrification to generate the most "bang for the buck" and help Oregonians have cleaner air, healthier residents, and contribute less to the climate crisis.

Thank you for considering my comments,
Helena Birecki
NW Portland, OR resident

References:

Hospital, health, and community burden after oil refinery fires, Richmond, California 2007 and 2012
https://pmc.ncbi.nlm.nih.gov/articles/PMC6524223/

What to know about flaring at the Chevron refinery?
https://richmondside.org/2024/10/07/chevron-richmond-refinery-flaring-explainer-faq/

Federal Agency Probes Marathon's Martinez Refinery After Two Large Fires Last Month
https://www.kqed.org/news/11968786/recent-fires-at-marathons-martinez-refinery-spark-major-safety-concerns# *Both fires, one of which sent a worker to the ER with life-threatening burns, happened after the refinery converted to renewable diesel production*

Flaring event at Phillips 66 refinery in Rodeo sends out heavy smoke (KPIX/CBS News Bay Area)
https://www.youtube.com/watch?v=Xx7524oUUfg *This flaring event occurred two years after renewable diesel production started at the facility.*

How a Texas refinery turns Amazon-destroying cattle into green jet fuel, Reuters, 9/16/2025
https://www.reuters.com/sustainability/climate-energy/how-texas-refinery-turns-amazon-destroying-cattle-into-green-jet-fuel-2025-09-16/

Re Renewable Diesel: Testimony submitted to OLIS by Richard Plevin, PHD and contributor to the IPCC's Fifth Assessment Report's chapters on transportation and bioenergy,
https://olis.oregonlegislature.gov/liz/2023R1/Downloads/PublicTestimonyDocument/58604

Re Hydrogen: Report submitted to OLIS by CRP Portland Chapter, OPSR, GEI, and Beyond Toxics
https://olis.oregonlegislature.gov/liz/2025R1/Downloads/PublicTestimonyDocument/125711

Re Hydrogen: Report submitted to OLIS by Arjun Makhijani, Institute for energy and Environmental Research https://olis.oregonlegislature.gov/liz/2025R1/Downloads/PublicTestimonyDocument/123661

New report by Cerulogy and Rainforest Foundation Norway: Nordic alternative fuel policies should do more to eliminate deforestation risks, May 2025 https://www.regnskog.no/en/news/new-report-nordic-alternative-fuel-policies-should-do-more-to-eliminate-deforestation-risks *"The Nordic countries in this study have made progress to address deforestation-risks from biofuels by reducing palm oil use in biofuels, and avoiding reliance on soybean oil. However, other feedstocks such as rapeseed oil, palm fatty acid distillate (PFAD), used cooking oil, and animal fats can still contribute to deforestation. Their use in biofuels creates demand for substitute oils, indirectly driving further land conversion." (bolding added)*

Re most livestock emissions being non-capturable, source: the Breakthrough Institute https://thebreakthrough.org/issues/food-agriculture-environment/livestock-dont-contribute-14-5-of-global-greenhouse-gas-emissions *"over 90% of enteric methane from cattle is emitted through burping. It is the largest source of livestock emissions." Burps are not "captured" by methane digesters. Methane digesters only partially capture methane from manure.*
Re history of cellulosic fuels: https://en.wikipedia.org/wiki/Cellulosic_ethanol

Evidence of dairies switching to more methane intensive methods: https://farmstand.org/wp-content/uploads/2024/10/Blumm-v.-Northwest-Natural-File-Copy.pdf "*Some dairies using wet manure management systems have abandoned practices that reduce methane emissions from wet manure—such as separating solids from liquids before sending the waste to the digester—to increase methane production from the waste."*

Searchinger, Kammen, and O'Hare on accounting for greenhouse gas costs of using land in the LCAs of biofuels https://drive.google.com/file/d/1vdZeG5-MHcP3DZn4cI3L_MT28-ZqOzFM/view

ICCT report The case for a lipids cap in California's low carbon fuel standard, May 2024 https://theicct.org/the-case-for-a-lipids-cap-in-californias-low-carbon-fuel-standard-may24/ *"The high value of UCO strengthens demand,... fraud is possible because vegetable oil can be tampered with to appear to be UCO, and the biofuels produced from waste oils and virgin vegetable oils are chemically the same."*

ICCT report "Waste, Residue and By-Product Definitions for the California Low Carbon Fuel Standard" https://theicct.org/wp-content/uploads/2021/06/ICF_LCFS_Biofuel_Categorization_Final_Report_011816-1.pdf , *pgs 3- 4 are of particular interest for a summary of how and when emissions are likely displaced by renewable fuels to other industries, rather than reduced*

Avoiding Bioenergy Competition for Food Crops and Land (World Resources Institute) https://files.wri.org/d8/s3fs-public/avoiding_bioenergy_competition_food_crops_land.pdf *Meeting just half of transportation demand with biofuels would require displacing all of the worlds' food crops (pg 10). It is worth noting that producing energy with solar power (PV) is far more efficient than biofuels, on a per acre basis: Solar requires 30 - 100 times less land (pg 4), and may even beneficially share space with food cropland.*

ICCT report "Animal, Vegetable, or Mineral (oil)?" https://theicct.org/wp-content/uploads/2022/01/impact-renewable-diesel-us-jan22.pdf *because vegetable oils are largely substitutable commodities on the world market, diverting soy, canola, or other oils from the*

human food supply could lead to rainforest deforestation (pg 35), and the associated loss of stored carbon, biodiversity, and environmental justice harms to Indigenous communities.

The rise and fall of cellulosic biofuels lessons from US & Brazil's Struggles and Successes, U. of Illinois https://gfrc.uic.edu/the-government-finance-research-blog/the-rise-fall-of-cellulosic-biofuels-lessons-from-u-s-brazils-struggles-and-successes/ *"In parallel, on February 28, 2007, DOE announced the investment of $385 million into six small-scale biorefinery projects, all aimed at making cellulosic biofuels cost competitive with gasoline by 2012. As of 2024, these plants have all either been shut down, auctioned off, or never built."*

2025 US Budget bill: https://www.congress.gov/bill/119th-congress/house-bill/1 *see: section 70521*

References which each address a distinct risk of carbon capture and sequestration:

- Public safety dangers: https://pstrust.org/carbon-dioxide-pipelines/

- Increased energy demand: https://climate.mit.edu/ask-mit/if-fossil-fuel-power-plant-uses-carbon-capture-and-storage-what-percent-energy-it-makes ; and https://cleanenergyreview.io/p/carbon-capture-is-an-energy-problem *"Current leaders like Climeworks and Heirloom estimate they need ~2-3 megawatt-hours of energy to remove and compress a single tonne of CO_2 for storage."*

- Costs 9 - 12 times higher than investing in renewable energy https://environmentamerica.org/center/updates/new-study-finds-carbon-capture-ineffective-and-costly-compared-to-investing-in-renewable-energy/

- Expensive and dangerous carbon capture facility failures https://thebulletin.org/2022/09/plagued-by-failures-carbon-capture-is-no-climate-solution/

September 22, 2025

RE: Comments on Draft Oregon Energy Strategy

Dear Oregon Department of Energy,

Thank you for the opportunity to provide comments on the draft Oregon Energy Strategy. We commend the Department for its hard work to establish a framework for a clean energy future that is equitable and supports economic growth in this state. The Ironworkers Local 29 represent more than 1,600 journey workers, registered apprentices, and retirees across Oregon and Southwest Washington. Represents. Our mission is to lift up community though family wage careers that allow our members to live where they work.

The Ironworkers Local 29 comments to advocate for stronger acknowledgement of the role that nuclear energy can play in achieving that long-term vision, and to offer several specific improvements related to nuclear that we believe will significantly strengthen the final Oregon Energy Strategy.

Through imports from the Columbia Generating Station in Washington, nuclear currently makes up 3.2 percent of Oregon's current electricity consumption, contributing more than solar (2.8 percent), biomass (0.6 percent), geothermal (0.1 percent) or biogas (0.02 percent), based on the Oregon Department of Energy's 2024 Biennial Energy Report.[1] Nuclear is also a significant source of non-emitting electricity, and increased nuclear energy generation worldwide has consistently been identified by the Intergovernmental Panel on Climate Change as essential for achieving decarbonization.

Nuclear energy's current and potential future role in Oregon's energy mix is significant, but is not acknowledged in the draft Oregon Energy Strategy ("the Strategy"). Indeed, while the draft Strategy's introduction rightly identifies that Oregon "benefits from clean sources of energy," the draft entirely omits the existing contributions of nuclear to Oregon's energy mix, and only mentions nuclear in reference to small modular nuclear reactors as an emerging technology.

We suggest that the final Strategy include an explicit reference in the Clean Electricity Pathway to nuclear as a clean, firm complement to variable renewables and storage. The Clean Electricity Pathway should also include a discussion of the need for firm power to complement variable generation to support power quality and grid stability. As the draft Strategy recognizes, Oregon's total electricity needs are modelled to potentially more than double by 2050, requiring deployment of resources that can provide firm power in the long-term. Much of that load growth is anticipated to come from tech loads, which require reliable, firm power with consistent quality and high uptime to support artificial intelligence and data center operations.

[1] https://www.oregon.gov/energy/Data-and-Reports/Documents/2024-BER-EBTN.pdf

Furthermore, with a grid that is increasingly reliant on decentralized variable power sources like rooftop solar and virtual power plants, the value of firm power increases. Firm power generation sources, like advanced nuclear, can help to provide a reasonable reserve margin through all hours and weather events, and help maintain grid stability.[2] However, the current draft Strategy only references a potential need to deploy additional firm power in the long-term, without discussion of the benefits of firm power as a complement to renewables or the risks of not planning for or incorporating firm power as part of a diversified grid. The draft Strategy also does not discuss the impacts on the system of the loss of other firm power sources like coal due to Oregon's coal to clean policies or the impacts of reductions in hydroelectric generation due to drought conditions or other policy prerogatives.

Oregon's existing energy facility siting laws do not practicably allow siting nuclear facilities in this state, creating a significant barrier to considering any form of Oregon-based advanced nuclear as an option for meeting Oregon's energy and decarbonization goals. To better provide the direction needed to inform near and long-term decisions, we strongly suggest that, in the final Strategy, the following policies to deploy the pathways be updated to acknowledge Oregon's nuclear prohibitions as a barrier.[3]

We strongly support and commend the Department for including a recommendation for an emerging technologies assessment in the Oregon Energy Strategy, and thank the Department for identifying small modular nuclear reactors as an emerging technology worthy of study.

We recommend incorporating several enhancements to the proposed study, however, that we believe will enhance its utility:

- Include assessment of all advanced nuclear technologies, not just small modular reactors, to provide policy makers and stakeholders with a broader understanding of all forms of existing and emerging advanced nuclear technologies and their potential utility for Oregon;
- Include consideration of existing laws that present barriers to development of emerging technologies in Oregon and recommendations for addressing those barriers;
- Consider the jobs and economic development opportunity potential of the emerging technologies, existing workforce potential, and integration of current workforces available in Oregon to advance development of the emerging technologies in a manner that supports Oregon's energy policy objectives;
- Consider the effects of deploying the emerging technologies in Oregon on the need for additional transmission permitting and construction; and
- Ensure that the study incorporates Tribal engagement consistent with the Feedback and Themes outlined in the draft Strategy.

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[2] U.S. Department of energy, Pathways to Commercial Liftoff: Advanced Nuclear, September 2024, at 14, 15, https://liftoff.energy.gov/wp-content/uploads/2024/09/LIFTOFF_DOE_AdvNuclear-vX6.pdf.

[3] *See* ORS 469.590, 469.593, 469.594, 469.595, 469.597, 469.599 and 469.601.

Nuclear energy technology has also changed. Advanced nuclear reactor designs offer enhanced passive safety systems that automatically shut down without operator intervention or external power, reduced waste production through improved fuel efficiency, and modular construction techniques that could reduce construction time and cost.

In light of changing circumstances and perspectives, many states are rolling back the nuclear energy restrictions of the past. Out of the sixteen states that passed restrictions on nuclear energy in earlier decades, only nine continue to completely prohibit new facilities in their borders.[4] We acknowledge that the Department's efforts thus far in preparing the strategy have "aimed to support consistency and compliance with existing law."[5] However, without any near-term action to identify a realistic pathway to permitting nuclear facilities in Oregon, this state risks missing critical opportunities for resource planning, investment and future development of nuclear facilities in this state. Such missed opportunities could have significant negative impacts not just for resource adequacy and reliability, but for economic development in our state as the significant infrastructure investments and high-wage union jobs, skilled workforce needed to support advanced nuclear is attracted elsewhere. While compliance with existing laws is laudable, it also must be acknowledged that sometimes existing laws can stand in the way to achieving broader policy goals.

We hope that the Department will include a separate, new, Clean Electricity Action recommending that the Legislature revisit Oregon's nuclear energy generation-specific siting prohibitions, in order to create a pathway to advanced nuclear permitting in Oregon that better reflects the nuclear generation technologies of today, and that reflects nuclear power's potential contribution to Oregon's clean, reliable and affordable energy future alongside other technologies. To fully achieve the Energy Strategy's goals of adequately reflecting the direction needed to advance Oregon's energy policy objectives, a more explicit consideration of nuclear energy generation is needed. We urge the Department to strengthen the final Strategy by directly acknowledging advanced nuclear as a clean generation source, and by directly addressing the impacts of Oregon's current nuclear energy siting laws as a barrier to realizing a clean, reliable and affordable energy future for our state.

Thank you for the opportunity to provide comments.

Sincerely,

Jason Fussell
Business Manager
Ironworkers Local 29

[4] U.S. DOE, What is a Nuclear Moratorium?, https://www.energy.gov/ne/articles/what-nuclear-moratorium.
[5] OES at 5.

Oregon Energy Strategy

Public Comment

James Miller, 9.7.2025

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https://www.idahostatesman.com/opinion/readers-opinion/article311955601.html

GUEST OPINIONS Drill, baby, drill. But Idaho should do it for geothermal power | Opinion By Don Kemper September 5, 2025 4:00 AM

Read more at: https://www.idahostatesman.com/opinion/readers-opinion/article311955601.html#storylink=cpy

As a climate activist, my hope lies with Mother Nature herself. Beneath our feet is a nearly limitless energy source — heat from the Earth's core. Instead of burning oil, gas and coal, we can tap this power. By the end of 2026, the path forward should be much clearer. Next year, Utah's Cape Station Geothermal Power Plant will flip the switch on its first 100 megawatts of clean electricity. Ultimately, it's permitted for two full gigawatts of power — the same capacity as the Jim Bridger coal-and-gas plant in Utah. But here's the difference: Jim Bridger, partly owned by Idaho Power, spewed out 11 million metric tons of pollution in 2022 — twice that of all the cars and trucks in Idaho.

It also gulped down 30 million gallons of water a day from the drought-stricken Green River, the main tributary of the Colorado. That means coal smoke in the sky, dry riverbeds on the ground and water restrictions for millions downstream. Cape Station, on the other hand, will generate power with virtually no CO_2 emissions and very little water use. That's a revolution hiding in plain sight. Others are seeing this promise firsthand. As one Citizens' Climate Lobby volunteer put it after visiting the Fervo geothermal site in southwestern Utah: "Our Fervo guide demonstrated the incredible potential and cost-effectiveness of this underutilized renewable resource. To see firsthand the development of a reliable energy source — and its future contribution to meeting America's growing electricity demand — was to glimpse the promise of this underappreciated resource." Here's how the technology works. Water is pumped deep underground, where it strikes rock heated to 430°F. Superheated steam then rises through separate wells to spin turbines. The drilling is no deeper than what's already routine for oil and gas, using equipment already available worldwide. The result? Always-on, "firm" clean power — unlike wind or solar, which depend on weather. At Cape Station, this steady geothermal supply will be paired with wind and solar above ground, creating a powerful mix of reliability and affordability. And because the water is recycled in a closed loop, the process is nearly self-

sustaining. Meanwhile, the news on our changing climate is brutal. Stronger hurricanes. Wildfire smoke is choking our summers. Crops lost to drought. Grocery bills climbing. Outdoor life is disrupted by relentless heat waves. And for every hard-won climate step forward, our government seems to take two climate steps back. But here's the hopeful twist: enhanced geothermal could be a win for everyone. Oil and gas companies already own the drilling rigs. The federal government controls much of the land overlying the hot rock. And Cape Station will soon prove the economics. Combined with wind and solar, the plant's cost for firm power should be competitive with gas and coal. The kicker? Earth holds enough geothermal energy to power humanity for the next 17 billion years. Considering the sun only has about 5 billion years left, we're set. So the next time you feel despair about fossil fuels choking our climate, remember: the solution is literally right under our feet. My rallying cry to Sens. Mike Crapo and Jim Risch and Reps. Russ Fulcher and Mike Simpson is: "Drill baby drill — for geothermal!" Don Kemper, the long-retired founder of Healthwise, now volunteers with the Boise Chapter of Citizens Climate Lobby.

Read more at: https://www.idahostatesman.com/opinion/readers-opinion/article311955601.html#storylink=cpy

Oregon Energy Strategy

Public Comment

James Miller, 8.8.2025

There is enough clean renewable geothermal energy in the Newberry Crater to power the entire State of Oregon for nearly one thousand years . Federal Offshore wind leases have been rescinded as have federal subsidies for wind and solar. Nuclear is off the table until a permanent national repository for high-level nuclear waste is established by the federal government. If you want to meet our states demand for current and future clean energy, you will need Newberry.

Oregon Energy Strategy

Public Comment

Jeff Hagedorn, 8.16.2025

Build nuclear plants true clean energy!!! Dump all equity and justice rules.

Oregon Energy Strategy

Public Comment

Jim Edelson, 9.22.2025

PATHWAYS (pgs 62-63): Our review of the Pathways and technical analysis documents found that though the emissions from reduced fossil gas is accounted for in the air emissions module, there is no accounting for the emissions from "wood" or "wood pellets". Our upcoming study to be published by ASHRAE ub February, 2026 "Public health Impacts of Woody Biomass Combustion to Comply with Building Performance Standards" reinforces the findings of the attached study "Salimifard, et al: Climate policy impacts on building energy use, emissions, and health: New York City local law 97". Our results (attached) show the magnitude of health cost savings per COBRA analysis from wood and wood pellets (which we term "biomass" below) far exceed the health impacts from power plants or onsite natural gas combustion. And on page 63 of the draft Strategy, please revise the bullet below to ensure that any "detailed analysis" does account for analyzing the health impacts of wood and wood pellet combustion in coordination with DEQ, and also does not treat woody biomass as a "zero CO2e" fuel source. This is reinforced as rules for the Building Performance Standards referenced in the same section make the same mistake as was made by LL97 in New York City by encouraging wood combustion as a zero CO2e fuel, despite its enormous health impacts.

"The state lacks an electrification strategy for buildings – particularly residential buildings. A detailed analysis is needed to guide a reliable, affordable, and largely electric trajectory, and to identify least-cost strategies to realize the shift from fossil fuel to clean infrastructure." pg. 63

Action 7 on page 68 surprisingly omits any action to modify the Commercial Code "to require progress on energy efficiency and decarbonization requirements for new buildings". There are as many or more opportunities in new commercial construction as in residential construction to contribute to decarbonization of Oregon's building sector.

In addition, both residential and commercial buildings can make significant contributions to the flexibility of Oregon's electric grid with demand response controls, onsite generation, and battery storage that should be required by energy codes. The Strategy should recommend that the Legislature clarify existing ORS statutes that all of these load flexibility strategies can be included in the energy code to help get the lowest cost electricity delivery system for ratepayers.

Fuel Actions 2 (pg 78) I fully support the development of a Low-carbon Fuels Roadmap to identify feedstocks and measure environmental justice impacts in Oregon. However, the investigation of feedstocks" omits any analysis of the CO2e and health impacts of woody

biomass, which is essential to complement the analysis of "which gaseous and liquid fuels make the most economic sense for Oregon to produce to meet demand." The strategy should include recommendations to work with DEQ, ODFW, OSU and the Nature Conservancy to identify which biomass and biomass waste resources actually contribute to lowering GHG emissions, and over what GWP timeframe, when combusted for power generation of for heat in buildings. In addition, the analysis should also include the PM2.5 health impacts of relying on wood combustion in buildings for heating purposes. These wood combustion health costs far exceed those costs reductions from reduced natural gas or power plant combustion. Attached to this comment are the results of three case studies on health cost impacts of biomass (which only included woody biomass in the study) from our upcoming "Public health Impacts of Woody Biomass Combustion to Comply with Building Performance Standards ". (Note, these are the same results also referenced in one of my previous comments)

Oregon Energy Strategy

Public Comment

Joanne Bigman, 8.25.2025

The "draft pathways to guide Oregon" are useless. They read like a flowery guide to impractical and odd methods of unlimited power with no impacts.

We need NUCLEAR power. Site the reactors in Portland area for safety.

Oregon Energy Strategy

Public Comment

John Charles, 9.22.2025

Please design an actionable pathway to meet the state's 100% clean energy goals, keep false The draft strategy should explicitly recommend that the legislature remove all legal barriers to the commercial production of nuclear power in Oregon. Electricity demand will rise substantially in the coming decades, and Oregon will need the emissions-free, baseload generation that nuclear provides.

The legislature should also consider the implications of the fact that Oregon's electricity consumption from 2012 through 2022 became more carbon intensive, not less - as documented by ODOE. Thus, the so-called "energy transition" is not happening, and is not likely to happen despite the passage of numerous laws to the contrary. The emissions-free, dispatchable generation that utilities need is dependent on technologies not yet available.

Thus, the legislature should consider amendments to HB 2021 that recognize reality.

One of those amendments should be a repeal of RPS requirements, which were made obsolete with the passage of HB 2021. Stockpiling RECs cost ratepayers real money but provide no social benefits. If the legislature is serious about minimizing rate increases in the future, the RPS mandate should be eliminated.

The legislature should also acknowledge that all efforts to reduce VMT over the past 40 years have failed, so any further consideration of this as a strategy should be abandoned. The legislature should direct LCDC to repeal its Climate Friendly and Equitable Communities regulation.

The low-carbon fuels strategy should also be abandoned. Oregon imports most of its biofuels, and the production of these fuels imposes negative externalities on other states. DEQ's CFS is already imposing costs on motorists with no benefits, and those costs will rise substantially over time. It's politically untenable to impose new gas taxes and road user charge on motorists for the maintenance of roads while also creating a hidden tax on those same drivers through the CFS. The legislature should repeal the CFS as soon as possible.

Oregon Energy Strategy

Public Comment

John Livingston, 8.30.2025

I am afraid Oregon is slipping n its energy and climate change policy. Please make a definite commitment.

Oregon Energy Strategy

Public Comment

John Seng, Spark NW, 9.8.2025

Pathways:

1. Yes!

Policies:

2. I can speak most readily to the following:

Energy efficiency policy 1a.

appreciate the emphasis on alleviating energy burden

would be great to include notes on the next-gen portable heat pumps (i.e. Gradient/Midea) being used by NYSERDA and others to cut energy bills while raising efficiency: see ACEEE's report, "New Heat Pump Type Is Lowest-Cost Decarbonization Option for Big Apartment Buildings":

https://www.aceee.org/press-release/2025/07/study-new-heat-pump-type-lowest-cost-decarbonization-option-big-apartment#:~:text=Large%20multifamily%20buildings%20with%20central,degrees%20Fahrenheit%20without%20backup%20heating.

Electrification policy 2c.

one very small thing that's missing is heat pump clothes dryers

really appreciate the realistic framing of heat pumps (generate energy, but not always financial savings)--I think sometimes I see folks pushing them as a guaranteed cost-saving measure and I want to make sure we're being honest with this stuff so that our policies are designed to overcome cost barriers

perhaps call for a statewide study (if there isn't one already) of residential energy costs as we transition off of gas

Clean electricity policy 3b.

recommend adding residential battery storage - Washington state is trying to incentivize currently - FWIW our legislators outside the energy committee got confused by the term “virtual power plant,” so champions are now sticking to the term “residential batteries”

Equity and justice framework

3. I like all the content, I do think it gets a little dense for decision makers. The four pillars/five steps/six-part framework table are all great, but there’s a decent amount of overlap, and the way they’re presented took me some time to digest. Could you condense all of it into one basic tool? I think policymakers might be more likely to use it if it were more streamlined.

September 22, 2025

Ms. Edith Bayer
Energy Policy Team Lead
Oregon Department of Energy
550 Capitol Street NE, 1st Floor
Salem, OR 97301

RE: Public Power Comments on Draft ODOE Energy Strategy

Dear Ms. Bayer:

The Oregon Rural Electric Cooperative Association (ORECA), Oregon People's Utility District Association (OPUDA), and the Oregon Municipal Electric Utilities Association (OMEU) represent the state's thirty-six not-for-profit consumer-owned electric utilities (COUs), whose governing boards are democratically elected. We serve roughly one million customers throughout the state and, in fact, are the geographic majority of Oregon. We provide power at cost for the benefit of our customers. Affordability, reliability, local control, and support for clean renewable hydro as our primary source for electricity are foundational elements of public power in Oregon and throughout the region. The Public Power Council (PPC) represents COUs in Oregon and throughout the Pacific Northwest.

We collectively submit these written comments on ODOE's recently released draft of the Oregon Energy Strategy.

<u>Oregon Consumer-Owned Utility Key Areas of Focus</u>

The State Energy Strategy must include:

1. Acknowledgement of the critical role that existing hydropower plays in ensuring grid reliability and affordability while also achieving clean energy goals.
2. Realization that with energy demand increasing upwards of 30% in the next decade, additional firm, dispatchable generation resources are mandatory to continue operating a reliable, affordable electricity grid—especially during system peaks.
3. Stronger recommendations to allow the development of Small Modular Reactors (SMRs) in Oregon where they make sense.
4. Prioritized recommendations and a commitment to ensuring any future ODOE work for strategy updates, surveys, studies, and reports are not funded by the Energy Supplier Assessment (ESA), which must be passed on to utility customers.

5. Recommendations reflecting the critical role energy plays in making Oregon an affordable and attractive place to live and do business.

Process

Oregon's COUs had only two seats on the Energy Strategy Advisory Group, despite serving the geographic majority of Oregon.[1] We were diligent in submitting comments at appropriate times and providing verbal feedback during Advisory Group meetings and throughout the strategy development process. Unfortunately, our concerns and suggestions have been largely ignored. Several of the comments below reflect previous joint comments submitted earlier this year.

Hydropower

Of all the feedback we have provided that has been omitted, most egregious has been our continual insistence that the State more strongly acknowledge that hydropower plays a vital role in electrifying the geographic majority of Oregon – including rural, low-income, Tribal, and underserved communities. In fact, rather than acknowledge this, the State of Oregon is doubling down and again filing suit to reopen longstanding litigation aimed at eliminating, or significantly curtailing, key portions of the Federal Columbia River Power System (FCRPS). This action risks the reliability and affordability of Oregon's electric grid and represents a total affront to the roughly one million Oregonians served by COUs.

While it is outside the scope of the energy strategy to delve into salmon and wildlife concerns, it is important to recognize that our hydropower system and fish can and do successfully co-exist. Bonneville ratepayers have funded state-of-the-art fish passage technology on the Lower Snake River dams. At Lower Granite Dam, average salmon and steelhead returns have more than quadrupled over the past 15 years compared to the dam's first year of operation (1975).[2](Lower Granite is the most upstream of the federal dams on the Lower Snake River.)

The State will never reach its clean energy goals without the dispatchable, base-load electricity from the FCRPS. Generation resources like solar and wind are useless if they are not supported by baseload generation like that provided by the dams of the FCRPS.

There is a passing reference in the strategy that one-third of Oregon's energy is provided by hydropower. However, there is no context to explain the significance of the FCRPS in comparison to the amount of power provided by intermittent renewables like wind and solar. Nor is there an explanation that for COUs, over 90% of our energy is provided by hydropower.

[1] See attached BPA map.

[2] According to fish counts compiled by the University of Washington's Data Access in Real Time (DART)

Significantly, the modeling for the Strategy assumes the future existence of all of the federal hydroelectric dams on the Columbia and Snake Rivers – a de facto admission that **without those hydroelectric dams, the strategy is unachievable** – even as the state actively litigates to dramatically reduce the hydroelectric benefits of those same dams. Legislators receiving the draft strategy need to understand these assumptions are at odds with the State of Oregon's efforts to breach the Lower Snake River dams—which is never mentioned.

Pathways

The draft Strategy outlines five pathways that readers are advised are not independent areas of activity, but interrelated components of a cohesive strategy. Those pathways provided guidance to ODOE as it developed policy recommendations. Oregon's COUs find the pathways to be lacking two important components:

> **Reliability:** Given its central importance, reliability must be its own pathway rather than a concept that merely is "supported" by other pathways. As increasing electricity demand threatens to outpace the development of new generation, severe droughts and winter storms become more common, and wildfire continues to ravage the state, the reliability of the electric grid has never been more at risk. The strategy must include policy recommendations that pave the way for new generation resources – like SMRs – to be developed to ensure Oregonians' electricity needs are being met.
>
> As noted in previous comments, reliability must be our paramount concern. This requires baseload generation. To avoid blackouts, the State of California has developed a "Strategic Reliability Reserve," consisting of three separate programs meant to serve as an insurance policy safeguarding the electric grid during extreme weather events driven by climate change (e.g. – heat events, wildfires). While this reserve system includes some diesel and natural gas generation to meet short-term emergency needs, it is also "hydrogen ready." The Oregon draft strategy lacks any meaningful discussion about reliability as we work to meet our clean energy future and could benefit from a similar approach. The California approach acknowledges imminent threats to reliability by supporting emergency generation but also provides a glide path to a cleaner future for these resources. Our neighbor has already realized that they cannot sacrifice reliability in pursuit of clean energy ambitions and have taken steps to address both goals in the near and longer term - Oregon must do the same.
>
> **Clean Electricity:** While the draft strategy incorporates a Clean Electricity pathway, this pathway fails to clearly articulate the critical role that existing hydropower resources play in Oregon meeting our clean energy goals. The pathway points to rooftop solar, microgrids, demand flexibility, batteries, and even water heaters as core to the

strategy's clean energy goals. Even when considered cumulatively, these renewable resources are miniscule compared to hydropower. Additionally, many would not be consistently viable without the existing clean energy provided by the FCRPS. Accordingly, the first sentence in the Clean Electricity pathway needs to be advocating for the preservation of existing federal hydropower resources.

Policy Recommendations

The draft strategy recommends several policy actions for consideration by the Oregon Legislative Assembly. Broadly speaking, we appreciate ODOE acknowledging that we can no longer ignore technologies like SMRs if we expect to meet the growing demand for electricity while reducing our overall carbon emissions. However, the lack of robust support for existing hydropower is unacceptable, and we believe the strategy is overly prescriptive and aggressive in inserting state agencies into critical utility decision-making around grid design and operation, and energy efficiency rebates.

Given the most recent State Revenue Forecast and pressures on the General Fund, as well as alarm about increasing utility rates, we were very surprised to see so many recommendations that will rely on significantly more funding from either taxpayers or utility customers. While we appreciate the strategy is meant to be comprehensive, where additional funding will be necessary, ODOE should prioritize their top three proposals rather than simply providing a huge laundry list for the Governor and the Legislature. It would also be useful to have a sense of the relative cost of implementing each recommendation.

Building Actions 2, 3, and 4 and Cross-Cutting Action 2 – Energy Efficiency and Demand Response: These sections make various recommendations around the state's role, primarily through ODOE, in expanding energy efficiency programs and managing growing electricity demand, without robust coordination with Oregon's COUs. This is unfortunate considering our success in this arena and our institutional expertise in effectively deploying such programs. **For the 2024-2025 biennium alone, the Bonneville Power Administration (BPA) expects Oregon's COUs to provide roughly $23,000,000 in energy efficiency rebates to their customers**.

The inclusion of these policy recommendations also comes without clearly defined revenue sources – meaning they may fall on utilities to fund through the Energy Supplier Assessment (ESA). This is effectively a rate increase on our electric utility customers. Given policymakers' concerns about rising utility rates, the recommendations should include a caveat that they are not to be funded by the ESA, which is ultimately passed on to customers.

Additionally, the strategy should not be a vehicle by which ODOE replaces or duplicates energy efficiency programs that are already effectively administered.

Buildings Action 6 – Higher Administrative Costs for Energy Programs to Serve Environmental Justice Communities.

This recommendation may merit consideration, but more context is needed. There is no discussion of current limits on costs for the administration of grants and programs. A recommendation to raise the amount must have some justification and an evaluation of existing levels of reimbursement. Benchmarks with other states should also be considered.

As COUs our highest priority is ensuring we can serve the most low-income customers at the least cost. Generally, we try to keep our administrative overhead as low as possible in service of this goal.

Clean Electricity Action 1 – Transmission Authority: HB 2638, which did not pass out of committee during the 2025 Legislative Session, would have established a State Transmission Authority. ODOE did not take a position on that bill but is now making it a priority in the draft Energy Strategy despite acknowledging "risks of this approach include complicating an already complex process and using taxpayer dollars for projects that may not provide direct value statewide."

During the strategy working group process there were no meaningful conversations about key details or risks of an Oregon Transmission Authority, nor any discussions of concrete outcomes to be achieved. We agree that Oregon and the region need more transmission and there is no time to waste in developing it. However, the strategy lacks enough detail to support creation of a Transmission Authority. For example, what does "partial siting and permitting authority" refer to? Or the direction that the new authority would need "clear authority to undertake the necessary work to expedite transmission development . . ."? Some proponents have cited the need to grant the Transmission Authority the power of eminent domain. Is that embodied in these vague descriptions? Does the State Treasurer support the provision of state bonding for a Transmission Authority?

Without more details, we fear the Transmission Authority may just add bureaucracy and actually slow down development efforts. We'd like to see more focus on existing process bottlenecks. To that end, we are encouraged that the Bonneville Power Administration (BPA) is working to undertake needed reforms via the Grid Access Transformation (GAT) Project. GAT aims to speed up transmission builds by shifting to a

"first ready, first served" queue for transmission service rather than "first in, first out." Today, there are a number of speculative renewable developments clogging up the transmission service queue. GAT reforms, like requiring that a site be secured and scrutiny of project financing, are expected to shrink the queue from 65 GW to 10 GW. At a minimum, we encourage ODOE in any transmission-focused endeavor to coordinate closely with BPA's Transmission organization to maximize select and specific areas of opportunity, such as helping to fast-track permitting processes for projects BPA plans for its Oregon service territory.

The State of Oregon can and should work to streamline existing state and local permitting and public engagement requirements for siting renewable projects.

The draft report states that the work for the Transmission Authority would include "***…taking a hard look at transmission asset utilization practices and potential business reforms to maximize the efficient usage of the existing grid.***" What does this mean? What is it seeking to accomplish? Would the Transmission Authority seek to dictate how existing transmission – owned and operated either by BPA or by utilities – is to be used moving forward? Would the Transmission Authority seek to dictate business practices of existing transmission owners? Rather than stand up a new agency, the state should be informed by good-faith conversations with the industry to address state and local transmission siting. A focus on existing bottlenecks will avoid more ratepayer or taxpayer expense than creating a new quasi-state agency.

Clean Electricity Action 3 – Role of Nuclear Power: In April of this year, the Pacific Northwest Utilities Conference Committee (PNUCC) released their latest 10-year electricity demand forecast, which showed a 31,600 aMW increase in demand by 2035. This represents a 30% increase in demand over the coming decade. This means Oregon needs <u>more</u> electricity generating resources.

Oregon's COUs applaud ODOE's acknowledgement that the state must consider nuclear power as a vital resource in helping Oregon meet our clean energy goals. With substantially increasing demand for additional firm, base-load generation, we encourage the strategy to go one step further and recommend that lawmakers remove the ban on siting nuclear power in Oregon.

Clean Electricity Action 4 – Microgrid Development: This recommendation asks the legislature to commission a study on the development of microgrids without contemplating the role of utility coordination in deploying microgrids. Any consideration of microgrids – even if only in an agency-led study – must prioritize coordination with electric utilities to understand the complexities of interconnecting with the grid. How

will this study be paid for? Given state revenue concerns and recognizing that the Legislature just passed and funded House Bills 2064 and 2066, which provide significant new direction to the Oregon Public Utility Commission concerning microgrid development, we recommend removing any further study of microgrid development entirely until the impacts of HB 2064 and 2066 are better understood.

Cross-Cutting Action 1 – Data Centers: The draft Oregon Energy Strategy Cross-Cutting Action 1 would direct the DEQ to adopt rules imposing registration and reporting requirements on all new large electric loads. Oregon needs less regulation, not more.

In 2023, the legislature authorized the Oregon CHIPS Fund, which allocated up to $240 million in direct incentives meant to enhance the competitiveness of the state's semiconductor industry and maximize the opportunity of the federal CHIPS for America Act. This proposal does the opposite.

Given their strategic importance for national security, many states are competing to attract data centers by leveraging strong energy resources, a skilled workforce from state universities, and substantial private sector investment. The artificial intelligence (AI) boom and demand for data centers brings the large investments, infrastructure advancements, and economic growth that Oregon needs.

Oregon ranked #39 out of fifty states in CNBC's 2025 America's Top States for Business ranking. This was a significant drop from the previous year's 28th place. The decline is attributed to factors like high cost of living, an unfavorable business tax structure, and a deteriorating business climate. New large electric loads bring jobs to the economy. Adding new reporting requirements and policies will discourage businesses and decrease the competitiveness of high energy use businesses from siting their businesses in Oregon. This Cross-Cutting action takes Oregon in the wrong direction.

Cross-Cutting Action 6 – Coordination of Energy Providers: As the recommendation itself acknowledges, energy providers across the state are already engaged in emergency coordination and planning. Any enhanced coordination is best placed with the Oregon Public Utilities Commission, which manages state emergency support functions and has several existing forums for coordination between electric and gas utilities. The PUC has the necessary operational expertise and emergency responsibilities, not ODOE. It should be noted that several after-action meetings were convened following the 2024 winter storm. These were convened by both the PUC and the utility sector. We would be concerned with any recommendation to add reporting requirements for small utilities as part of this effort, particularly those that receive all their power from BPA. BPA is in the best position to provide necessary coordination

regarding resource adequacy. Again, we are not convinced that this recommendation is necessary. This work is already happening without ODOE telling us to do it. As utilities, planning for reliability and system resilience is a core obligation that we take very seriously.

Cross-Cutting Action 8 – Federal Advocacy: This recommendation deserves significantly more detail and explanation than it is given. What specific federal advocacy is contemplated? Is this advocacy directed at federal power supply (e.g., breach of the Lower Snake River dams) or transmission resources? Would it be directed at siting and permitting processes? This policy recommendation is less than half a page in length but could have significant ramifications. Any such advocacy should be informed by utilities who rely on federal agencies to source and deliver power. We recommend striking this recommendation entirely.

Cross-Cutting Action 9 – Coordination to Advance Consumer Education: We recommend striking this recommendation. While consumer education about incentives is important, this is a function that is already being effectively performed by local consumer-owned utilities and the Energy Trust of Oregon. In an era of declining state revenues and federal support for incentive programs, this recommendation is not supported by fiscal or political reality. In fact, the Legislature declined to support it during their most recent legislative session.

Conclusion

It has never been more critical that ODOE get these recommendations right. The challenges facing the energy industry are monumental, and unnecessary regulatory burdens and policy changes will only add to those burdens. While we see some positive developments in the strategy, we think more work is needed to develop policy recommendations that support the industry as we adapt to these challenges and at the state pursues ambitious clean energy goals.

Thank you for your consideration. We are all happy to elaborate on or discuss any of these suggestions.

Sincerely,

Scott Simms, CEO & Executive Director, Public Power Council ssimms@ppcpdx.org

Jennifer Joly, Director, Oregon Municipal Electric Utilities Association jenniferjoly@omeu.org

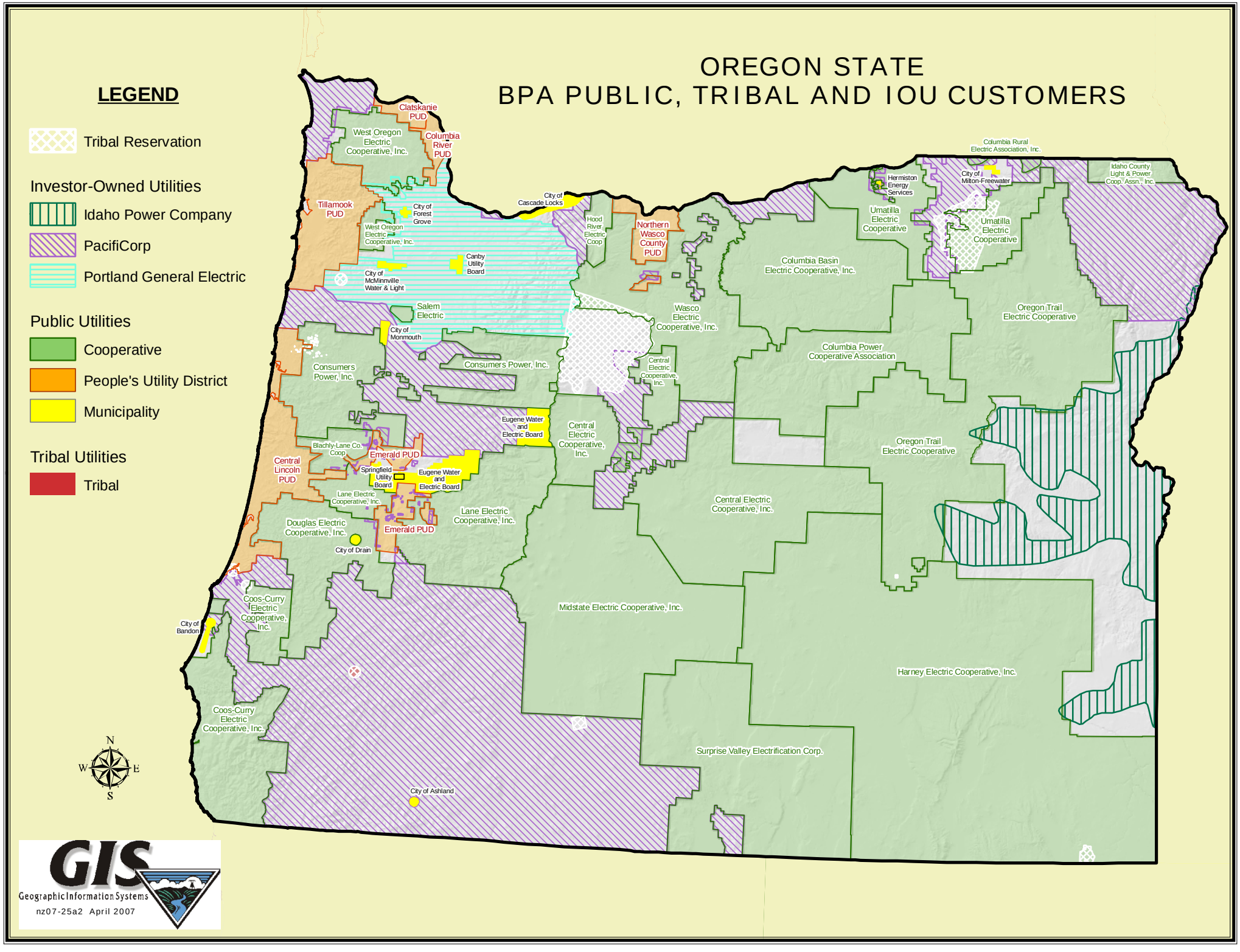
Danelle Romain, Co-Executive Director, Oregon People's Utility District Association dromain@RFlawlobby.com

Mike Freese, Co-Executive Director, Oregon People's Utility District Association mfreese@RFlawlobby.com

Ted Case, Executive Director, Oregon Rural Electric Cooperatives Association tcase@oreca.org

Tucker Billman, Director of Government Relations, Oregon Rural Electric Cooperatives Association tbillman@oreca.org

OREGON STATE
BPA PUBLIC, TRIBAL AND IOU CUSTOMERS



Attn: Oregon Department of Energy Director Janine Benner September 19, 2025

I am a proud Oregon homeowner and a volunteer environmental activist, and I appreciate contributing some reference material to the Oregon Energy Strategy project.

Before I read the Aug 14 2025 'OES Job Analysis Overview', and the Apr 24 2025 'Oregon State Energy Strategy/Policy Listening Session' – I knew I wanted to share the research done by Dr Julio Friedmann, Chief Scientist Carbon Direct.
My background with Dr Friedmann was from his November 2023 TEDTalk, and I now get an email alert when he drops new content on Substack.

I am worried that our American WORKFORCE will be hard to gather here in Oregon for the jobs needed to be filled. You can read the research that Dr. Friedmann has written about, plus I copied some job analysis here on page 2 for a comparable to Dr Friedmann.
See my next page for the information from '[bw] RESEARCH PARTNERSHIP' third party assessment/Oregon DOE from August 2025.

If you haven't heard of this social media - it's pretty much replaced our sources of news media and real time vetting of information. Substack is an e-newsletter platform that combines the best of blogging and social media in one constantly evolving space. Followers on Substack can see and interact with a creator's Notes on desktop, or within the Substack app. Subscribers on Substack can be free or paid. Free subscribers will have limited access to a creator's content, while paid subscribers receive exclusive content via email and within the Substack app.

The two (semi-recent) articles that has my referral articles (link) from Dr Friedmann on Substack are:

The Workforce Required | *The world is people doing things.*
Julio Friedmann | Substack | Mar 24, 2025
https://open.substack.com/pub/carbonwrangler/p/the-workforce-required?r=kxzps&utm_campaign=post&utm_medium=web&showWelcomeOnShare=false

…*"The energy transition is a team sport. ALL skills are needed. Everyone gets to work.*
Growing the pool of scientists and engineers (required) has received substantial attention. In contrast, critical trades such as electrician, specialty welder, mine worker, or pipefitter (also required) have received relatively little attention. Other necessary skills has received even less attention: regulators, communications experts, and investors. These require specific training and education on climate, energy, and international affairs to execute The Work faithfully and well. Many folks in these fields lack the technical ability, backgrounds in climate and energy overall or in subdisciplines (e.g., power sector, clean aviation, carbon management).
This leaves human capital gaps that are large and hard to fill on the job. We require people ready for the job.
So how are we doing, addressing these shortfalls? In this regard, we are hilariously, hopefully short."

…

The Hard Stuff I *The Hard Stuff is hard, but we ignore The Work involved at our peril.*
Julio Friedmann | Substack | Sep 25, 2024
https://open.substack.com/pub/carbonwrangler/p/the-hard-stuff?r=kxzps&utm_campaign=post&utm_medium=web&showWelcomeOnShare=false

…*" The Hard Stuff is hard. As such, it requires more attention, money, and focus. A good breakdown of the Hard Stuff manifests in this fine new report from McKinsey. They consider the global energy system as seven interconnected domains: electricity, mobility & transportation, industry and manufacturing, buildings, raw materials, clean fuels, and carbon & energy reduction (including CO2 removal) – a comprehensive framework. Detailed analysis reveals twenty-five (25) physical challenges. These can't be wished away or solved by rhetoric. Rather, these challenges require new infrastructure, operational systems, technologies, and business models. While some of the 25 challenges require scale-up of existing tech (e.g., adding renewables), half of them (12) require invention, sustained transformation, and radical improvements in performance."*

"From AI's energy demands to evolving carbon markets, the pattern is clear: timelines are tightening, expectations are rising, and scientific rigor is non-negotiable. Companies that act now, with transparency, technical confidence, and a strong climate foundation, will be positioned to lead in this next phase of decarbonization."

…

In closing, an entrepreneur's story with lots of 'Lesson's Learned' about hydrogen –
Tetris founder's family village is collapse-proof, remote offgrid-topia" on Kirsten Dirksen's YouTube
https://youtu.be/iz0iSxks-Dw?si=zl25kD_Ivgej-kII

'High in the hills of Hawaii's Big Island, Henk Rogers—best known for bringing Tetris to the world—is taking on a new kind of challenge: building a fully off-grid life. On his 32-acre ranch, he's growing his own food, producing his own energy, and working to protect Hawaii's future. Henk generates hydrogen fuel, stores excess power in high-capacity batteries, and serves as a model for clean, self-sufficient living. For Rogers, it's more than a passion project—it's a way to use his success to help build a better future for the generations that follow."

Thank You,

Kathaleen B Parker
September 19 2025
Parker.kathaleen@gmail.com

Oregon DOE third-party '[bw] RESEARCH PARTNERSHIP' assessment of workforce			
ENERGY SUPPLY	Distributed Solar, Utility Solar, Land-based Wind, Hydropower, Gas Generation, Nuclear, Other Fossil Generation, Geothermal, Biomass, Transmission, Distribution, and Storage – Batteries		
FUELS	Hydrogen, Biofuels, Natural Gas, Natural Gas Distribution, Other Fossil Fuels		
Energy Demand BUILDINGS	Residential and Commercial HVAC, Shell, Other		
Energy Demand TRANSPORTATION	Vehicle Maintenance, Vehicle Manufacturing, Wholesale Trade, Fueling Stations, Charging Stations		
EMPLOYMENT Modeling	The employment modeling finds that Oregon stands to gain jobs under all modeled scenarios	The jobs modeling shows us the future of demand for employment spurred by investments in Oregon's energy economy but does not address any current workforce limitations	Magnitude of new employment demand shown in these outputs illustrates the need for workforce planning to avoid labor shortages and bottlenecks in achieving the expansion of new electric generating potential and efficiency and electrification upgrades
(7-12% increase from 2024) in 2035	Between 9,200 – 16,500 additional jobs over		
(11-19% increase from 2024) in 2050	Between 15,400 – 26,200 additional jobs over		

Occupations with Highest Demand in 2035	
1	Electricians
2	Construction Laborers
3	Heating, Air Conditioning, and Refrigeration Mechanics and Installers
4	Construction Managers
5	First-Line Supervisors of Construction Trades and Extraction Workers
6	First-Line Supervisors of Mechanics, Installers, and Repairers
7	Operating Engineers and Other Construction Equipment Operators
8	General and Operations Managers
9	Helpers--Electricians
10	Plumbers, Pipefitters, and Steamfitters
11	Electrical Power-Line Installers and Repairers
12	Project Management Specialists
13	Services, and Travel
14	Sales Representatives of Services, Except Advertising, Insurance, Financial
15	Managers, All Other
16	Solar Photovoltaic Installers

Dear Director Benner,

My name is Ken Bonetti and I live in North Bend, Oregon. I am commenting today because I am concerned about our energy future. I come originally from the Front Range of Colorado where oil and gas fracking was touted as an economic boon, safe and clean (in contrast to coal). Sadly, the expansion of that industry has caused massive environmental damage to landscapes, air and water. Fracking is now the biggest source of air pollution on the Front Range. We had to leave because the pollution dozens of toxic chemicals and resulting ozone formation caused my wife to contract asthma with which be became quite ill. For several years she was confined indoors because activities as innocuous as a neighborhood walk resulted in severe asthmatic reactions. Since we moved to the Oregon coast, her asthma has gone into remission. Many others in that region are suffering from the impacts of fracking. Fracking was a false solution to our energy needs and came at the expense of public health and safety.

It is necessary to develop an energy strategy that

- Designs an actionable pathway to meet the state's 100% clean energy goals
- Keeps false solutions such as nuclear or bio-gas out of Oregon
- Defends against federal actions that move us farther away from achieving Oregon's climate goals and a just energy transition
- Prioritizes benefits to the general population over the profits of powerful economic actors and strives to preserve the integrity of our on- and off-shore natural environments.

Since moving to Oregon, we have seen several electrical rate increases as the costs of fossil fuel generation continues to rise. We have noted a continuous rise in the incidence of wildfires as a result of increasing climate instability, rising temperatures and increased drought. As I write this a large blob of anomalously warm water has formed offshore. Scientists warn that this climate warming effect is likely to have a serious negative impact on ocean wildlife. These are just a few examples I can list that demonstrate the need to quickly transition to clean renewable energy sources. I very much do not want to see Oregon go the way of Colorado did with high energy costs and a sullied environment.

Regarding the Energy Strategy draft: To make the energy transition successful Oregon must prioritize community involvement, including the tribal nations. Secondly, the state must go for the low-hanging fruit of energy efficiency in buildings and energy use. Improvements must be made in urban mass transportation, inter-city transit and bicycle and pedestrian-friendly pathways. Sole reliance on individual motor vehicle transportation has many other negative impacts on landscapes, congestion and public safety. Along with appropriate infrastructure, affordability for households and businesses is key to the transition. Renewable energy access must be made affordable across the board (currently we and many others are unable to afford home solar electric or electric vehicles. And most importantly, the resulting renewable infrastructure must be democratic. Energy production should be treated as a truly *public* utility. We don't want to be buying our sun, wind, tidal and geothermal power from large private for-profit entities that can raise rates or cut us off to secure or pad their bottom lines. Energy should be a public good, not a vehicle for private profit. Finally, this legislation should establish universal access to energy, including for transportation, as a *right*, not a privilege only for those who can afford it out of pocket.

Oregon will only be able to meet our state goal of 100% clean energy outlined in HB 2021 by rapidly increasing the amount of renewable energy being deployed in communities across our state. As Oregon takes action towards this transition, it is crucial that it is developed equitably, increasing the affordability, reliability and resilience of our energy systems. The draft

Energy Strategy shows that the greatest cost of this transition is inaction and delay. I urge ODOE to take swift and thoughtful action to implement the strategy in a way that benefits environmental justice communities.

Thank you for your consideration as you put together the final recommendations for the Oregon Energy Strategy.

Sincerely,
Ken Bonetti, North Bend, Oregon

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Regarding the Energy Strategy draft: To make the energy transition successful Oregon must prioritize community involvement, including the tribal nations. Secondly, the state must go for the low-hanging fruit of energy efficiency in buildings and energy use. Improvements must be made in urban mass transportation, inter-city transit and bicycle and pedestrian-friendly pathways. Sole reliance on individual motor vehicle transportation has many other negative impacts on landscapes, congestion and public safety. Along with appropriate infrastructure, affordability for households and businesses is key to the transition. Renewable energy access must be made affordable across the board (currently we and many others are unable to afford home solar electric or electric vehicles. And most importantly, the resulting renewable infrastructure must be democratic. Energy production should be treated as a truly *public* utility. We don't want to be buying our sun, wind, tidal and geothermal power from large private for-profit entities that can raise rates or cut us off to secure or pad their bottom lines. Energy should be a public good, not a vehicle for private profit. Finally, this legislation should establish universal access to energy, including for transportation, as a *right*, not a privilege only for those who can afford it out of pocket.

Oregon will only be able to meet our state goal of 100% clean energy outlined in HB 2021 by rapidly increasing the amount of renewable energy being deployed in communities across our state. As Oregon takes action towards this transition, it is crucial that it is developed equitably, increasing the affordability, reliability and resilience of our energy systems. The draft

Energy Strategy shows that the greatest cost of this transition is inaction and delay. I urge ODOE to take swift and thoughtful action to implement the strategy in a way that benefits environmental justice communities.

Thank you for your consideration as you put together the final recommendations for the Oregon Energy Strategy.

Sincerely,
Ken Bonetti, North Bend, Oregon

Oregon Energy Strategy

Public Comment

Leslie Lowe, 9.20.2025

Please design an actionable pathway to meet the state's 100% clean energy goals, keep false solutions out of Oregon and defend against harmful federal actions.

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Comments of the Low Impact Hydropower Institute on the Oregon Energy Strategy Draft Report

The Low Impact Hydropower Institute (LIHI) appreciates the opportunity to provide written comments on the Oregon Energy Strategy Report (Draft Report). The Draft Report provides a comprehensive discussion of the key pathways and policy actions needed to help Oregon pursue its ambitious energy goals. LIHI especially appreciates the robust process that helped inform the development of the Draft Report and its inclusion of an Equity and Environmental Justice Framework to guide decision-making and programmatic implementation. LIHI draws on its 25-year experience of advancing renewable energy development that concurrently helps nature and people thrive to outline the following recommendations to strengthen Oregon's Energy Strategy further:

- **Siting and Permitting Actions Should Include Strong Safeguards for Ecosystems, Communities, and Tribal Interests**
- **Oregon Renewable Energy Siting Assessment Tool Updates Could Draw from Existing Publicly-Available Tools to Improve Inclusion of Critical Data Layers**
- **Environmental Justice Considerations Should Reflect Community and Tribal Perspectives Throughout the Life of a Project**
- **Funding and Incentives Should be Made Available for Existing Projects, in Addition to New Projects, and Projects that Deliver Benefits for People and the Environment Should be Prioritized**

Background on the Low Impact Hydropower Institute

LIHI is a national 501(c)(3) organization that was established in 1999 with a mission to recognize and support hydropower that prioritizes environmental, recreational, historical, and cultural resource protection.[1] Since its inception, LIHI has served as a unique bridge between the environmental community and the hydropower industry to support projects that avoid or significantly reduce their socio-environmental impacts and that invest in river stewardship beyond regulatory compliance. In the United States, LIHI offers the *only* science-based Low Impact Certification Program for conventional hydropower projects, regardless of their size or regulatory status.

Hydropower has a pivotal role to play in accelerating the renewable energy transition and decarbonizing the grid. In Oregon, hydropower is a major source of renewable generation. Yet, hydropower operations can have serious impacts on river systems and the people, fish, and wildlife that depend on them. Recognizing the unique challenges and impacts of hydropower operations, several states—including Oregon—use LIHI Certification to verify hydropower facilities' responsible operational practices and to assess their eligibility for state RPS programs. Since 1999, LIHI has independently reviewed and certified over 300 hydropower facilities in 24 states and 101 rivers. This equates to over 16,000 Gigawatt-hours (GWh) of average annual generation, of which 2,400 GWh come from Oregon.

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LIHI's recommendations for strengthening the Draft Report draw from its 25-year experience of certifying conventional hydropower projects and, broadly, advancing clean energy goals while fostering environmental stewardship and community well-being.

Recommendations:

1. **Siting and Permitting Actions Should Include Strong Safeguards for Ecosystems, Communities, and Tribal Interests**

The Draft Report underscores the need to improve siting and permitting processes and outlines actions to advance the development of transmission lines and clean energy projects. The Draft Report recommends the establishment of a transmission entity to identify potential areas to build transmission lines, and the development of a study by the Oregon Department of Energy (ODOE) on barriers preventing the construction and interconnection of permitted projects, among several actions to advance project development. While important, these actions are insufficient to improve successful project outcomes and, more strongly, advance environmental justice.

Emerging research has demonstrated that even fully permitted projects are facing significant opposition due to their impacts on the ground. For example, recent papers on pumped storage hydropower development—including a project located in Oregon—find that even licensed projects have faced considerable opposition due to their impacts on land, water, local flora and fauna, Tribal rights and cultural wealth.[2] Recent research further highlights that new infrastructure projects may exacerbate historic harms, both social and ecological, and that building projects that minimize trade-offs will require addressing environmental concerns and community interests in project design.[3]

Given this context, the Draft Report's siting and permitting-related actions (e.g., Clean Electricity Actions 1 and 2) should incorporate the adoption of strong safeguards for ecosystems, communities and Tribal interests. While the Draft Report's Equity and Environmental Justice Framework seeks to guide decision-making to reduce disproportionate environmental and social impacts of energy infrastructure development and outlines some approaches and metrics, these need to be strengthened further to outline clear, outcome-oriented goals to prioritize ecosystems, communities and Tribal interests in new development. One example that could serve as a guide is LIHI's draft definition for Low Impact Pumped Storage Hydropower (LI-PSH).[4]

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LIHI's LI-PSH draft definition outlines specific, outcome-oriented goals and measurement standards for developing pumped storage hydropower projects. The LI-PSH definition was developed through a collaborative process where LIHI convened a multidisciplinary Advisory Group of about 60 subject matter experts with broad representation from across the pumped storage hydropower ecosystem, including representatives from Tribes, environmental NGOs, state and federal agencies, national laboratories and the U.S. Department of Energy, academia, and the PSH industry and development community. In 2024, the Advisory Group met bi-weekly to discuss PSH-related issues, learn from a diverse group of experts, and craft a draft definition of LI-PSH. The draft definition covers eleven impact areas as follows: engagement; socio-economics; cultural (including historic) resources; aquatic ecology; terrestrial ecology; water quality; water quantity and availability; geology and soils; air quality and noise (excluding greenhouse gas emissions); land use and aesthetics; and recreational, public, and traditional cultural access. Under each impact area, the draft definition includes a stringent yet achievable goal statement along with mechanisms for PSH projects to demonstrate how they are meeting the goal statement (e.g., a project would need to demonstrate that its siting, design, construction, and operations address all impacts to aquatic ecosystems, including groundwater dependent ecosystems, support healthy populations of native species and ensure that they avoid the introduction or transfer of invasive species). Compared to the Draft Report's current approach, which for ecosystem needs only requires the "[c]onsider[ation of] the effects of energy policies on natural and working lands, cultural resources, and the broader environment," an outcome oriented approach, such as in LIHI's LI-PSH draft definition, can help improve project success through the siting and permitting phases by explicitly incorporating goals to safeguard ecosystems, communities and Tribal interests.

Recently, Washington State University's legislatively-mandated report on siting pumped storage projects in Washington recommended that the legislature utilize criteria, such as LIHI's LI-PSH definition to help avoid, minimize, or reduce impacts to the environment, Tribal cultural properties, and Tribal trust resources.[5] While the LI-PSH draft definition was conceptualized for pumped storage hydropower development specifically, it's approach and goals can be broadly adapted to other energy infrastructure development. The LI-PSH draft definition is expected to be finalized and released for the public at the end of 2025 and at that point, LIHI's Governing Board may consider creating a Low Impact Certification Program for LI-PSH projects, if desirable and appropriate.

2. Oregon Renewable Energy Siting Assessment Tool Updates Could Draw from Existing Publicly-Available Tools to Improve Inclusion of Critical Data Layers

The Draft Report identifies updating the ODOE's Oregon Renewable Energy Siting Assessment (ORESA) tool as a critical action to develop a robust database of lands suitable for various types of electricity infrastructure projects. Siting tools should be developed and used

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with extreme caution—for one, they represent theoretical suitability of a given parcel of land that discounts real-world concerns around impacts on local communities, Tribes, and project feasibility. As such, the locations identified in any siting tool should not be treated as definitive from the outset. Local communities and Tribes should be meaningfully engaged and consulted in this process and should have the opportunity to review and weigh in on siting decisions.

With the above caveat, the ORESA tool update could draw from existing, publicly-accessible tools such as the National Renewable Energy Laboratory's (NREL) tool for evaluating PSH siting locations in the U.S.[6] The NREL tool identifies theoretical potential sites for developing PSH projects and includes several data layers to capture ecosystem and social indicators (e.g., presence of ephemeral streams, cropland etc.). However, the NREL tool—along with any other prospective siting tool—needs to be updated to reflect important factors, such as Tribal reservation or trust lands, lands with sacred sites, or lands that are important for Tribal traditional uses (while noting that the most culturally sensitive areas may not be publicly disclosed). Additionally, any process of updating the ORESA tool should include guidance on how this tool will be used in a transparent and iterative manner, with ample opportunity for public input on improving the inputs, assumptions, and outputs of the tool.

3. **Environmental Justice Considerations Should Reflect Community and Tribal Perspectives Throughout the Life of a Project**

The Draft Strategy acknowledges the importance of considering environmental justice in the siting and development of energy projects. To put this in practice, the Draft Report includes tools such as a programmatic Equity and Justice Framework and recommendations such as directing ODOE to develop a community benefits framework. As these tools and recommendations are implemented, they must ensure that projects consider community and Tribal perspectives throughout the life of the project, rather than solely at the outset or on a one-off basis. The concept of 'Distributive Justice' as used in the Draft Report currently focuses on "understanding of indirect and community benefits… and intentional distribution of benefits to overburdened communities." However, drawing from existing research and best practices, 'Distributive Justice' must also mean that the affected communities' and Tribes' perspectives help shape the design and operational decisions throughout the life of a project. It also means that communities and Tribes can help co-create community benefits agreements and help adapt them, as appropriate, throughout the life of a project. As such, LIHI underscores the need to incorporate provisions and indicators for fostering *ongoing* consultation with impacted communities and Tribes at every stage of a project's life as part of any framework that is developed to advance environmental justice in energy project development in Oregon. Additionally, any such framework should incorporate and elevate the need to obtain Tribal consent for projects proposed on Tribal lands, as appropriate.

4. **Explore Funding and Incentives for New and Existing Projects that Deliver Benefits for People and Planet**

[6] See https://www.nrel.gov/gis/psh-supply-curves

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The Draft Report includes several cross-cutting actions to improve funding for energy transition and resilience projects. LIHI strongly supports these actions, including improving the availability of low-cost loans and Tribal Block Grants. LIHI also recommends that the Draft Report include examples of alternative financing mechanisms, such as municipal and green bonds to advance projects.[7] Additionally, funding and incentive programs should consider investing in not only new projects but enhancing existing projects in a way that would improve their performance and energy output. For example, under the U.S. Department of Energy's Section 247 grant—that remains frozen—LIHI Certified® Oregon hydropower projects were expected to receive almost $5 million to help improve their performance and grid resiliency. Similar grants or funding could be made available to improve the efficiency of existing renewable energy projects.

In selecting eligible projects, there should be an emphasis on projects that deliver direct benefits for people and the planet; this would ensure that at least some of the funding would ultimately flow towards environmental stewardship and local community needs. In the case of hydropower, several compliance and voluntary energy programs require hydropower project owners and operators to obtain and maintain a Low Impact Certification by LIHI to become eligible for the programs. A similar set of guardrails could be adopted for funding and incentive programs developed to advance Oregon's Energy Strategy.

Conclusion

LIHI commends the State of Oregon and ODOE for its leadership in developing the Oregon Energy Strategy that will be crucial in successfully navigating a transition from fossil fuels to clean sources of energy to power all facets of Oregon's economy. LIHI supports the five pathways identified in the Draft Report and the commitment to integrate equity and inclusion in decision-making to ensure that environmental justice communities do not continue to bear disproportionate harms and benefit from the energy transition. The recommendations outlined in these comments will help strengthen the Oregon Energy Strategy and help advance renewable energy projects that align with Oregon's long-term vision of delivering a high quality of life and strong economy for its citizens while ensuring responsible stewardship of natural and working lands, waters, and cultural resources.

Thank you to ODOE for considering these comments. LIHI is eager and available to help answer questions and develop recommendations for siting and advancing hydropower and pumped storage projects that put people and the environment first.

Sincerely,

/s/*Surabhi Karambelkar*
Surabhi Karambelkar
Policy Director

/s/*Shannon Ames*
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Recommendations:

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Conclusion

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Thank you to ODOE for considering these comments. LIHI is eager and available to help answer questions and develop recommendations for siting and advancing hydropower and pumped storage projects that put people and the environment first.

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/s/*Surabhi Karambelkar*
Surabhi Karambelkar
Policy Director

/s/*Shannon Ames*
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Oregon Department of Energy
RE: Public Comment on Draft Oregon Energy Strategy

Dear Oregon Department of Energy,

My name is Lucas Young, and I'm an Oregon resident living in Clatskanie, OR. I'm writing to provide public comment on the Draft Oregon Energy Strategy and to strongly encourage the Oregon Department of Energy to include nuclear power as an essential element of Oregon's clean energy future. While the draft strategy's five pathways provide a solid framework, Oregon's ambitious climate commitments and growing energy demands require us to consider all available clean energy technologies, including nuclear power.

Oregon's Growing Energy Challenge Requires All Clean Energy Solutions

The Draft Strategy correctly identifies that Oregon faces unprecedented electricity demand growth, with projections showing demand could increase approximately 40 percent by 2030, driven primarily by data centers and electrification. Oregon's data center market ranks fifth nationally, and the Western Electricity Coordinating Council has identified new data centers as an "emerging risk" to grid reliability. Meeting this demand while achieving 80 percent greenhouse gas reduction by 2050 will require deploying every available clean energy technology.

Simultaneously, Oregon's historically reliable hydroelectric generation has become increasingly variable due to abnormally dry weather- no doubt exasperated by climate change. In three of the past five years, drought conditions reduced in-state hydroelectric generation by more than half, forcing increased reliance on natural gas, which now provides 38 percent of Oregon's electricity- a significant increase from a decade ago.

Since Oregon's nuclear moratorium was enacted in 1980, the understanding of climate change and other energy issues have fundamentally shifted. The Intergovernmental Panel on Climate Change has consistently identified nuclear power as an essential component of deep decarbonization scenarios, with their latest reports emphasizing that achieving net-zero emissions requires all available low-carbon technologies, including nuclear energy. This

scientific consensus, combined with growing concerns about energy security and grid reliability in an era of extreme weather and rising electricity demand, reflects a broader recognition that the scale and urgency of modern energy challenges demands an all-of-the-above approach to clean energy deployment. Oregon's restrictions, established during a different era with different priorities, no longer align with the energy and climate imperatives facing the state today.

Recommendations for Oregon Energy Strategy

Clean Electricity Pathway Integration

Generation Atomic recommends that the final Oregon Energy Strategy explicitly include nuclear power in the Clean Electricity Pathway as a firm, clean energy resource capable of supporting grid reliability and decarbonization goals. Nuclear power operates at capacity factors exceeding 90 percent and provides weather-independent operation that directly addresses the strategy's emphasis on maintaining reliability while scaling clean electricity infrastructure. Including nuclear in this pathway would acknowledge its proven ability to provide baseload power that complements variable renewable resources.

Clean Electricity Action 3: Emerging Technologies Assessment

The strategy should acknowledge advanced nuclear technologies in the emerging technologies assessment outlined in Clean Electricity Action 3. We commend and strongly support the recommendation in the draft Strategy for an emerging technologies assessment that will include assessment of small modular reactors, and the acknowledgement of Oregon's home-grown leadership in small modular reactor (SMR) development. However, the strategy should acknowledge advanced nuclear technologies generally, and not just SMRs, in the emerging technologies assessment outlined in Clean Electricity Action 3. Advanced reactor designs, which include but are not limited to small modular reactors, offer enhanced passive safety systems that automatically shut down without operator intervention or external power, reduced waste production through improved fuel efficiency, and modular construction techniques that could reduce construction time and costs. These improvements make all forms of advanced nuclear technology worthy of evaluation

alongside other emerging technologies like enhanced geothermal, floating offshore wind, and long-duration storage.

Clean Electricity Action 1: State Transmission Entity Framework

Nuclear energy should be considered in the state transmission entity framework described in Clean Electricity Action 1. Nuclear facilities provide essential grid stability services and can reduce transmission requirements by delivering large amounts of clean electricity at single locations. The reliable, controllable nature of nuclear power can support transmission planning by providing predictable generation that reduces land use and the need for extensive transmission buildout to access distant renewable resources. This aligns with the strategy's goal of identifying projects that benefit the public interest while minimizing negative impacts on natural and working lands.

Clean Electricity Action 4: Government Policy Incentives Study

The strategy should evaluate nuclear power in the study of government policy incentives for local electricity investments referenced in Clean Electricity Action 4. Nuclear facilities represent significant long-term infrastructure investments. These facilities provide stable tax revenue streams for host communities and other economic benefits for up to 80 years. These projects can advance energy justice objectives by providing reliable, clean electricity while supporting economic development in communities that have historically been left behind in the energy transition.

Cross-Cutting Action 7: Workforce Development Planning

Nuclear energy should be included in workforce development planning described in Cross-Cutting Action 7. Each nuclear power plant employs 500 to 800 workers in positions with salaries 50 percent higher on average than other electricity generation sources. Building a nuclear reactor employs up to 9,000 workers at peak construction, while plants can operate for 80 years or more, providing multigenerational employment stability. For every 100 nuclear jobs created, an additional 250 jobs are generated in supporting industries.

Oregon's existing nuclear expertise through Oregon State University's renowned nuclear engineering program provides a foundation for developing the workforce needed to support advanced nuclear technologies. These benefits are not isolated to the highly educated - nuclear facilities require workers across all skill levels and educational backgrounds. The nuclear industry recruits from universities, community colleges, the military, and skilled trades, creating career pathways for carpenters, electricians, welders, pipefitters, and heavy equipment operators. Nuclear power creates career pathways that align with the state's clean energy transition while addressing the strategy's emphasis on supporting environmental justice communities through high-quality employment opportunities.

Risks of Excluding Nuclear Power

Oregon's strategy may underestimate the reliability and emissions risks of depending primarily on renewable energy without firm baseload power. When renewables generation is insufficient- which can occur for several consecutive days during certain weather patterns- Oregon may be forced to rely on natural gas plants or import electricity generated from fossil fuels in neighboring regions. This renewable intermittency risk becomes more pronounced as Oregon phases out reliable generation sources, potentially undermining the state's decarbonization objectives. Nuclear power provides consistent, weather-independent electricity that can reduce these risks while supporting grid stability as Oregon adds more variable renewable resources to meet growing demand from data centers and electrification.

As fossil fuel dependency increases despite our climate commitments, perspectives on nuclear energy are being reconsidered nationwide. Today's advanced nuclear technologies can address challenges that didn't exist four decades ago when the nuclear moratorium was introduced, and offer an opportunity to rethink our approach to reliable, carbon-free power generation in a changing world.

I urge the Oregon Department of Energy to strengthen the final strategy by explicitly recognizing nuclear power's potential contributions to Oregon's clean, reliable, and affordable energy future. Oregon's clean energy goals are achievable, but only through a

technology-neutral approach that includes nuclear power alongside renewables, energy efficiency, and electrification.

Sincerely,

Lucas Young

Clatskanie, OR

Oregon Energy Strategy

Public Comment

Luke Grossmiller, 9.6.2025

My name is Luke Grossmiller, and I live in Eugene, OR. I am commenting today because I see Finland and other Scandinavian countries using renewable energy and I believe we can to.

It's essential to pass an Energy Strategy that:

Designs an actionable pathway to meet the state's 100% clean energy goals

Prioritizes actions that maximize benefits for environmental justice communities

Keeps false solutions out of Oregon

To Whom It May Concern,

Thank you for the opportunity to provide feedback on the current strategy draft. While the draft contains several commendable goals, I am writing to express significant concerns regarding its deviation from the core principles of equity and justice that are central to Multnomah County's own Climate Justice Plan (CJP).

The Climate Justice Plan was developed through a community-driven process, centering the voices and needs of frontline communities who are most impacted by climate change and environmental injustices. It establishes a clear vision for a future where every community member can thrive, with explicit goals to address systemic inequities. In contrast, this strategy draft appears to prioritize industry interests and overlooks the disproportionate burdens placed on marginalized communities.

My specific concerns are as follows:

Re: Lack of an Overarching Equity Framework

The most significant shortcoming of this draft is the absence of a comprehensive equity lens. Unlike the CJP, which is explicitly "rooted in lived experience, driven by community voices, and aimed at systemic transformation," this strategy fails to integrate justice and equity as foundational principles. This omission risks perpetuating the very harms the Climate Justice Plan was designed to dismantle.

Re: Page 6, 3a: Mitigation Hierarchy

The text should be amended to explicitly state the order of importance in the mitigation hierarchy. I suggest the following change: "...while avoiding, minimizing, and mitigating... in the stated order.”This is a crucial clarification that aligns with the precautionary principle and is vital for holding polluting industries accountable. The importance of precise legislative language to avoid unintended consequences has been recently highlighted in legal discourse see Pulsifer v United States.

Re: Page 6, 3b: Grid Modernization and Community Control

While the concept of a program allowing energy storage systems to support the grid is promising, its implementation must be guided by the principle of community empowerment. Any such program must guarantee that individuals must have the ability to easily and instantly control when and if their systems are used, even after enrolling in the program. This ensures consumer trust and willingness to participate, which is essential for the program's success. The design should also prioritize benefits for communities, not just grid operators, and ensure equitable access to these technologies.

Re: Page 7, Section 4a - Subsidies for "Hardest-to-Electrify" Sectors

This section raises significant concerns regarding the efficient allocation of public funds. Directing financial resources towards sustaining fossil fuel use in so-called "hardest-to-electrify sectors" is counterproductive to the ultimate goal of full electrification. These funds would be more prudently and effectively invested in accelerating the research, development, and deployment of electrification technologies for these same sectors. To do otherwise is to inefficiently use taxpayer dollars on temporary measures rather than on the necessary long-term solutions.

Re: Page 7, Section 4b - Electrification of Agriculture

The assertion that agriculture is a "hard-to-electrify" sector is questionable. The agricultural industry is currently undergoing a significant technological transformation. Innovations such as agrivoltaics—the co-location of solar power generation and agricultural activities—demonstrate a viable path for electrification. Research from Oregon State University and the U.S. Department of Energy has already highlighted how combining solar infrastructure with agriculture can mitigate climate change, boost rural economies, and efficiently use land. This strategy should embrace and promote these advancements rather than categorizing agriculture as an intractable challenge.

Re: Page 7, 4c & 5a: Perpetuating Fossil Fuel Infrastructure

The vague language around a "managed fuels transition" and the continued justification for fuel storage at the Critical Energy Infrastructure (CEI) Hub are alarming. The CEI Hub stores 90% of Oregon's liquid fuel and is located in a liquefaction zone, posing a catastrophic risk to surrounding communities and the Willamette River in the event of an earthquake. Instead of propping up this hazardous infrastructure, the strategy should prioritize a swift and just transition to decentralized, renewable energy and storage solutions that enhance community resilience.

Re: Page 7, 5b & Page 8, 5: The Burden on Taxpayers

The consistent theme of placing the financial burden of decarbonization on taxpayers is unacceptable. Corporations, as the primary drivers of greenhouse gas emissions, must be held accountable and bear the majority of the costs for the transition. The constant rate hikes for electricity already strain households, and this strategy should focus on corporate responsibility, not further burdening the public.

Re: Page 8, 11: Hydrogen and the Future of Transportation

The draft's discussion of hydrogen without a clear distinction between "green" hydrogen and hydrogen produced from fossil fuels is a significant oversight that could enable greenwashing. As outlined by the Belfer Center, it is crucial to differentiate between "green" hydrogen (produced with renewable energy) and other forms to ensure that public support does not inadvertently subsidize carbon-intensive processes. Furthermore, the failure to include battery-

swapping stations as a key strategy for electrifying heavy-duty transport is a missed opportunity. As highlighted in recent analyses by Harvard Business Review, this technology is already being successfully implemented elsewhere and offers a compelling path forward. As the energy transition leads to a decline in traditional gas stations, there will be a pressing need to repurpose this land. These sites are often contaminated, making redevelopment difficult. A forward-thinking strategy would be to facilitate the conversion of former gas station locations into battery-swapping stations and ZEV charging hubs. This would utilize existing infrastructure footprints, minimize the need for new land development in urban areas, and help address the environmental legacy of fossil fuel infrastructure. Repurposing former gas station sites for charging and swapping infrastructure would be a logical and efficient way to support a just transition in the transportation sector while addressing the legacy of soil contamination.

In conclusion, this strategy draft falls short of the transformative vision laid out in the Multnomah County Climate Justice Plan. It lacks a strong equity focus, favors incumbent industries, and fails to adequately address the urgent need for a just transition away from fossil fuels. I urge you to revise this draft to align with the principles of climate justice and to prioritize the health, safety, and well-being of all Multnomah County residents, especially those on the frontlines of the climate crisis.

County Commissioners
Danielle Bethell, Chair
Colm Willis
Kevin Cameron



Chief Administrative Officer
Jan Fritz

MARION COUNTY BOARD OF COMMISSIONERS

September 21, 2025

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

RE: Public Comment on the Draft Oregon Energy Strategy

Director Janine Benner,

The Marion County Board of Commissioners appreciates the work of the Oregon Department of Energy in developing the Draft Oregon Energy Strategy. We recognize the complexity of this task and the importance of ensuring a reliable, affordable, and secure energy future for all Oregonians.

While the strategy outlines ambitious pathways for decarbonization, we are concerned that it places disproportionate emphasis on social frameworks and policy layers at a time when Oregonians are facing historically high energy costs. Families and businesses in Marion County are already struggling with inflation, housing affordability, and rising utility bills. Energy policy must first and foremost prioritize affordability, reliability, and security before adding additional frameworks that risk complicating implementation and increasing costs.

We are particularly troubled by the strategy's divergence from natural gas. For many households in Marion County, natural gas is not just a convenience, it is a lifeline. During disasters such as ice storms, snow events, or high-wind power outages, natural gas allows families to keep their homes warm and prepare food when the electric grid is down. These resiliency benefits are real and immediate, yet the draft strategy undervalues the continued role of natural gas infrastructure and backup generation in protecting Oregonians during emergencies.

Additionally, Hydropower has long been a cornerstone of Oregon's energy portfolio, generating roughly a third of the state's electricity and providing clean, reliable baseload power for communities across the region. Yet, the Bonneville Power Administration (BPA) is currently considering proposals that could reduce or eliminate hydropower generation from several dams in the Willamette Basin. This would have serious consequences for Oregon's energy reliability, affordability, and emissions goals. The Draft Oregon Energy Strategy should explicitly include steps to protect and strengthen hydropower as a key component of the state's energy mix. As the region faces climate-related challenges, ranging from drought to extreme weather, it is more important than ever to ensure that hydropower resources are preserved, modernized, and integrated into regional planning processes. Oregon should work proactively with BPA, the

Northwest Power and Conservation Council, and other partners to safeguard this vital clean energy source for future generations.

Several other areas deserve greater attention and balance:

- **Modeling Assumptions:** The draft assumes the achievement of existing state goals, such as 100% clean electricity, without assessing feasibility against current infrastructure and system adequacy. A more realistic regional adequacy assessment is needed.
- **Building Efficiency**: The plan emphasizes electrifying natural gas-heated homes while overlooking the far greater efficiency gains that could come from replacing outdated electric resistance heating with heat pumps or hybrid systems.
- **Resilience Planning:** Energy resiliency receives acknowledgement but is underdeveloped. Natural gas backup systems, both at the household and utility scale, are proven tools for extended outages and should be incorporated as critical components of resiliency planning.
- **Affordability and Economic Impacts:** The "energy wallet" concept lacks the detailed household-level analysis necessary to show real impacts on families. Without clearer economic modeling, rural and working-class communities risk being left behind.

Marion County residents expect energy policy that is affordable, reliable, and practical. While long-term clean energy transitions can and should be part of Oregon's future, they cannot come at the expense of household security, regional economic competitiveness, or emergency preparedness. We urge the Department of Energy to refine the strategy by:

1. Placing affordability and system reliability at the forefront;
2. Recognizing natural gas as a critical component of Oregon's resilient energy portfolio; and
3. Providing clearer, actionable guidance that reflects the real challenges of implementation in both rural and urban communities.

We stand ready to work with ODOE and other stakeholders to ensure Oregon's energy future balances environmental responsibility with affordability, reliability, and common sense.

Sincerely,



Danielle Bethell
Chair

Kevin Cameron
Commissioner

Oregon Energy Strategy

Public Comment

Mark Healy, 8.15.2025

Projected AI and data servers energy reqitements will dwarf all other projected energy needs. The models need to be revised to reflect this new reality. All of the work ODOE does to become more energy resilient will be lost if this energy use is not accounted for. There are many links that discuss this issue. Here is one link. https://www.cnet.com/tech/services-and-software/features/ai-data-centers-are-massive-energy-hungry-and-headed-your-way/

Oregon Energy Strategy

Public Comment

Marshall Sanders, 9.19.2025

It would best in my opinion to set some boundaries to energy sources upfront so Oregonians can knowingly steward forward energy strategy that is reliably safe and clean.

1) No nuclear ever. No coal.

2) All electricity generation and use must be accompanied by zero EMF or RF negative impacts.

3) Before estimating electricity demand growth affecting capacity build out, eliminate AI and crypto energy demands pushed back to those industries to problem solve back into reasonable demand limits based upon per capita energy demands currently existing. And limit their self generation of energy to the same standards set for State generation. Meaning no nukes, no coal. Crypto and AI industries are predicted to double electricity demand (geometrically?), offloading energy generation responsibility to the public, when neither industry has obtained the consent or approval of Oregonians for it's products and services or funding their development through what would be a giant subsidy of economy destroying proportions. [Beside the fact that no one needs the virtual service of AI except employers to layoff the Oregonian working class. Crypto is another virtual "product" that is so volatile as to be useless. One third of crypto has been disappeared through lost passwords, deaths and other causes.]

4) Objectives must be clean safe energy that benefits the People of Oregon, not corporations or big business, with decentralized generation and use the ongoing goal.

5) Best Option: Solar, Wind, Hydro (done properly without negative impacts) Hydrogen Fuel Cell Microgrid research and development. See links below.

https://oncoreenergy.com/

https://fuelcellsworks.com/2025/08/11/green-hydrogen/china-begins-construction-on-world-s-largest-pure-hydrogen-power-project-in-inner-mongolia

http://www.fsec.ucf.edu/en/consumer/hydrogen/basics/production-solar.htm

https://today.uic.edu/new-method-makes-hydrogen-from-solar-power-and-agricultural-waste/

https://ijcrt.org/papers/IJCRT2506887.pdf

Oregon Energy Strategy

Public Comment

Meredith Howell, NeighborWorks Umpqua, 8.29.2025

In the introductory section, I would have like to see language about how urban and rural areas affect the energy economy. Where is the green energy in most demand. What natural resources are responsible for producing green energy and in what areas are these located. How is Oregon reliant on urban and/or rural areas for the generation of renewable resources?

Public Comment on the Draft Oregon Energy Strategy (Aug. 2025):

Submitted by: Dr. Mike Badzmierowski – Climate and Agricultural Scientist and Oregon resident
To: Oregon Department of Energy (ODOE)
Date: September 22, 2025

Introduction

Oregon's draft strategy outlines five pathways to advance the state's energy policy. While pathways one, two, three, and five are excellent (i.e., energy efficiency, electrification, clean electricity, and resilience, respectively), the fourth pathway (i.e., low-carbon fuels) is marred by troubling issues of greenwashing, which will most likely lead to ***increases*** in greenhouse gas (GHG) emissions and, depending on the fuel, could increase premature deaths. Oregon should beware of broadly categorizing any of these fuels as "low-carbon" unless very specific and tight regulations and costly monitoring are in place. Given the documented record in the U.S. oil and gas sector of **(a)** systematically underreported methane emissions relative to official inventories (Alvarez et al., 2018; IEA, 2024), (b) persistent failures to detect, quantify, and publicly report large leaks across pipelines and facilities (GAO, 2022; GAO, 2024; Reuters, 2024), and (c) sustained lobbying to dilute or repeal stronger methane controls (InfluenceMap, 2025; Reuters, 2025), Oregon should expect similar behavior from many of the same companies now promoting hydrogen and ammonia (ExxonMobil, 2022; Reuters, 2025) and design policy accordingly.

Elevating hydrogen, ammonia, and liquid biofuels made from food crops within the fourth pathway would be a mistake and counterproductive on four fronts: (1) GHG emissions, (2) economics for ratepayers and taxpayers, (3) opportunity cost, and (4) food security.

Hydrogen – the false solution

Much can be said about how hydrogen has been hyped and promised to be a low-carbon fuel for several decades. In fact, an entire book written by Dr. Joseph Romm (former Principal Deputy and then Acting Assistant Secretary at the Energy Efficiency and Renewable Energy at the U.S. Department of Energy) titled "*The Hype About Hydrogen, Revised Edition: False Promises and Real Solutions in the Race to Save the Climate"* details why hydrogen (and ammonia and food crop biofuels) has was tens if not hundreds of billions of dollars with little to show for it in regards to it being a wide-scale pollution-free energy source (Romm 2025).

Oregon should not scale hydrogen as a generalized "low-carbon fuel" pathway today. First, hydrogen's near-term warming potency is high: the best current assessment finds a 20-year global warming potential (GWP20) with an estimate of 33.7 (Sand et al. 2023), so even

modest leakage erodes climate benefits in the very decades Oregon needs cuts (Ocko and Hamburg 2022). Second, ODOE itself concludes that zero-/low-carbon fuels "are expected to remain limited and costly," and that the least-cost path is strategic electrification, not fuel substitution (ODOE 2025, 18). With Oregon's grid facing rapid load growth—ODOE's modeling shows electricity demand could rise ~40% by 2030 primarily from data-center "tech loads"—diverting scarce clean power to electrolysis would worsen costs and opportunity-costs versus direct electrification (ODOE 2025). If any grid-connected hydrogen were pursued, the literature shows emissions stay low only under strict "three-pillars" rules (additionality, hourly temporal matching, deliverability) that the U.S. Treasury has now embedded in final §45V guidance; without them, grid-based H_2 can increase net emissions (Ricks, Xu, and Jenkins 2023; U.S. Treasury/IRS 2025).

Equally crucial for Oregon's risk management: hydrogen is unusually leak-prone and hard to monitor at the levels relevant for climate. Since H_2 is the smallest molecule in the universe and embrittles common metals and polymers, leakage risks span production, compression, pipelines, storage, and end-use; recent technical reviews and safety assessments highlight persistent hazards (material embrittlement, wide flammability range, detonability) and the need for rigorous engineering controls (Ahad et al. 2023; Calabrese et al. 2024). Critically, the sensing technology gap is significant. Commercially available safety sensors typically detect at parts-per-million (ppm) levels, whereas ambient/atmospheric hydrogen relevant to climate is parts-per-billion (ppb). U.S. DOE's own 2024 program review calls out that "commercial hydrogen safety sensor's detection limit is at the ppm level. Atmospheric hydrogen concentration is at the ppb level," with ppb-capable methods still in early development and needing third-party validation (DOE 2024). The leading climate study likewise notes that "commercially available sensing technologies able to detect smaller leaks— that would impact the climate but not safety—are unavailable," underscoring how difficult it is to verify real-world leakage at scale (Ocko and Hamburg 2022). Remote detection is also limited. Hydrogen is invisible to standard infrared (IR) cameras used for methane, and assessments show common IR-based wide-area techniques are not suitable for locating H_2 leaks in air; there is no operational satellite product for direct H_2 leak monitoring (EDF 2023; NASA 2000). Given those constraints, achieving (and proving) near-zero leakage across a statewide hydrogen value chain would be prohibitively expensive and operationally uncertain (Qanbar et al. 2024; Oxford Institute for Energy Studies 2024).

Taken together, ODOE's own modeling (least-cost = electrification; fuels limited/costly) and the current science on hydrogen's leak-driven near-term warming and measurement gaps argue against making hydrogen a broad pillar of Oregon's decarbonization now. Even if hydrogen could be scaled safely and cheaply, it would still be a poor way to use clean electricity because the chain of steps, making hydrogen from power, then compressing or liquefying it, storing and moving it, and finally turning it back into power, throws away so much energy that only about 30–40 percent of the original electricity typically reaches the job (IEA 2019; IRENA 2020; U.S. DOE 2017; U.S. DOE 2015).

Ammonia

Ammonia should not be included as a fuel pathway in Oregon's strategy. Burning ammonia creates nitrous oxide (N_2O) in the flame. It can also generate N_2O in common exhaust clean-up systems, so even with pollution controls, you face a three-way tradeoff among N_2O, NO_x, and unburned ammonia ("slip") (Wu et al. 2024). Critically, if ammonia captured just ~5% of global energy and only ~1% of its nitrogen ended up as N_2O, the resulting warming would equal ~15% of today's fossil-fuel emissions, erasing climate benefits (Bertagni et al. 2023). Unless Oregon can guarantee near-zero N_2O and near-zero slip all the time (in real engines, on real ships or turbines), ammonia as a fuel is more likely to raise near-term climate risk than cut it (Raza et al. 2022; Bertagni et al. 2023).

The public-health picture is just as troubling. A peer-reviewed systems study led by MIT finds that under current rules, a global switch to ammonia shipping would lead to ~600,000 additional premature deaths per year from NO_x, ammonia slip, and secondary $PM_{2.5}$, unless far stricter controls and cleaner engine tech are deployed first (Wong et al. 2024; MIT News 2024). For Oregon, that means any move to promote ammonia combustion (in maritime, rail, or stationary engines) would import significant air-quality risks while offering uncertain climate gains. The prudent course is to exclude ammonia as a combustion fuel in near- and medium-term pathways and focus instead on measures with clear, verifiable benefits.

Food crop-based biofuels

Using food crop biofuels (e.g., ethanol from corn production or biodiesel from soybean production) is not a climate solution, and it uses some of the best agricultural land in the U.S. to not provide essential calories for the world. In my work with the World Resources Institute, I have led our recent comments to the U.S. Department of Agriculture (submission ID: USDA-2024-0003-0193; https://www.regulations.gov/comment/USDA-2024-0003-0193 | submission ID: USDA-2024-0003-0341; https://www.regulations.gov/comment/USDA-2024-0003-0341) about why food crop-based biofuels are not climate-friendly.

As I expressed in our comments, the inclusion of food crop-based biofuels (e.g., corn and soybean) in clean fuel crediting mechanisms should be opposed. When full lifecycle emissions and indirect land use change are accounted for, food crop-based fuels often exceed the GHG emissions of fossil fuels (Austin, Jones, and Clark 2022; Lark et al. 2022; Plevin et al. 2010; Searchinger et al. 2008). In our July 2024 comment to the USDA, I highlight WRI estimates that meeting the U.S. goal of 35 billion gallons of sustainable aviation fuel (SAF) with corn ethanol would require 114 million acres of corn—25% more than is currently planted. The carbon opportunity costs and displacement effects on food

production would significantly drive up food prices, ultimately undermining economic stability and food security.

Key points from my WRI RFI comments to USDA (July 25, 2024) and subsequent 2025 filings to USDA/IRS:

• Lifecycle math: When ILUC and refinery/process emissions are included, corn- and soy-based fuels are comparable to—or worse than—fossil fuels over policy-relevant horizons.

• Scale and land demand: Meeting aggressive SAF volumes via corn ethanol implies implausible acreages (on the order of ~100+ million acres), driving carbon debt and food-price risk—untenable for Oregon to endorse by proxy.

• Additionality & double counting: Conservation tillage is baseline on most row-crop acres; cover crops and stacked practice claims (cover + no-till + inhibitors) have mixed or unproven net GHG outcomes; without field-level MRV, stacked credits constitute paper reductions and enable waste/fraud/abuse.

• N_2O undercounting: Default GREET factors (e.g., ~1.26%) are too low for the Corn Belt; field/top-down evidence supports ~3–5% on average and up to ~7.5% in super-emitting years—flipping claimed benefits.

• Durability and reversal risk: Soil-carbon gains are uncertain and non-permanent; unlike 45Q, there is no reversal liability framework. Public funds must not credit non-durable tons.

• Environmental justice & health: Biofuel refineries emit hazardous air pollutants and concentrate burdens in rural, often lower-income communities; Oregon should not expand this footprint without clear net public-health and climate benefit.

Policy for Oregon: exclude food-crop pathways; restrict eligibility to genuine wastes/residues with conservative ILUC/COC; disallow baseline practice crediting; require field-verified MRV; update N_2O factors to region-appropriate values; and publish all project data for public scrutiny.

Conclusion

ODOE's draft gets the order right: efficiency and electrification first. Oregon should limit "low-carbon biofuels" to wastes/by-products/residues; exclude food-crop feedstocks. Given the Draft's own cautions on hydrogen, ammonia, and biofuels, Oregon should adopt strict guardrails so public dollars and scarce clean power deliver the most decarbonization per MWh, the fewest harms, and real progress toward a reliable, affordable, and just energy system.

Thank you for the opportunity to comment, and I welcome any conversations if needed.

Dr. Mike Badzmierowski

Email: mike.badzmierowski@wri.org

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SEPTEMBER 22, 2025

Mothers for Nuclear Public Comment on Draft Oregon Energy Strategy:

Mothers for Nuclear commends the State of Oregon for taking proactive steps in developing a clean energy plan and encourages the Oregon Department of Energy to include nuclear power as a stronger element in each of the pathways. Mothers for Nuclear was founded on Earth Day 2016 with a mission to build a global community in support of clean energy. As a grassroots organization of mothers, women, community members, and nuclear professionals, we advocate for clean, sustainable, and reliable energy solutions that protect both the environment and the health of our families, and we would like to offer constructive feedback on a couple aspects of the draft document. While the draft strategy provides a solid framework, Oregon's ambitious climate commitments and growing energy demands require us to consider all available clean energy technologies, including nuclear power.

The current focus of the draft centers primarily on renewable energy without firm clean baseload power, and as such, may underestimate risks to reliability and emissions reductions goals. When renewables generation is insufficient, Oregon may be forced to rely on natural gas and imports. Similar to what California has experienced, Oregon's historically reliable hydroelectric generation has become increasingly variable due to abnormally dry weather, and there may be more extreme weather on the horizon. Nuclear power provides consistent electricity independent of weather that can reduce these risks while supporting grid stability as Oregon also adds more variable resources to meet growing demand. We believe that reducing emissions is an urgent matter and that we should not limit our scope of solutions. We have a monumental task ahead of us and to make significant progress, we need to bring massive amounts of clean energy on line.

Both large and small reactors can contribute to a diverse and resilient energy portfolio. We encourage Oregon to broaden its scope of emerging technologies assessment to include a comprehensive look at all nuclear technologies, including and perhaps even emphasizing the potential of large-scale nuclear reactors.

As the draft energy plan moves forward, we also urge Oregon to consider the role nuclear energy provides in supporting economic and educational opportunities for workers and communities across the state. Nuclear provides valuable economic opportunities such as high-paying, stable jobs and the long-term investment necessary for maintaining a resilient energy infrastructure. By prioritizing nuclear energy, Oregon has the opportunity to create a just and equitable transition—one that benefits everyone, including the most vulnerable.

Nuclear energy is a critical piece of the clean energy puzzle—providing reliable, carbon-free electricity while supporting public health, economic opportunity, and climate goals. Mothers for Nuclear urges the Oregon Department of Energy to strengthen the final strategy by explicitly recognizing nuclear's potential contributions to Oregon's clean, reliable, and affordable energy future. Oregon's clean energy goals will be more achievable through a technology-neutral approach that includes powerful and sustainable nuclear energy alongside renewables, efficiency, and electrification.

Sincerely,

Heather Hoff (Co-founder, CFO)
Fereshteh Bunk (Operations Associate)
Mothers for Nuclear

September 22, 2025

Janine Benner, Director
Oregon Department of Energy
550 Capitol St. NE, 1st Floor
Salem, OR 97301

RE: Oregon Department of Energy's Draft Oregon Energy Strategy
Multnomah County Office of Sustainability's Comments

The Multnomah County Office of Sustainability appreciates the months of work that the Oregon Department of Energy (ODOE) has dedicated to the draft Oregon Energy Strategy (OES), as well as this opportunity to comment on the draft OES. We acknowledge the significant resources that ODOE invested responding to HB 3630 (2023) and its direction to summarize the state's energy strategy and pathways to achieve it, and to recommend legislation or changes to policy necessary to implement it.

At a high level, the draft OES represents an important and needed effort to assess and guide the complex energy sector around a common set of key pathways towards a healthy and decarbonized Oregon. A clear "roadmap" is essential to achieving the ambitious but necessary carbon reduction goals adopted by the state and communities around the state in a manner that recognizes the real challenges that individuals and communities face every day. The draft OES provides a strong foundation for this work.

We support ODOE's decision to interpret HB 3630's language around the state's energy policy objectives as supporting consistency and compliance with existing law.[1] The modeling at the core of the draft OES offers a valuable exploration of the pathways to reach Oregon's energy and climate objectives while maintaining reliability.[2] As a result, the modeling offers valuable findings on the tools, tradeoffs, costs, and benefits associated with meeting those objectives, and should inform the thinking and decisions of governmental and non-governmental actors in the energy space beyond the draft OES.

We appreciate that the draft OES starts by characterizing the impacts of our energy system in terms of greenhouse gas emissions, air quality, and public health, at a time when the impacts of

[1] Draft OES at 5.
[2] Draft OES at 10.

climate change on Oregonians are costly and present.[3] We also appreciate that the draft OES recognizes the fluid nature of the current energy landscape, including as a result of changes at the federal level, rising loads, rising rates, and the impacts of climate change, among other factors.

We support the inclusion of the Equity and Justice Framework for Decision-Making and Program implementation. We appreciate efforts by ODOE environmental justice staff to design a process that sought to balance the tight timeline for the development of the OES and resource constraints by environmental justice stakeholders with the reality that an OES should be tied to energy justice and equity principles.

The OES offers an opportunity for state agencies, regulators, local governments, industry, the private sector, and ratepayers to share a common understanding of the lowest cost and most effective solution set for achieving climate goals, while also strengthening energy resilience, environmental quality, and public health. At the broadest level, as an agency working on climate mitigation for nearly 25 years, we appreciate the clear and succinct approach that ODOE has taken in this strategy and we hope that the final OES strengthens and builds upon the draft and the 5 pathways identified therein.

I. INTRODUCTION

The Office of Sustainability works to create a just, equitable, livable, resilient, and low carbon community by centering the priorities of frontline communities and advancing sustainability efforts within the County, region, and state. That mission, and the overall mission of Multnomah County, informs these comments.

In addition, the Multnomah County Board of Commissioners has provided policy guidance that helps to further inform these comments. Multnomah County has long sought to be a leader in energy efficiency, resource conservation, and climate action. In 2015 the Board adopted a Climate Action Plan identifying renewable energy and energy efficiency as key policy pathways necessary to drive down greenhouse gas emissions. In 2017 the Board adopted Resolution 2017-046: “Affirming Multnomah County's commitment to meeting community-wide energy needs in Multnomah County with 100 percent renewable energy by 2050,” commonly referred to as 100% renewable by 2050. The policy set targets to decarbonize the electricity system in Multnomah County by 2035 and fully decarbonize all energy sources by 2050. Finally, in 2021, the Board adopted Resolution number 2021-021 which made Multnomah County the first jurisdiction in the state of Oregon that prohibits the use of fossil fuels in new construction.

Other Board adopted resolutions also have bearing on the draft OES. These include Resolution 2018-108 that directs the Office of Sustainability and County Departments to apply an

[3] Draft OES at 3.

environmental justice lens to all areas of their work. Related to both energy and environmental justice is the topic of air quality, with Multnomah County residents bearing the highest exposure rate to air pollution in the state. Resolution 2022-010 states that "[t]he Multnomah County Board of Commissioners believes that all people who live, work, or visit Multnomah County should be able to breathe clean air, everywhere, at all times." The OES is well aligned with these County policies and we hope that our comments help to further reinforce and support ODOE's efforts in supporting environmental justice, environmental quality, shared economic prosperity, and achieving Oregon's shared greenhouse gas mitigation targets.

Oregon has no fossil fuel resources of its own. Every dollar Oregonians pay for fossil fuel energy is at least partly diverted out of state. On the other hand, Oregon is blessed with abundant renewable energy resources, wind in the gorge, hydroelectric throughout the Columbia River Basin, high quality solar in the eastern portion of the state, and potential for abundant wave and offshore wind resources from coastal areas. In addition, individuals and communities across the state are eager to embrace distributed resources to spur the transition and increase energy resilience through local investments. Unlike fossil fuels, investing in these resources will yield ongoing economic benefits to the state, both in terms of revenue and jobs, but also through reduced pollution as fossil fuel use is displaced by renewable energy. Prioritizing the use of renewable energy makes sense for Oregon, especially during a period of rapid demand growth for electricity. While demand growth places strain on the electric system, it also signals a growth opportunity for the state since energy use is increasingly tied to economic growth. Renewable energy, particularly solar and battery energy storage, are the fastest and least cost solutions for meeting this moment of energy load growth. The OES and subsequent policy should be aimed at making it easier for the private and public sectors to coordinate and deliver the cleanest, lowest cost, and most abundant resources that the state has to offer: wind, sun, water, and energy storage. Oregon's future is as an electro-state.

II. PATHWAYS AND POLICIES TO ACHIEVE THEM

The modeling and pathways identified show what we have long known from myriad prior decarbonization studies: that energy efficiency and electrification are key to decarbonizing our economy and meeting Oregon's energy and climate objectives.[4] The reference scenario is the least-cost approach to achieving the state's decarbonization goals. Scenarios that delay investments in energy efficiency, electrification and the other key energy transition strategies leave communities across the state worse off.

We appreciate ODOE's efforts to gain a more granular understanding of how those economy-wide benefits translate to the reality of households experiencing different life circumstances. Actions shaped by the lived experience of our communities, particularly

[4] Draft OES at 10.

environmental justice communities who may already struggle to make ends meet, will result in better policies and programs. Importantly, we highlight ODOE's efforts to quantify the significant financial benefits associated with the public health benefits achieved by reduced air pollution.[5] The positive impact for Oregonians that would benefit from "the reduced mortality, fewer hospital admissions, and fewer missed workdays" cannot be overstated.[6]

Similarly, the draft OES efforts to gain greater understanding of the net job gains, but also of the losses, empower Oregon to be strategic and ensure that a just energy transition includes consideration of workforce opportunities.

A. Energy Efficiency

As the draft OES highlights, energy efficiency "is essential to reduce energy demand as much as possible, trimming the size of the overall energy "pie" . . . [and] is a least-cost resource that can lower energy costs for consumers while supporting reliability."[7] Efficiency is the ultimate community-benefitting resource because of its many local benefits to residential customers, like increased comfort and decreased energy burden, and to other customers, like decreased energy costs and emissions, as well as its local economic development benefits. Importantly, energy efficiency also features prominently in the Columbia River Intertribal Fishing Commission's 2022 Energy Vision due in part to its positive impacts on fish and wildlife.[8]

We appreciate ODOE's rationale for including the expansion of multimodal transportation in the energy efficiency pathway, versus the definition of energy efficiency as measures that reduce demand for electricity and gas that we are more familiar with.[9] We also appreciate ODOE's recognition that electrification of end uses is in and of itself an energy efficiency measure that is often overlooked in conversations about energy efficiency.[10] We urge you to retain this point and expand upon it in the final plan. The overlap between electrification and efficiency, or transit and compact urban development and vehicle miles traveled, shows how strategies in the plan provide important mutually beneficial impacts that support and build on one another.

1. **Policy 1a. Deliver energy efficiency improvements in existing and new residential and small commercial buildings to align with state decarbonization goals. Prioritize programs to serve low- and moderate- income and energy burdened households.**

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[5] Draft OES at 11.
[6] *Id*.
[7] Draft OES at 9.
[8] https://critfc.org/wp-content/uploads/2022/07/CRITFC_EV_2022_Exec_Summ.pdf at 7.
[9] Draft OES at 14.
[10] *Id*.

We support Policy 1a and see ODOE's characterization of both Oregon's leadership on energy efficiency and areas for additional consideration as accurate.[11] We encourage ODOE to retain in the final OES its recognition of the importance of advancing building energy codes and building performance standards to support greater efficiency and decarbonization in newer buildings, while continuing working to increase the efficiency of and decarbonize existing residential and small commercial buildings.[12] As ODOE correctly characterizes, electric appliances are both more efficient and their greenhouse gas emissions will decarbonize as Oregon meets its clean electricity targets.[13] We strongly support ODOE's call for energy efficiency policy prioritizing electrification and shifting energy use to hours when the grid is cleaner and cheaper.[14]

Finally, we support the draft OES' recognition of the importance of our current sources of funding for energy efficiency, especially in the context of the loss of federal funding sources, the importance of this resource to decarbonization in the region, and the barriers that the upfront investments required can pose, especially for energy burdened households.[15] Maintaining and expanding funding for energy efficiency investments in low income households will be an important goal in the coming years.

2. **Policy 1b**: **Evaluate, promote, and allocate funding to opportunities to improve energy efficiency in large commercial and industrial sectors; Policy 1c: Prioritize policies and increase support for programs that expand access to multimodal transportation options – including public transit, biking, and walking infrastructure – and promote development patterns that make it easier and more appealing for people to live, work, and access services without relying on a personal vehicle.**

We support the draft OES' recognition of the intricacies of energy efficiency in the large commercial and industrial sectors, one that is expected to see significant load increases and the role of Building Performance Standards in driving efficiency for these customers. We recommend that the final OES recognizes the importance of innovative financial tools that can support these entities' adoption of clean energy, like Commercial Property Assessed Clean Energy Programs.

As for multimodal transportation, we highlight the modeling results pointing to the high cost of not reducing vehicle miles traveled, an estimated $22B in additional costs in 2050 if the State's

[11] Draft OES at 19.
[12] *Id*.
[13] *Id*.
[14] *Id*.
[15] *Id*. at 20.

adopted VMT goals are not met.[16] Beyond the meaningful savings, the public health implications of reducing emissions associated with transportation are crucial. The draft OES correctly characterizes the complexity of reducing reliance on single-occupancy vehicle trips, given the many systems and actors that have to interact and coordinate to achieve that goal and the need for resources. We appreciate the draft OES highlighting community specific needs that must be understood as part of an effort to reduce VMT and expand multimodal transportation across the state.

B. Electrification

As noted in the strategy, "[e]lectrification is a powerful energy efficiency and greenhouse gas reduction measure."[17] This is true across sectors, but each sector will require differing policy tools and mechanisms. Some sectors have more mature technologies for end use electrification, like passenger vehicles, while others with less well established technology solutions, like industrial heat, will require collaboration and innovation with industry.

1. **2a. Advance and expand efforts to electrify transportation, with a focus on removing barriers to ensure the state meets its zero-emission vehicle goals. (Electrify transportation);**
   2b. Facilitate and accelerate the interconnection of EV charging infrastructure and related distribution system upgrades to enable faster deployment, lower costs and complexity, and improve grid readiness. (Distribution system readiness for EVs)

Vehicle electrification is a goal shared by many local governments across the state. The state should try and leverage public sector vehicle procurement at the state and local level to help facilitate vehicle electrification goals. Public employees often have their first experience using an electric vehicle through work and public fleets have potentially large carbon footprints. Sharing knowledge, learning, policy approaches, and potentially coordinating on procurement can help to accelerate the transition to electric vehicles. The state should also set goals for state fleet conversion across departments and for shared motor pool resources. Another area of coordination is shared charging infrastructure across state and local fleets, which may be particularly important for DC fast chargers.

In addition, the draft OES should include a recommendation for legislative action that ensures that the state maintains a focus with public resources of trying to make sure electric vehicle charging is available for low and moderate income households, where the business case for private sector deployment may be less clear. Time of use rates, vehicle to home connections, and vehicle to grid policies should also be considered and designed with equity considerations in

[16] July 2025 OES Technical Report at 94
[17] Draft OES at 14.

mind. Standardizing codes, rules, and contracts across jurisdictions can help to facilitate deployment of charging infrastructure.

2. **2c. Promote strategic electrification across the residential, commercial, and industrial sectors by aligning policies and investment to deliver affordable, reliable, and clean energy. (Strategic electrification)**

Strategic electrification as described in the OES is a useful framework for evaluating the most high impact and cost effective electrification opportunities.[18] One clear area of application for strategic electrification is new residential construction. While electricity is a necessity, new gas lines are an added and unnecessary cost. The straightforward approach taken by other states to restrict gas use in new buildings makes sense, particularly as technologies like heat pump water heaters, induction stoves, home batteries, EV to home, and heat pumps that deliver efficient heating and increasingly vital cooling, obviate the need for gas and the additional investment.

The state should also prioritize demonstration projects for low heat industrial applications (<200 degree celsius), like the food and beverage industry, an ideal sector for industrial decarbonization. Technologies like industrial heat pumps and heat recovery systems already exist and are in widespread use, but require piloting, experimentation, and derisking in Oregon. Including strategies in this sector provide key opportunities and could leverage existing efforts like the Portland Clean Industries effort.

C. Clean Electricity

Clean electricity supply is the linchpin of Oregon's climate strategy. As a result, upward pressure on electricity rates poses a potential barrier on other elements of the strategy, including electrification and equity. We support the Draft strategy efforts to identify opportunities to lower the cost of electricity and empower customers to further defray costs (e.g. demand response programs), and suggest that it should include other strategies like lowering the soft cost of rooftop solar (standardized state-wide permitting and contracting). We similarly support strategies that create system-wide efficiencies like market integration across state lines. This period of growth and change will require constant adjustment, experimentation, and learning from other states and countries on what policies and programs are effective at balancing grid decarbonization while protecting ratepayers and matching demand for electricity.

1. **Policy 3a: Facilitate energy infrastructure enhancement and expansion while avoiding, minimizing, and mitigating negative impacts on natural and working lands.**

[18] Draft OES at 25.

We agree with the draft OES' characterization of the need for additional energy infrastructure of various scales to meet the rising demand for electricity and achieve our decarbonization and clean energy targets. The draft OES rightly identifies the need to avoid, minimize, and mitigate the impact of energy infrastructure expansion on tribal cultural resources, communities, natural and working lands, and waters. We recommend that the final OES include "tribal cultural resources, and communities" in the title of the Policy. We encourage the Final OES to name newer distributed energy technologies that can have low barriers to adoption and that have not yet been explored in Oregon like balcony solar.

2. **Policy 3b: Enable consumers to support grid needs by shifting the timing of electricity consumption for flexible loads like water heaters or EVs.**

We support inclusion of Policy 3b in the draft OES. Demand-side measures and flexible loads are key to reducing costs and emissions of our increasingly dynamic electricity system. We appreciate the recognition that not all customers may be able to respond to market signals to shift their load, and agree that any policies to promote load flexibility should be carefully designed to avoid negative impacts on already burdened communities. They should also be paired with support for measures that reduce energy burden and improve community members' experience, like weatherization and other energy efficiency measures, as well as technologies that allow customers to have more flexible loads. Equitable adoption of technologies that support load flexibility, like home batteries and vehicle to home connections should be supported.

3. **Policy 3c: Consult and engage with Tribes to understand their concerns around energy development and to identify opportunities where state policies, funding, and programs can support tribal priorities while minimizing the effects of development on environmental and cultural resources.**

We support the draft OES efforts to highlight that engagement and formal consultation with Tribes is essential to energy policy in Oregon. The draft OES begins to acknowledge the costs that the development of our energy system imposed on Tribes through its recognition that failure to consult and engage the Tribes "raises a risk of perpetuating historical inequities as well as disrupting a Tribe's cultural practices."[19] The draft OES also recognizes that Tribes have voiced concerns on specific projects. As a governmental entity working to honor our own obligations to Tribal sovereignty and our Indigenous community members, we support ODOE's efforts to acknowledge the state's obligations and strengthen its efforts to center Tribal priorities and perspectives in this work.

[19] *Id*. at 30.

4. **Policy 3d**: **Collaborate with neighboring states and regional entities to address Oregon's needs as part of a regional grid.**

We support inclusion of Policy 3d in the draft OES. As the draft OES highlights, the limited steps that the region has been able to take towards regional markets have resulted in savings. As a result, we consider it reasonable that Oregon continues to explore avenues to obtain the likely greater benefits that can accrue to Oregonians as a result of regionalization.

D. Low-Carbon Fuels

We agree that low-carbon fuels will play a critical role for the hardest to electrify sectors, and provide a pathway for maintaining industrial competitiveness and a lower carbon pathway to electrification. Multnomah County currently uses renewable diesel to power our medium and heavy duty fleet vehicles, providing a cost effective approach to reducing emissions without any disruption to essential services. Though the County is committed to electrification of all of its equipment, we recognize that it may be some time before alternatives for all our equipment becomes available or feasible and the same is likely true for many industries, particularly for energy-intensive industrial applications. However, we have concerns that some investments in low-carbon fuels may serve to inhibit investments in electrification, which along with energy efficiency should remain the primary focus on the state's energy strategy. Even with the reduced greenhouse gas impacts of low carbon fuels, their use still suffers from reduced efficiency in comparison to direct use of electricity through electrification, particularly in the case of combustion fuels. We appreciate that these perspectives are shared in the draft OES.

1. **Policy 4a. Foster development and expansion of low-carbon fuels and fuel infrastructure to serve the hardest-to-electrify sectors in Oregon as a strategic resource, while mitigating environmental and community impacts.**

We support this action, but urge caution when it comes to the manufacture and distribution of these fuels. For example, Multnomah County has long raised concerns about the distribution of combustion fuels by rail.[20] Those concerns remain irrespective of whether the fuel being transported is fossil or bio-based. In addition, we recognize the concerns that communities have about the impacts of the distribution and manufacturing of both fossil-based and low-carbon fuel products. We appreciate the draft OES recognizes these community concerns. The draft OES also acknowledges that the low-carbon fuels market will continue to be competitive nationally, which further emphasizes the importance of limiting their use to the most hard to electrify segments of our economy.

[20] https://multco.us/info/oil-train-risk-multnomah-county

2. **4b. Support low-carbon fuel adoption in the hardest-to-electrify sectors including aviation, rail, marine transport, long-haul trucking, agriculture and off-road equipment, high-heat industrial processes and resources that support electric system reliability.**

We agree with the approach described in this section, including the call for additional clarity and direction and support from the state about how communities and organizations can prepare for and manage through this complex transition. The cost of alternative fuels, however, will be the driver and prior to state investments into projects, thorough techno economic analysis should be conducted to ensure that the technological approach is sound, can scale, that prices will decline with scale, and that markets exist. This analysis will be key to then determining if state grants, loans, or offtake agreements are viable and prudent public policy measures. Moreover, especially in the case of bio-fuels, analysis to ensure the environmental and climate benefits are real must be rigorously applied and publicly transparent to ensure that regulatory and incentive based policies are yielding the desired outcome.

One industrial scale policy missing here is the use of green hydrogen as a replacement feedstock for chemical production. The round-trip efficiency of green hydrogen production likely limits its applicability as an energy carrier, but it may prove successful in helping to decarbonize chemical production, for example ammonia production. Developing instate domestic supply chains for these chemicals may prove desirable for reasons beyond decarbonization, like supply chain redundancy, and the state can play an important role in helping to facilitate the development of an in-state decarbonized supply chain for chemicals that are needed in the agricultural sector or as an industrial feedstock.

While alternative fuels may have applicability in the “hard to decarbonize” sectors, the OES should also acknowledge the importance and promise of electrification in these sectors as well. Thermal energy storage, electrochemical storage and production techniques, industrial scale heat pumps and heat recovery systems, and other electricity enabled technologies are the most likely to be successful in the decarbonization race given the existing scale of production and deployment. The OES should map out opportunities for the state to advance the deployment of these technologies, particularly in the context of economic development coupled with grid integration and demand response. For example, industrial scale thermal storage could be an important grid balancing technology.

3. **4c. Support a managed fuels transition that minimizes stranded assets as end-uses electrify, identifies opportunities to leverage existing infrastructure and expertise to support clean fuel alternatives, and encourages technological innovation to advance new opportunities.**

We appreciate that the draft OES acknowledges and begins to explore the challenges of a rapid but carefully managed energy transition. Strong leadership will be needed to navigate through the complex and interconnected changes necessary to achieve the state's goals. Throughout, we urge state leadership to continue to emphasize that despite the challenges, this transition will ultimately result in a healthier and more stable Oregon. As acknowledged, this will require an unprecedented level of coordination across sectors, including regulators. The draft OES provides a critical roadmap for how to move this work forward.

E. Resilience

It is critical that the state exert its leadership around energy resilience, and the OES provides a pathway for doing so. Whether in the face of ice storms, wildfires or a catastrophic Cascadia Subduction Zone earthquake, deep energy efficiency and investments in distributed resources will pay significant dividends for communities to survive, recover and thrive. New, and not so new, distributed energy technologies provide the tools for households and communities to be self-reliant during these challenges, and are important assets in the overall energy transition. We would like to see clear pathways for recognizing these values in decisions about energy priorities and investments. In addition, we would like to see additional discussion of how the final OES can shape decisions about how Oregon recovers post disaster. A clear vision for recovery that fully reflects the five priority pathways is critical in ensuring that we not only rebuild, but do so in a way that invests in our future.

1. **5a. Evaluate cross-fuel interdependencies and vulnerabilities to better ensure long-term reliability of the electric grid. This specifically includes strengthening coordination of electricity and natural gas system planning and exploring other cross-fuel areas requiring strategic coordination.**

Cross sector coordination - recognition that all systems exist to serve the interests of Oregonians - the OES can serve as the foundation for reconsidering how different systems are, can and need to serve the state goals. Appreciate that the confluence of electricity and gas, and implications for reliability are named explicitly. The OES understands the need for clear direction when it comes to the choices about which approaches are in the best interest of achieving state goals and positive outcomes for communities. The draft OES states that energy planning "may have a growing need for more coordination [across energy systems] to ensure a reliable energy transition", which does not sufficiently recognize the challenge and need for leadership in this space. The report referenced in the draft OES[21] agrees, recognizing that "Siloed planning in gas and electric systems, has a detrimental effect on overall energy reliability".

[21] https://www.pnucc.org/wp-content/uploads/Guidehouse-analysis-of-regional-energy-reports-2025.pdf

The referenced 2024 Energy Security Plan highlights redundancy and weatherizing as key energy strategies, which are both supported by energy efficiency and distributed energy resources.

We appreciate that the draft OES recognizes new approaches for navigating the complexities of transitioning across energy systems. However, we are concerned that the draft OES may not fully appreciate the need for clear legislative and regulatory direction in this space. Specifically, the statement "[t]he state must support utilities in getting beyond the barrier of market competition…" seems to minimize the state's power to obligate utilities to respond to priorities of Oregonians and policies adopted by its leaders.

2. **5b. Fund resilience measures across the energy system, including at utility scale and in homes, businesses, and communities through a combination of ratepayer and taxpayer dollars, particularly where climate adaptation measures can also help advance climate mitigation.**

We appreciate that the draft OES acknowledges the value in distributed resource investments as both a climate adaptation and mitigation strategies, as well as recognizing that utilities may be constrained in their ability to invest in these types of resources. State investments such as the now expired Community Heat Pump Replacement Program and others are proven strategies to put climate resilient technologies into impacted communities while directly supporting the five pathways of energy decarbonization. Multnomah County has been able to leverage programs such as these to simultaneously and cost effectively address a number of community challenges including poor air quality, heat risks, energy burden, while supporting energy system decarbonization. We appreciate that the draft OES calls for additional investments both through utilities programs and state programs. Both are needed.

3. **5c. Maintain emergency response capabilities, including the adaptability and readiness of vehicles, supply of fuels, and fuel storage needs during the energy transition.**

As a first responder to community crises, Multnomah County appreciates that the draft OES acknowledges that certain limited sectors, like emergency responders, need additional consideration when it comes to standards of reliability in the energy transition. This is akin to the additional consideration needed for hard to electrify sectors and use cases. A rapid energy transition cannot come at the expense of meeting community needs during a crisis. We would also encourage as part of this area a careful consideration of where and how investments in the energy transition can best support community self-sufficiency and reduce the demand for emergency response. One small example, further prioritizing households with powered medical

devices in distributed energy investments. Approaches that bring a wide range of stakeholders together, especially impacted community members, to align and prioritize strategies is important for making the guidance of the OES as impactful as possible.

III. EJ FRAMEWORK

We strongly support the draft OES' inclusion of an environmental justice framework and appreciate ODOE Staff's efforts to ground it on reflections and feedback from energy and environmental justice advocates. We sincerely appreciate the work by ODOE's environmental justice Staff in trying to design a process that balanced a recognition of the limited capacity of many environmental justice advocates in Oregon with the critical need to incorporate an environmental justice lens throughout the many strands of work in the draft OES.

While we strongly support and value the EJ framework, we are worried that having it be its own section and tool poses the risk of it being overlooked, especially for people who consult the OES looking for a specific pathway or policy rather than reading the document as a whole. That said, we appreciate ODOE Staff weaving environmental justice considerations throughout the various sections of the document, including by naming specific steps in the framework that should be part of future energy policy and program development.

We also appreciate seeing elements of our feedback in the Framework, such as ODOE's EJ Staff incorporation of the elements of the pillars of energy justice, and we see and support ODOE's EJ Staff efforts to ground this framework on existing work on robust tools to advance justice in policymaking, such as targeted universalism. We also appreciate ODOE listing steps for framework implementation that can help frame future processes seeking to advance and design specific policies.

We offer the following feedback on the approaches in the framework:

- Approach 1:
    - Add policies and programs that allocate funding for energy purposes. This recommendation assumes that "energy infrastructure" refers to "steel on the ground" projects like clean energy projects, transmission, etc., rather than to interventions and measures like energy efficiency or programs to deploy heat pumps.
        - "All policies or programs to develop energy infrastructure **and allocate funding for energy measures** are designed to ensure…"
        - We appreciate the recognition of technical and non-technical expertise in this approach.

    - Add to the potential metrics: Number of community-based organizations that participate in the process by providing feedback and/or supporting grassroot community member outreach.
- Approach 2:
    - Add the following to the potential metrics:
        - Percentage of participants that see a reduction in energy burden.
        - Reduction in the number of disconnections among participating communities
- Approach 3:
    - We strongly support this approach.
    - We suggest adding language about prioritizing grants and no-cost measures.
    - We suggest adding zero interest loans with forbearance options to the last bullet point, consistent with how we understand the *Seeds for the Sol* model to work:
        - "Establish revolving loans with beneficial features such as **zero and** low interest rates**, the possibility for forbearance,** and longer repayment terms to minimize monthly loan payments for low- and medium-income households. **It would be key to ensure that any organization(s) offering financing would first make sure that all incentives, grants, and no-cost options are exhausted, and that the model is set up so that there are no incentives for exploitative lending practices.**"
    - We have questions about the potential metric looking at the number of energy funding/assistance programs. We suggest a better metric can be the amount of funding allocated in the state, in dollars.
- Approach 4:
    - Similar to our feedback in Approach 3, we suggest adding funding dedicated to apprenticeship programs.
- Approach 5:
    - We recommend adding the following bullet point: "Partner with community organizations who are trained and compensated appropriately to design community outreach materials and information opportunities.
    - Add to the potential metrics: "Number of interactions with engagement materials (measured by clicks in QR codes or links/calls to numbers provided, etc.)"
- Approach 6:
    - Add a potential metric that quantifies responsible development of energy infrastructure/engagement with impacted communities. These suggestion are a starting point as community benefits agreement may not necessarily be an indicator of successful engagement with communities. It would be important to further develop this metric with input from communities that are more likely to host infrastructure:
        - "Number of projects with community benefit agreements."

- "Number of projects with meaningful pre-development engagement."

IV. LEGISLATIVE AND POLICY ACTIONS

A. Transportation Actions

We strongly support the draft OES's prioritization of vehicle miles travelled (VMT) reduction as a core strategy for reducing emissions from the transportation sector. While the energy savings potential from VMT reductions and greater use of active and multimodal transportation options is significant, equally important is that this approach will also result in healthier air, healthier people, and the social benefits of more compact and connected communities.

1. Transportation Actions 1 - 7

The focus on funding in the transportation actions is timely, with active discussions in the state legislature about how to fund not only existing infrastructure, but the infrastructure of a decarbonized future. The current funding approach in Oregon is not sufficient to meet either objective, and we urge you to work with local governments including Multnomah County to shape those solutions.

2. Transportation Actions 8 - 12

We appreciate the draft OES's focus on fleet transitions, and in particular the need for additional direct support and strategic guidance on reducing emissions from medium- and heavy-duty fleet vehicles. Diesel particulate emissions, predominantly generated from larger diesel powered equipment and vehicles, reminds a significant public health concern for Multnomah County and its residents. Multnomah County has worked for decades to understand the public health risks of diesel emissions and the strategies for addressing these risks. This includes innovating solutions like working with other local governments in the region to implement the Clean Air Construction Program. Multnomah County is eager to continue to work with local and state partners to address energy usage in the transportation sector in a manner that maximizes benefits for community health.

B. Buildings Actions

The building sector presents one of the best opportunities to align efforts to address carbon emissions while simultaneously addressing critical community challenges: housing affordability and availability, and protecting community members from climate extremes. We appreciate that the draft OES recognized these interconnected issues, including the need for funding for basic

home repairs that can prevent energy investments in low income households. The draft OES also recognizes the overall funding constraints that limit proven approaches to addressing multibeneficial projects. Given the state's preemption over local building codes, bold action from the state in this area is critical for meeting both state and local energy goals. The draft OES identifies a number of critical strategies necessary that are essential for meeting statewide and local decarbonization and climate resilience goals. We appreciate that the draft OES recognizes that the state needs to do more when it comes to building codes, and that greater leadership is needed on an electrification strategy for buildings. However, some of the strategies as written either do not fully appreciate the urgency of the issue and the need for state leadership, or may even run counter to the five core pathways of the draft OES.

1. Buildings Action 1, 2 and 7

While we do not disagree with this action, we do not believe it is sufficient to realize the "five pathways" vision of the draft OES. Specifically, we believe the OES Technical Report demonstrates the need that electrification of systems, particularly in new construction, need to be an explicit priority of the state. While there are many considerations for how alternative clean fuels may be necessary in the short, medium and long term, electrification should be considered the starting point for future planning. In addition, while additional planning is needed including potentially "a building decarbonization roadmap" as described here, we urge the state to take immediate action to advance the vision of the draft OES. As shown in the modeling, delayed action has costly implications for our communities and complicates the ability of the state to meet its goals.

2. Buildings Action 3 - 6

We strongly support these recommendations and again appreciate the recognition of the need for additional flexibility in project funding and administrative costs in order to provide essential energy benefits for the hardest to reach clients. Multnomah County's low income weatherization program exercises great creativity every day in order to meet the needs of our community members, and could serve more people, better, with these recommendations. Low income energy programs must allow for additional engagement with households, investments in deferred maintenance, and a mechanism for supporting clients post construction in order to maximize and preserve household benefits. This investment model is at the heart of a just energy transition. We urge the state and draw on the experience of local government and other community providers to share the implementation of these recommendation actions.

C. Clean Electricity Actions

We appreciate and support the draft OES' recognition of the role of electrification and its interactions with the decarbonization of electricity as two key elements of a least-cost, least-risk approach to meeting Oregon's energy and climate policy objectives. We also appreciate its characterization of pressures facing the electricity system, including growing loads, rising rates, and the impacts of the climate crisis.

Importantly, Oregon is not a fossil-fuel producing state and so a fossil-fueled-based energy system results in us sending a lot of our energy expenditures out of state. As the report points out, a clean energy transition gives Oregon the opportunity to keep some of those funds here.

1. **Clean Electricity Action 1**

We support this action. We recommend that the Final OES goes beyond the current language, which includes explicit *authorization* for the entity to use an EJ lens and an equitable process, to stating that use of that lens and process should be *required* in establishing corridors. Given that, as we understand this action, the entity could establish transmission corridors and obtain limited siting approval for development within those corridors, the Final OES should name the importance of rooting that designation process is rooted in community engagement, in addition to utility and transmission planning efforts. Transparent engagement that takes place early, that leaves room for changes in response to community concerns, will be crucial to ensure that impacted communities can actively shape the process.

2. **Clean Electricity Action 2**

It is important to understand what has impacted project developers' ability to complete their projects, as Action 2 recommends. We recommend that ODOE sets a timeline for completion of such a study that balances procedural equity considerations with the need for timely information to allow for actions on the study findings.

With regards to studying policy incentives, we suggest that, rather than recommending a study, the Final OES recommends funding programs to support local electricity investments. We have and have had programs that have been successful but that have not been able to meet the need due to sunsetting or limited funds. We also know that state investment, incentives, grants, and no-cost solutions are largely successful. A conversation about how those current programs could be strengthened to better meet the needs of environmental justice communities is in order, but we recommend that Action 4 be more assertive as we have the information we need.

3. **Clean Electricity Action 5**

We could use more clarity to better understand what Action 5 is asking for, since the text under the recommendation mentions that funding is a barrier to updating or adding data sets,[22] but later states that this recommendation is not about updating any specific data sets. Is the recommendation here that the Legislature funds the Eastern Oregon Solar Siting Rules Advisory committee recommendations?

4. Clean Electricity Action 6

We support the draft OES highlighting some of the work that we expect to see out of the implementation of HB 3179 (2025), and SB 688 (2025). We encourage that the Final OES also mentions additional funding and capacity for stakeholder, especially the environmental and low-income intervenors that will need to engage in these processes, plus all other PUC work, with a limited amount of intervenor funding for a wide variety of issues.

5. Clean Electricity Action 7

We support Clean Electricity Action 5, especially in light of the retreat at the federal level. While we acknowledge budgetary constraints, these programs have been successful and are key to supporting our communities' resiliency and energy independence. The draft OES highlights some of the work that we expect to see out of the implementation of HB 3179 (2025), and SB 688 (2025). We encourage that the Final OES also mentions additional funding and capacity for stakeholder, especially the environmental and low-income intervenors that will need to engage in these processes, plus all other PUC work, with a limited amount of intervenor funding for a wide variety of issues.

D. Industrial Actions

We appreciate the unique challenges with decarbonization in the industrial sector, and continue to strongly support the implementation of the state's Climate Protection Program as a pathway for doing so. We support the investment strategy in Industrial Action 2.

E. Low-Carbon Fuels Actions

As discussed earlier, Multnomah County sees the value of investments that support the use of low-carbon as part of a broader energy decarbonization pathway. We believe that these high value fuels should be reserved for cases where there is not an electrification pathway available, and urge caution when their use may slow the transition to electrified end uses.

[22] Draft OES at 73

1. Low Carbon Actions 1-3

The proposed actions are reasonable. We agree with the recommendation to consider both the impacts to emergency preparedness and response during the energy transition. We also agree that brownfields and already developed industrial sites should be looked at first when developing new clean fuel resources. However, we strongly recommend that environmental justice and other impacted communities are "at the table" from the beginning of any policy development or site considerations for fuel production or other major industrial activities. The language "publishing recommendations on how to improve engagement with local communities" is not sufficient for realizing a community-centered, just transition approach to energy planning.

F. Cross-Cutting Actions

1. Cross-Cutting Action 1.

The state cannot manage what it does not measure, so we agree that new large electric loads should be required to register and report emissions to the state.

2. Cross-Cutting Action 2.

We support this recommendation, especially with the caveat in the draft OES that new financing should not result in defunding or re-prioritizing programs and/or assistance for energy efficiency measures for residents with low and moderate incomes.

No-cost measures and grants should be prioritized, especially for low-income customers. However, where the community member will see savings in their bill, a model of zero-cost loans that allows for forbearance can be beneficial. Our view is inspired by conversations with the organization *Seeds for the Sol*. As we understand the work of this organization, it connects community members with resources, and where no-cost solutions are not available, begins by exploring incentives, and then makes zero-cost to some community members. Those loans have flexible terms and community members can request flexibility when life happens and they will not be able to make payments.

Importantly, and as we highlighted in the EJ Framework section, this type of program must be implemented with care, rely on trusted community partners, and have strong oversight to ensure that no community members are led into predatory situations.

3. Cross-Cutting Actions 4 and 5.

We support Cross-Cutting Action 4 as it would support the state better understanding the reality of Oregonians, particularly for whom inability or difficulty affording energy threatens their access to energy..

Importantly, one weakness of the draft OES is its limited attention to how vulnerable Oregonians experience energy, and how we can strengthen the infrastructure that keeps people connected and with access to the energy they need. We strongly recommend that a future iteration of the OES dedicates more time and resources not just to how we meet our energy goals, but to what infrastructure we need in place to make sure that we do not leave folks disconnected in the process.

Similarly, we support Cross-Cutting Action 5 as the proposed survey would support better information for decisionmakers on energy costs and consumption patterns, including for transportation.

4. **Cross-Cutting Actions 6.**

Energy systems are inextricably linked, and how effectively public and private entities manage across different systems is key to the planning, implementation and ongoing management of resilient energy systems. This includes linkages across different states in the west, which will play an essential role in ensuring not only sufficient supplies of energy, but also least cost decarbonization pathways. Finally, transparency about energy data is important for suppliers and users alike to understand if decisions about how we build, maintain and decarbonize our energy systems are being made in the best interests of the state and its communities.

5. **Cross-Cutting Actions 7.**

We strongly support greater state involvement in workforce development opportunities and impacts related to the energy transition. Training the workforce of the future is not only essential to ensuring we have the means to implement an energy transition, but is also essential for supporting workers impacted by changing energy priorities. This is especially true for individuals and communities who are at greatest risk of being left further behind economically during the energy and technological transition.

6. **Cross-Cutting Actions 8 - 11**

Strengthening coordination across all levels should be an essential priority for the state, which is uniquely positioned to play this coordinating role. We strongly support these actions to grow the state's capacity to play this leadership role, particularly in the face of federal uncertainty. We appreciate that the draft OES recognizes that part of the state's leadership role is delivering real

community impact through lasting partnerships with environmental justice communities, and an obligation to embed equitable practices throughout its work.

V. CONCLUSION

We would again like to thank the agency for the development of this well researched and comprehensive draft plan. The impacts of climate change are having severe negative impacts on the health and well being of Oregonians. At the same time, the cost of energy is increasingly becoming a cost of living issue for many households. This is a difficult and challenging moment, and energy is now at the forefront of our ambitions to develop the state's economy, reduce emissions in line with targets, improve public health, and mitigate the cost of living crisis that is impacting so many people across the state. For the OES to be successful we will all need to lean into making the plan a working document, and move with all due speed to meet the moment.

The pathways and strategies identified in the draft OED give us a shared roadmap. While improvements can be made to the draft OES, we hope the final version builds upon the solid foundation of the draft. And, in turn, we hope to partner with the state, the private sector, and ratepayers to implement the final version of the Oregon Energy Strategy.

Sincerely,

John Wasiutynski Director	Silvia Tanner Senior Energy Policy and Legal Analyst	Tim Lynch Senior Policy Analyst

September 22, 2025

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301
Via online portal

Re: Comments on Draft Oregon Energy Strategy

The Northwest Environmental Defense Center (NEDC) is a nonprofit environmental organization based in Portland, Oregon. Our members include attorneys, law students, and hundreds of members of the public. NEDC's mission is to preserve and protect the natural environment of the Pacific Northwest by identifying legal and policy solutions to address threats to natural resources. The Green Energy Institute at Lewis & Clark Law School (GEI) is a nonprofit energy and climate law and policy institute within Lewis & Clark Law School's top-ranked environmental, natural resources, and energy law program. Neighbors for Clean Air (NCA) is a statewide nonprofit organization based in Portland, Oregon, that works to ensure that every Oregonian has clean and healthy air to breathe by reducing harmful air pollution. We are deeply invested in Oregon's energy future and appreciate the opportunity to provide feedback on this plan. Please find NEDC, GEI, and NCA's comments on a few specific aspects of Oregon's Draft Energy Strategy below.

1. **Clean Electricity Pathway**

NEDC, GEI, and NCA are pleased that the Draft Oregon Energy Strategy ("Strategy") identifies clean electricity as one of the five pathways, and we support the Oregon Department of Energy's efforts to increase the amount of electricity generated from renewable resources. Creating a clean power sector is critical to the state's decarbonization efforts, successful implementation of the four other pathways, and the future of Oregon's economy. Renewable energy, if developed properly, is cheaper, more abundant, less environmentally damaging, and better for human health than fossil fuels. For these reasons, renewable energy will dominate the near- and long-term future. Transitioning Oregon's power sector to clean energy will both help mitigate the worst effects of climate change and create a healthier environment and stronger economy for its residents.

NEDC, GEI, and NCA support both the broad policies and specific action items outlined in the Strategy. But we urge the Department of Energy to move quickly in scaling the rollout of clean energy. Clean energy technologies are currently mature, reliable, and affordable enough to meet a significant portion of Oregon's energy needs. While additional innovations will be required to address the most difficult to transition areas of Oregon's energy sector, the state can make significant progress now by deploying proven technologies at scale.

Key to this progress will be engaging the public and incorporating their feedback. The projects that are built the most quickly with the least amount of opposition are those where the local community and other

interested parties are able to give feedback that is actually incorporated into the final design. As such, reaching out to stakeholders early and smoothing over conflicts as they arise will be crucial to Oregon's energy transition efforts.

Our specific comments here point to a few helpful examples that Oregon can look to, and possibly incorporate, into its clean electricity efforts.

a. Action 1: Design Transmission Entity to Kickstart Development; Incorporate Public Input Throughout

The Strategy recognizes that successfully meeting clean electricity targets requires a "pace and scale of construction of new electricity infrastructure that is not being met today." While many factors may contribute to the lower-than-necessary development of new renewable energy resources in the state, the Strategy rightly identifies transmission as a major bottleneck. The Strategy proposes easing this bottleneck through creation of a state transmission entity that could speed responsible transmission development by tackling some pre-construction planning and permitting tasks, while reducing financial barriers to development by extending state bonds for publicly beneficial projects.

NEDC, GEI, and NCA are broadly supportive of this policy action and encourage the Department of Energy to prioritize it. However, this policy action comes with some possible risks that should be accounted for and carefully managed, especially around public engagement. Oregon should examine and learn from states that have successfully completed transmission buildout initiatives, as described below.

Lessons from Texas's Competitive Renewable Energy Zone

In 1999, the Texas legislature passed a law setting a goal for increased wind energy generation.[1] This attracted wind developers to the state, and within a few years Texas was on track to surpass the goal.[1] It was clear that Texas was fostering a burgeoning new industry, but scaling was slowed by the fact that in wind rich portions of the state, generation outpaced transmission capacity, forcing the grid operator to curtail generation in some circumstances.[1] This bottleneck scared off new developers and investors and prevented existing suppliers from expanding generation. The legislature addressed this in 2005 by authorizing a major transmission development initiative: the Competitive Renewable Energy Zone (CREZ) project.[1] Upon project completion nine years later, Texas had extended its grid to some of the most wind-rich areas of the state with 3,600 miles of transmission lines, helping statewide wind generation increase from just under 2,000 MW in 2005 to over 23,000 MW in 2020.[1] The CREZ project is one of the largest renewable energy buildouts conducted by a state so far and provides multiple important lessons for Oregon.

First, the CREZ acted as a catalyst for renewable energy development, breaking the chicken-and-egg problem that often accompanies renewables. Two researchers from Rice University's Baker Institute of Public Policy explained the renewable chicken-and-egg problem in a 2020 report on the CREZ project:

[1] Julie A. Cohn & Olivera Jankovska, Ctr. for Energy Studies, Rice Univ., *Texas CREZ Lines: How Stakeholders Shape Major Energy Infrastructure Projects* (2020), https://www.bakerinstitute.org/research/texas-crez-lines-how-stakeholders-shape-major-energy-infrastructure-projects.

> Areas with high potential for utility scale wind and solar development are often physically far from centers of power use . . . [W]ind and solar developments will succeed only if someone builds new high voltage transmission lines to bring power to customers . . . Wind and solar developers are reluctant to invest in renewables projects if there is uncertainty about how they will reach power markets. Transmission developers are reluctant to go through the lengthy and expensive process of locating and building new power lines to the middle of nowhere in the absence of firm generation project plans.[2]

The CREZ project broke this stalemate and got the ball rolling in the right direction. By demonstrating that the state government was invested in the wind energy sector and willing to back it politically and financially, the legislature was able to provide greater certainty to both wind and transmission developers. Once moving, the system created its own momentum. Favorable financial returns provided an incentive for more wind developers invest in the state, in turn demonstrating reliable demand to transmission developers, which further enabled more wind development, and so on.[3]

Right now, Oregon may be stuck on the "bad" side of the chicken-and-egg conundrum. A state transmission entity could help Oregon break free and create a virtuous cycle of renewable energy development. The more that Oregon politically and financially supports and enables this transmission entity, the stronger a signal it will send to would-be developers that Oregon is a safe and attractive place to develop and scale renewable electricity generation.

Second, incorporating feedback from local communities and other interested parties into every stage of the development process is a crucial element of success. The CREZ was a huge development project that put new infrastructure into places it had never been before. Sometimes that infrastructure was welcomed and sometimes it was reviled.[1] In cases where the CREZ faced strong opposition, especially from local communities, it was bogged down in additional administrative procedures and legal challenges.[1] This slowed development, increased costs, and eroded political support for the initiative. To align the CREZ with the public's desires, the Texas Public Utility Commission sought extensive public feedback, from rulemakings to proposed transmission line paths to awarding of contracts. Ultimately, the commission opened hundreds of dockets and received over 24,000 items.[1] Importantly, these consultations would often change the shape of the project. Sometimes, transmission lines were routed along longer paths at greater expense to better meet local communities' interests, avoid environmental impacts, or preserve other important resources.[4]

If Oregon is going to dramatically increase the scale of renewable energy infrastructure, as it must to meet state goals, Oregon should seek feedback from the public, and earnestly work to incorporate that feedback as it works to develop and operate the state transmission entity.

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[2] *Id.*
[3] *Id.*
[4] *Id.*

b. Action 3: Pilot and Scale New Distributed Energy Technologies

Clean electricity Action 3 calls for the Oregon Department of Energy to report on the development of emerging renewable technology, like floating offshore wind, enhanced geothermal, small modular nuclear reactors, and others. The plan rightly places emphasis on utility-scale technologies, which will supply the bulk of Oregon's clean electricity needs in the near and long term. However, it largely ignores emerging distributed energy technologies**.** In addition to utility-scale technologies, Oregon should also track, pilot, and scale these innovative distributed energy resources.

One promising development in the distributed energy space is the recent growth of plug-in solar in Europe. Plug-in solar systems are small photovoltaic arrays designed to be mounted on balconies, garages, awnings, or other areas that could not support a traditional home solar array.[5] They are designed to plug into a standard home outlet, making them easy and safe to install without professional assistance.[6]

The small size and ease of installation make these systems simpler, cheaper, and faster to bring online. Systems in Germany, the pioneer of this market, cost roughly $240 to $1,800 and typically supply 5% to 25% of a home's energy needs.[7] These systems don't have the same high upfront costs of a traditional solar array and have a shorter payoff window (usually two to six years).[8] As a result, these systems are easier to adopt and scale. From 2020 to 2024, German consumers installed 426,000 MW of capacity. Twelve other European countries have legalized plug-in solar—including France, Portugal, Spain, Italy, and Switzerland.[2] In 2025, Utah became the first state in the US to legalize plug-in solar.[9]

Alone, plug-in solar will not make a significant dent in Oregon's electricity generation needs. But it can complement utility-scale generation to make the transition to a renewable energy system easier. The vast majority (over 90%) of power generated by plug-in solar is consumed in-home,[10] which can help reduce the amount of electricity the larger grid needs to produce and deliver. Additionally, these systems can be connected to a small in-home battery to provide off-grid energy during power failures, thereby supporting resiliency.[2]

There are issues that need to be addressed with this technology, like possible effects on the grid, safety concerns for self-installation, and integration with existing local regulations. However, Europe is developing solutions to many of these issues. For example, smart inverters can shut down the plug-in system during power failures to prevent islanding and can stabilize voltage and frequency. And Germany is developing standards for manufacturers to ensure no potentially dangerous "knockoff" products can come to market.[2]

Oregon would be wise to look at plug-in solar and other emerging distributed resource technologies in addition to utility-scale technologies.

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[5] SolarPower Europe, Plug-In Solar PV: Solar for all—a deep-dive on a fast-emerging PV segment. https://www.solarpowereurope.org/ (last visited Sept. 22, 2025).
[6] *Id.*
[7] *Id.*
[8] *Id.*
[9] Utah Legislature, (2025), HB 340: Solar Power Amendments, https://le.utah.gov/~2025/bills/static/HB0340.html.
[10] SolarPower Europe, *supra* note 5.

2. Energy Efficiency Pathway

NEDC, GEI, and NCA agree that the energy efficiency pathway is an important approach to reduce greenhouse gas emissions in the transportation sector, achieve carbon neutrality in the building sector, and broadly support decarbonization goals across industries. To meet its energy policy objectives, this pathway focuses on advancing energy efficiency across buildings, industry, and transportation sectors, including by expanding access to and appeal of multimodal transportation options, to deliver the benefits of a more efficient energy system.

However, NEDC, GEI, and NCA note a number of areas in which ODOE's final OES could more directly tackle the barriers to achieving Oregon's energy and climate goals. First, Oregon should look to Washington's 2021 Energy Strategy,[11] where the state has implemented outstanding electrification and energy-efficient measures across buildings and industrial sectors to achieve carbon neutrality and resilience. By deploying high-efficiency electric heat pumps for space and water heating in residential and commercial buildings, Washington has focused on eliminating the use of fossil fuels, and has strengthened energy efficiency programs—such as ratepayer-funded initiatives—by setting clear targets and aligning them with decarbonization pathways to reduce emissions.

Additionally, in Washington, across industrial sectors, several energy-efficient programs are created that aim to reduce direct emissions from on-site energy generation, such as grid-connected generators and machinery; promoting greater adoption of renewable energy to reduce capital expenditure costs; improving manufacturing processes through efficient technologies that advance low-temperature waste heat recovery and smart manufacturing; and implementing measures like variable-speed drives and compressed air efficiency systems.[12] NEDC, GEI, and NCA recommend that ODOE consult the Washington Energy Strategy and adopt these innovative ideas.

While NEDC, GEI, and NCA offer general support for the draft OES policies and actions, we offer the following recommendations:

While the strategy rightly prioritizes low-income and moderate-income, energy-burdened households, the final OES should underscore the necessity for:

- Dedicated Funding: Ensure substantial and sustained financial resources for energy efficiency programs targeting low and moderate income households. Consider how all investor owned utility ratepayer funding could be targeted toward achieving the final OES policies (e.g. no longer allowing energy efficiency funds to provide gas furnaces).
- Accessible Program Design: Develop programs that allow lower income households and renters to make upfront investments, and provide subsidies, grants or funding as necessary to implement accelerated energy efficiency measures in buildings and appliances such as low emission

[11] Wash. State Dept. of Commerce, Wash. 2021 State Energy Strategy (Dec. 2020), https://www.commerce.wa.gov/wp-content/uploads/2020/12/Washington-2021-State-Energy-Strategy-December-2020.pdf.

[12] Washington Energy Strategy. (2021). https://www.commerce.wa.gov/wp-content/uploads/2020/12/Washington-2021-State-Energy-Strategy-December-2020.pdf

refrigerants and equipment. The OES should also underscore the importance of renewable generation in building development.

- Community Engagement: Involve local organizations and residents in rent improvement program development and other energy efficient process implementation to ensure solutions are tailored to specific community needs.
- Equitable training opportunities: Dedicate budgeting and investments to provide opportunities for continual training to contractors, renters, tribes, landlords, and others within these communities to support the energy transition and adopt new technologies.
- Create market interventions for low carbon appliances and heating equipment for widespread adoption, including directing DEQ to adopt an appliance standard similar to California's.

With respect to **industrial emissions**, we recommend the final OES:

- Categorize industrial emissions, encourage collaboration: The OES should direct that industrial emissions be categorized and programs be developed according to different industrial sectors. If ODOE fosters collaboration, the industrial sector might recognize a means of creating symbiosis to reduce waste and support energy efficiency across industrial and commercial sectors.
- Ensure Equitable Access: Design programs accessible to all businesses including small and medium-sized enterprises (SMEs). These smaller businesses may lack the resources to conduct a thorough assessment of opportunities to transition to low-emission industrial production, or to collect information about the use of fossil fuels in industrial processes and the opportunities to increase efficiency. These opportunities include high-temperature waste heat recovery, low-temperature waste heat recovery, and smart manufacturing.
- Provide Comprehensive Investment Support: Offer technical assistance and financial incentives to help businesses cover high upfront costs, identify operating costs savings areas and implement energy-saving measures.
- Address employment displacement and provide skill training: Due to adoption of newer low carbon efficient technologies, social inequity may arise due to loss of jobs and employment opportunities. Incentives and programs should be designed to address these outcomes by providing relevant skill building workshops and workforce development.

With respect to **transportation emissions,** we recommend the final OES:

- Highlight the potential savings to Oregonians from this energy transition. In 2023, Oregonians spent $11.2 billion on transportation fuels – more than half of all energy expenditures in the state and more than all other forms of energy combined.
- Equitable Funding Allocation: As per the energy strategy modeling, reducing per-capita vehicle miles traveled in light-duty vehicles represents a critical least-cost measure for reducing greenhouse gas emissions. Oregon should prioritize funding for projects that serve underserved communities by deploying low carbon fuel reliant light-duty vehicles across Oregon and multimodal transportation, ensuring that all Oregonians have access to reliable lower-carbon transportation options.
- Inclusive Planning Processes to develop climate-aligned low carbon modals: Engage rural local communities, planners, developers, and local governments to support transit-friendly options

across Oregon urban and suburban areas. Publish the methodology for low carbon fuels and models developed for transparency and improvement.

- Comprehensive Infrastructure Development: Develop interconnected networks by coordinating across agencies, addressing complex local priorities that seamlessly integrate public transit, biking, and walking infrastructure that will make it easier for individuals, including those from marginalized populations, to choose sustainable and safer transportation options.

3. Action Item: Transportation Emissions & Indirect Sources

The Draft Energy Strategy contains a robust section of Transportation Actions, largely focussing on using electrification and low carbon fuels to reduce energy use across transportation sectors. As the Strategy admits, however, some of the underlying assumptions around actions under the Federal Clean Air Act have faced recent setbacks: Federal attempted walkbacks of regulations including Oregon's Advanced Clean Trucks Rules, will challenge Oregon's ability to affordably meet its energy goals.[13] For medium and heavy duty vehicles in particular, an area Oregon's Advanced Clean Trucks Rules attempt to address, some states are turning to regulations not reliant on federal authority to address truck use and indirectly support electrification of medium and heavy duty vehicles.[14] Indirect Source Rules (ISR) are one important regulation option for states and localities to incentivize energy efficiencies and electrification of these heavier duty, and often more challenging, transportation areas. Actions to implement ISR in Oregon are absent from this Draft Strategy.

Indirect source rules refer to a category of regulations that control indirect sources of air emissions, like warehouses, distribution centers, and parking lots where emissions may occur offsite.[15] These regulations require facilities responsible for indirect air emissions to change operations or infrastructure, or in some cases pay a fee, to mitigate emissions.[16] While primarily concerned with air pollution and associated health impacts, an ISR can lead to energy reduction for covered facilities through electrification or reduction in vehicle miles traveled. For example, electrifying impacted fleets or internal warehouse equipment (e.g. forklifts) is a common compliance mechanism. Additionally, an ISR could reduce freight vehicle miles traveled—a large focus of the Transportation Electrification Working Group and a challenging strategy to address—by asking freight companies to think more strategically about their facility placement and engage in reporting around emissions associated with goods delivery.

Diesel emissions are highlighted in the Strategy for their climate impacts, largely within the Low-carbon fuels section. But the human health impacts of this energy source cannot be ignored, especially as this Strategy seeks to weave environmental justice principles throughout the plan. The air quality mapping project,[17] undertaken with lead from the environmental justice advisory group, found "significant benefit" of Oregon meeting its goals on health impacts and outcomes from air quality impacts. But we don't see the Strategy drawing sufficient throughways between the air quality mapping impacts and energy

[13] Draft Oregon Energy Strategy at 23, 53 n.xx.
[14] Liya Rechtman, *Trump Is Rolling Back Clean Cars Standards and Investments. States Are Fighting Back.*, Evergreen Collaborative (July 14, 2025), https://collaborative.evergreenaction.com/memos/trump-is-rolling-back-clean-cars-standards-and-investments-states-are-fighting-back.
[15] *Id.*; OAR 340-254-0030(6).
[16] *See, e.g.*, *WAIRE Program: Rule 2305*, South Coast Air Quality Management District (SCAQMD), https://www.aqmd.gov/home/rules-compliance/compliance/waire-program (last visited Sept. 22, 2025).
[17] Draft Oregon Energy Strategy at 11-12.

reduction actions. An indirect source rule would foster this environmental justice focus by providing pathways for energy-intensive fleets to reduce energy use in pollution-impacted areas.

Oregon currently has an extremely barebones indirect source rule, only targeted towards large parking lots in metropolitan areas.[18] Meanwhile, warehouses and distribution centers, driven by the e-commerce boom, are driving increased heavy duty energy use and associated air pollution, particularly in areas like Multnomah County.[19] Oregon's current state ISR rules do not regulate these facilities, even as they become an increasingly large source of energy use, climate emissions, and local air pollution.

The current rules also contain a provision which stymies local action on indirect source rules by signaling a preference for state control of indirect sources.[20] This provision likely stalls local action by creating uncertainties about jurisdiction over regulating indirect sources. Removing this provision, or modifying it to expressly clarify that local governments may create their own indirect source rules in areas not already regulated by existing DEQ Rules, would help open up the pathway of local regulation. Other Actions in this Strategy similarly discuss removing state barriers to local action. For example, Transportation Action 7 relates to "expand[ing] local government authority" to generate revenue for alternative transportation projects.[21] This action is aimed at addressing local governments being "constrained by limited authority" related to revenue. It is appropriate for ODOE to similarly include an action aimed at addressing local government authority for ISR.

In the final Strategy, NEDC, GEI, and NCA ask ODOE to address indirect sources. This may include 1) Working with Oregon Department of Environmental Quality (DEQ) to adopt ISR addressing warehouses and distribution centers and 2) Modify existing DEQ rules to clarify that local governments may adopt indirect source rules in areas not directly regulated by current ISR Rules in Oregon.

Thank you for the opportunity to provide this feedback.

s/*Jonah Sandford*
Jonah Sandford, Executive Director
Pragya Pandey & Nick Halberg, Student Volunteers
Northwest Environmental Defense Center

s/ Jamie Johnson
Jamie Johnson, Staff Attorney
s/ Carra Sahler
Carra Sahler, Director and Staff Attorney
Green Energy Institute

s/ Mary Peveto
Mary Peveto, Co-executive Director
s/ Mackenzie Springer
Mackenzie Springer, Transportation Advocacy Manager
Neighbors for Clean Air

[18] OAR 340-254-0040.
[19] Sam Wilson, *Indirect Source Rules: An Emerging Route Toward Clean Freight*, Union of Concerned Scientists (May 15, 2025), https://blog.ucs.org/sam-wilson/indirect-source-rules-an-emerging-route-toward-clean-freight/.
[20] OAR 340-254-0020.
[21] Draft Oregon Energy Strategy at 58.

TO: ODOE
From: OBC, TAO, Powerize NW, Prosper Portland
Date: 9.22.25
Subject: Oregon Energy Strategy's Opportunity to Promote New Traded Sector Activity

To the Oregon Department of Energy,

This summer leaders from OBC, TAO, Powerize NW, the City of Portland and important utility partners met with ODOE to discuss the emerging Energy Strategy and to explore how it can be leveraged to attract a major private developer and operator of core clean tech innovation infrastructure. This actor is eager to locate in Oregon but is wary of the state's weaknesses when it comes to promoting development of risky but breakthrough-level technologies.

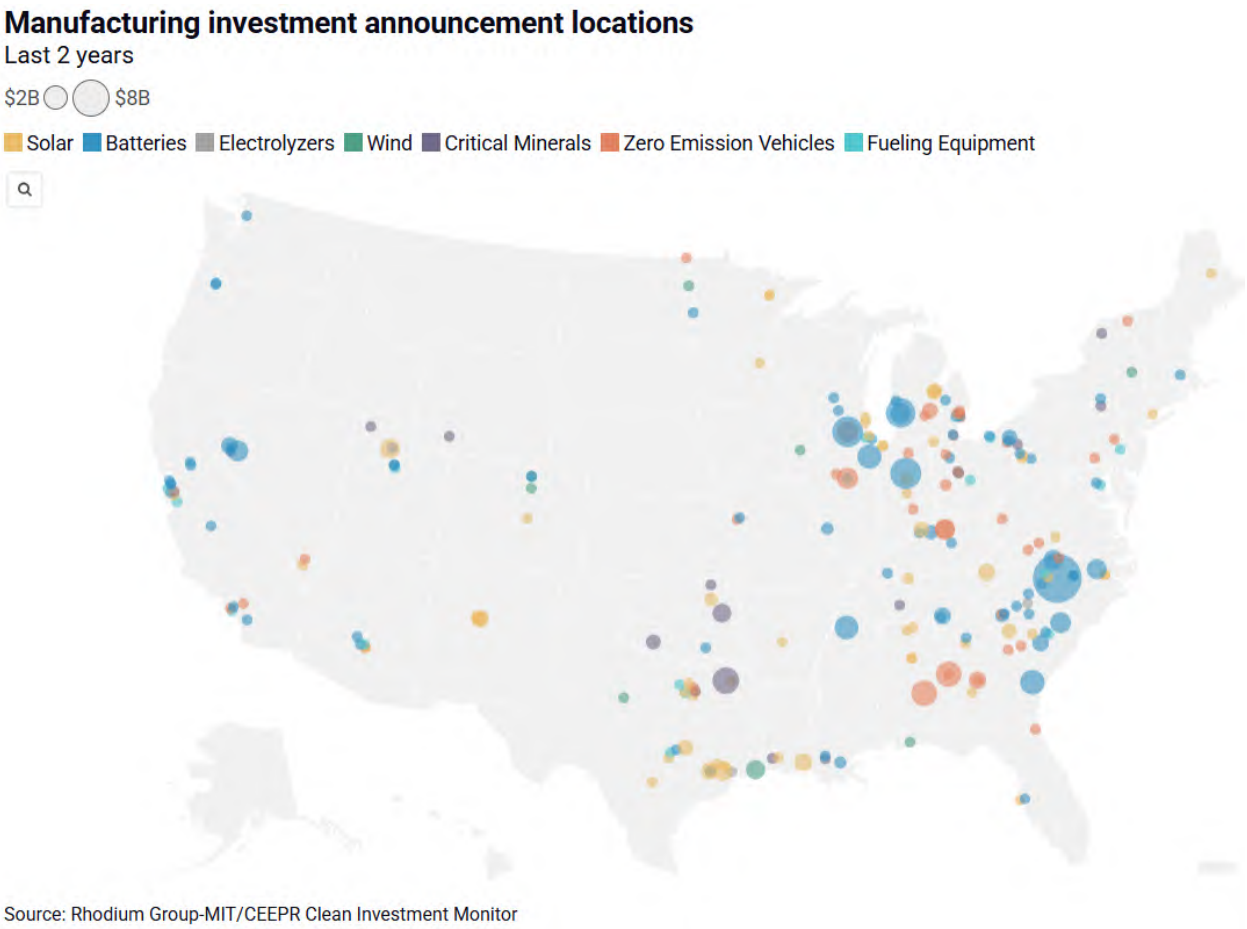
Those discussions gave rise to the feedback we submit below, which focuses on opportunities to leverage the state's decarbonization goals and strategy to stimulate development and manufacturing of the essential clean energy technologies the state, country and world will need to decarbonize.

As written, the Draft Energy Strategy promotes two forms of economic development: 1) creation of new economic activity drawn to cheap and abundant clean energy and 2) creation of new jobs required for the installation and maintenance of new clean energy infrastructure.

We argue that the Draft Energy Strategy misses a critical third form of economic development that the state's energy goals and strategy could promote: stimulating the development and manufacturing of clean energy technologies critical to the strategy in Oregon and the thousands of jobs that would come along with the creation of an entirely new traded sector industry in Oregon.

Oregon's clean energy mandates and greenhouse gas reduction goals codified under the Climate Protection Program could drive economic activity by creating significant demand for new clean energy technologies as businesses invest in clean energy technologies to avoid penalties. This demand pool can be a very valuable market "pull." Locating near that demand can be compelling to innovators and manufacturers - these companies often like locating near their earliest and/or largest customers so they can develop products tailored to the unique needs of their customers and to reduce costs of getting their products to their end customers.

This market "pull" has so far failed to make Oregon a compelling location for investment. A key finding of the Clean Tech Task Force was that Oregon has largely failed to capitalize on the rush of clean tech investment stimulated by the Inflation Reduction Act. Maps documenting hundreds of clean energy tech manufacturing investments across the country totalling more than $100 billion show none in Oregon. An updated map, pictured below, shows a single dot in Oregon.



The opportunity the state has failed to seize is to capitalize on this large pool of demand and to ensure that a meaningful amount is spent on Oregon-made or -developed technologies. In other words, it is the opportunity for Oregon to become a net exporter of clean energy technology as opposed to a net importer.

The Clean Tech Task Force names a number of reasons Oregon has remained off the map. These include insufficient supply of large, development ready industrial sites, an under-developed workforce system for forms of clean tech innovation and manufacturing, and an immature research, innovation and entrepreneurship ecosystem for various forms of clean energy tech. To the extent it is within the scope of the Draft Energy Strategy to name and address these factors, we encourage you to do so.

But even as barriers like available industrial land will remain a challenge until solutions are implemented, there are specific market development tools ODOE could study and/or recommend be implemented that would directly stimulate development of technologies in Oregon critical to and named in the energy strategy - like biofuels, long-duration energy storage (LDES), advanced geothermal, heat pumps, etc.

The tools mentioned below are a set of possible mechanisms to explore for catalyzing early adoption and commercialization of clean energy technologies, ultimately helping to de-risk demand and attract startups to Oregon. The discussion below outlines integrated policies and tools that would simultaneously de-risk demand, catalyze technology development, deployment and scale-up and incentivize local manufacturing. Drawing from successful models in other geographies, these mechanisms would ensure the ODOE energy strategy is a vehicle advancing the state's energy goals while growing the economy and building strong, resilient energy supply chains in Oregon.

In addition to these tools, we believe there is a need to have a role or office within the State of Oregon dedicated to market development of clean energy technologies. The mission of this person or office would be to ensure that Oregon becomes a net exporter of clean energy technologies by supporting innovation that helps meet the state's energy and decarbonization goals. Both the Oregon Department of Forestry and the Department of Agriculture have roles dedicated to market development and business development within those sectors and we believe this is possible to replicate for the Clean Energy sector. Well known examples in other states include the Economic Development and Innovation Division at the New York State Energy Research and Development Authority (NYSERDA) or the Office of Future Mobility and Electrification at the Michigan Economic Development Corporation.

MECHANISMS TO INCENTIVIZE ADOPTION OF CLEAN ENERGY TECHNOLOGIES		
Tool	**Description + Strategic Rationale**	**Global Benchmarks**
De-risk demand for emerging technologies *Integrated tools and policies that de-risk startup attraction and scale-up by ensuring a stable base of local demand*		
Contracts for Difference (CfD)	A government-backed CfD guarantees developers of key clean technologies a stable revenue stream by covering the gap between a market benchmark (e.g. least-cost price) and the developer's actual cost. This mechanism helps de-risk projects for emerging technologies, like long-duration energy storage (LDES) or advanced geothermal, enabling utilities to engage without breaching least-cost procurement rules. Oregon could use this tool to incentivize in-state manufacturing and commercialization of priority technologies while protecting ratepayers from cost burdens and maintaining alignment with utility procurement authority and technology-neutral planning requirements.	**United Kingdom:** National CfD program accelerated deployment of nuclear and offshore wind.

Carbon Contracts for Difference (CCfDs)	A specialized form of CfDs that supports industrial decarbonization, CCfDs guarantee a minimum price for emissions reductions, paying the difference between the prevailing carbon market price (e.g., under cap-and-trade) and the level needed to justify investment in low-carbon processes. Oregon could adapt this tool to accelerate emissions reduction in hard-to-abate sectors like cement and steel, and may be particularly interesting for data centers investing in the state, while ensuring consistency with existing policy frameworks (e.g. HB 2021) that leaves technology pathways to utility discretion.	**Germany:** Launched a national CCfD program in 2024 to support decarbonization of steel and cement. **California:** Proposal to issue AMCs for low-carbon concrete in at least 10% of public infrastructure procurement.
Advance Market Commitments (AMCs)	AMCs guarantee future purchase volumes for new technologies, offering early market certainty that helps de-risk investment and scale-up. Oregon could deploy AMCs through public procurement, public-private coalitions, or sector-specific initiatives to pull forward adoption of solutions like carbon removal, low-carbon materials, or clean fuels. AMCs can be structured to align with Oregon's decarbonization targets while incentivizing companies to locate and manufacture in-state.	**Frontier:** $1B+ AMC for permanent carbon removal by 2030. **DOE:** Exploring AMCs and CfDs for clean steel, hydrogen, and cement.
Centralized Procurement Authority	While AMCs signal future demand, a centralized procurement authority goes further by committing public funding and aggregating demand across utilities or agencies to purchase emerging technologies at scale. California created such a model (via AB 1373) to address delays caused by fragmented, utility-led procurement. A centralized buyer (such as ODOE or another designated public entity) could commit to multi-year purchases of long-lead technologies like LDES or clean firm power, enabling companies to invest earlier while sharing costs across all ratepayers. This model emphasizes expedited procurement to meet system-wide reliability and decarbonization goals.	**California:** AB 1373 authorized the Department of Water Resources to act as a centralized buyer for large-scale clean energy projects on behalf of the state's ratepayers.
Demand-side tools to encourage adoption of made in Oregon technologies	Oregon could adopt targeted demand-side strategies to grow local supply chains for critical clean energy technologies, particularly equipment and components with few or no current domestic suppliers. Policies should be structured to aggregate procurement needs across state utilities and programs for technologies tied to grid reliability, resilience, and transition goals (e.g.,	**Michigan:** Public-private partnership in Michigan through which DTE and Consumers commit to leveraging $3.5B in annual purchasing power to support and grow Michigan

	energy storage, advanced inverters, hydrogen systems). In parallel, the state could support the attraction, scale-up, or retooling of manufacturers that can meet this demand, both by drawing in new firms and working with existing Oregon suppliers that could pivot into energy markets. This approach creates a clearer commercialization pathway for emerging technologies while strengthening economic resilience. There is also an opportunity to integrate philanthropic capital and mission-aligned investors to help de-risk early-stage manufacturing. To maximize impact, this effort should be explicitly designed to unlock and leverage federal funding from programs like the IRA, IIJA, and DOE supply chain initiatives, positioning Oregon as a competitive destination for federal cost-share awards and industrial policy investments.	manufacturers and clean energy startups.
Innovation-Scored Public Procurement	Oregon could revise public RFP and grant scoring frameworks to explicitly reward innovation, prioritizing projects that incorporate emerging technologies, pilot new models, or demonstrate co-development with startups. This ensures state dollars actively pull technology into the market, not just fund the status quo. This mechanism complements reforms to Oregon's tax incentive programs by ensuring both public spending and private capital attraction work together to reward technology leadership and local value creation. Innovation criteria could be tied to emissions impact, resilience benefits, or economic development potential.	**New Jersey:** Offshore wind projects scored 30% on innovation; $10K/MW directed to research and workforce development. **Australia:** Modern Manufacturing Initiative ties funding to innovation in emissions reduction and process improvement.
Modify State Incentives (EZones, Strategic Investment Program)	Oregon could modify its flagship tax abatement programs, like the Strategic Investment Program (SIP) and Enterprise Zones (Ezones), to tier or bonus the level of benefits based on integration of emerging clean energy technologies and use of Oregon-made components. This approach would incentivize innovation without deterring investment, encouraging large industrial and data center developments to incorporate advanced technologies that contribute to the state's energy and resilience goals. Rather than mandating specific technologies, incentive structures could offer additional value or preferential access for projects that partner with local startups, deploy next-gen technologies, or support in-state manufacturing. This approach	**Germany:** H2Global Initiative ties procurement to deployment of novel electrolyzer and ammonia technologies. **Canada:** Clean Growth Program requires industrial projects to co-develop with startups or research institutions.

	would complement innovation-scored public procurement and help grow demand for clean energy tech made in Oregon. It may be especially relevant for energy-intensive sectors (such as data centers) that cluster in Oregon due to its clean electricity, favorable climate, and proximity to sub-sea data cable landing points, and that already benefit from substantial public incentives.	
Innovative Tariff Designs	Innovative rate structures can enable large energy customers to directly support and scale emerging technologies without impacting other ratepayers. Some large energy users, like data centers, have committed to running on 24/7 carbon free energy. The challenge is that while solar and wind are intermittent, clean "always-on" technologies like enhanced geothermal, LDES, or advanced nuclear are still too early-stage and expensive for regulated utilities to procure at scale without raising rates for all customers. Nevada's Clean Transition Tariff (CTT), developed with Google, solves this by allowing large energy users (5 MW or more) to voluntarily pay the premium to bring these resources online. They receive bill credits based on the energy and capacity provided. This design bypasses traditional least-cost mandates, giving utilities a pathway to integrate new technologies into their portfolios without raising rates for their customers. Oregon could collaborate with large commercial customers, particularly hyperscalers with 24/7 carbon-free energy goals, to replicate this model and accelerate deployment of clean firm resources.	**Nevada:** Clean Transition Tariff (CTT) is a rate structure developed through a partnership between Google and NV Energy, designed to drive investment in "clean firm" power resources without raising costs for other utility customers. It aims to deliver 24/7 carbon-free energy to large power users, starting with Google's data centers.
Utilize Climate Protection Program (CPP) Revenues	Oregon's Climate Protection Program (CPP), the state's cap-and-invest mechanism, generates roughly $150 million annually for "community climate investments." Under current rules, these funds are restricted to projects that can immediately and verifiably cut carbon emissions in homes, small businesses and public facilities. This contrasts with Washington and California, whose programs allow funding to support clean energy tech manufacturing and development. Expanding the allowable uses of CPP revenue could unlock new funding streams for early-stage technology deployment and in-state commercialization. These dollars could directly support actions proposed by the Clean Tech Task	**Washington:** Clean Energy Fund uses cap-and-invest revenues to support clean energy development, manufacturing, and deployment, directing $135M in the '23-25 enacted budget.

	Force or be used to offset the taxpayer or ratepayer impact of other mechanisms, such as CfDs or centralized procurement.	
Regulatory Innovation Platforms	Regulatory sandboxes (also called innovation platforms) create space for utilities and other actors to pilot new technologies, business models, or rate designs outside of traditional regulatory constraints. These platforms enable experimentation without permanent regulatory changes, helping both the state and utilities learn and de-risk innovation. Oregon could adopt a sandbox framework similar to those emerging in other states, focused specifically on clean energy technologies that face deployment or integration barriers under existing PUC cost-of-service regulations. These platforms can serve as a valuable attraction mechanism for startups seeking to pilot and validate new solutions, but need to be coupled with other incentives (e.g. procurement, tax policy) to ensure that technologies move from testing into full deployment and scaled manufacturing within the state.	**NARUC:** 2023 report outlines innovation platforms in multiple states. **Michigan**: Advanced Aerial Mobility Zone provides regulatory and airspace flexibility for companies to test and pilot.
Stackable funding to de-risk technology development validation and scale-up		
Utility Innovation Challenge or Pilot Fund	Oregon's PUC could launch a challenge inviting utilities to propose pilots that address system challenges like interconnection, reliability, or emissions. Selected projects would receive regulatory flexibility and potential public support to test emerging technologies in real-world settings. This lowers the risk of innovation for utilities and gives startups a clear entry point to validate solutions for future scaling. To maximize impact, this tool should be designed as part of a broader economic development funding stack, with Business Oregon playing a key role in providing non-dilutive support for follow-on demonstration, manufacturing scale-up, and commercialization. These programs can help de-risk participation in other policy mechanisms (e.g., procurement, incentives) by enabling early technical validation and public-private co-investment.	**Connecticut:** The Innovative Energy Solutions Program supports utility-led pilots in partnership with tech providers to modernize the grid.

Non-dilutive funding to de-risk FOAK manufacturing	Business Oregon could develop a non-dilutive grant program focused on catalyzing First-of-a-Kind manufacturing in Oregon where scaling up carries high technical, integration, and market risks. This type of support is critical to help emerging companies move from pilot to production, and to unlock additional private and federal investment. Importantly, this tool would also underpin several of the policy mechanisms above, such as procurement incentives for Oregon-made technologies or tiered tax abatements, by ensuring there is sufficient local manufacturing capacity to meet growing demand. Without localized production, policies aimed at "buy local" risk falling short on impact or feasibility. A focused FOAK manufacturing fund would make Oregon more competitive in attracting federal cost-share dollars and anchor clean energy supply chains in the state.	**European Union**: EU Innovation Fund provides non-dilutive grants for commercial demonstration of innovative low-carbon technologies that are not yet financially viable at scale. The EIF targets technologies at TRL 7–9 and provides funding to cover up to 60% of additional costs incurred by using innovative over conventional tech (e.g. the "green premium").
Catalyze region-scale action		
Bi-state instruments	Oregon could explore formal mechanisms to support cross-border collaboration with neighboring states, particularly Washington, around shared energy and industrial goals. This includes co-investment in clean technology supply chains, coordinated permitting or procurement efforts, and aligned incentive programs that enable companies to operate and scale across the region more efficiently. This strategy is especially relevant in the Pacific Northwest, where Oregon and Washington share electricity markets, transmission planning entities, and emerging hubs for industrial decarbonization and advanced manufacturing. Collaborative models like the EU's Important Projects of Common European Interest (IPCEI) offer a useful precedent, where multi-country consortia jointly invest in strategically important sectors like hydrogen, batteries, or semiconductors. A similar regional framework in the Pacific Northwest could support joint bids for federal funding, harmonize incentives, and attract larger-scale private sector investment.	**European Union:** IPCEI model supports large, cross-border investment in strategic technologies through coordinated national and EU-level support. **Powerize Northwest:** Existing Pacific Northwest collaboration platform focused on industrial decarbonization and grid modernization across state lines.

The National Hydropower Association, Inc.
200 Massachusetts Ave NW, Suite 320, Washington, DC 20001 • 202.805.5057 • www.hydro.org

September 22, 2025

Ms. Janine Benner
Director
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Dear Director Benner:

On behalf of our 320 member companies that represent over 80% of the hydropower fleet by capacity, employ 70,000 Americans, and serve approximately 30 million people, the National Hydropower Association (NHA) appreciates the opportunity to comment on the draft policy recommendations for the Oregon Energy Study ("Draft"). NHA promotes innovation and investment in all water power technologies, including conventional hydropower, marine energy and hydrokinetic power systems, and pumped storage hydropower to integrate other power sources. Its membership consists of public and investor-owned utilities, independent power producers, equipment manufacturers, and professional organizations that provide legal, environmental, and engineering services to the hydropower industry.

NHA commends the forward-thinking mindset of the Oregon Legislature when it passed HB 3630. In preparing the Draft, the Oregon Department of Energy did well in providing comprehensive recommendations for the Oregon Legislature. NHA believes that a few targeted improvements to Clean Electricity Actions 2 and 3 are needed. Those recommendations are provided in italics:

- Clean Electricity Action 2: "Direct the Oregon Department of Energy to conduct a study on barriers preventing construction and interconnection of *new* permitted projects, *ensure continued operation of existing clean electricity projects,* and recommend action to overcome barriers."

- Clean Electricity Action 3: "Report on developments in emerging technologies, including long-duration storage *(including pumped storage hydropower)*, enhanced geothermal, floating offshore wind, *marine energy*, *incremental capacity additions at existing clean electricity facilities,* and small modular nuclear reactors, to identify the role they can play in meeting the state's electricity needs; also explore opportunities for pilot programs in the near-term."

Regarding Clean Energy Action 2, NHA believes it is important to not only look for areas for improvement for new infrastructure but ensure Oregon does not backslide on its existing clean energy base. As the report states, hydropower is the base of clean energy generation in Oregon. It's important to build on that base and not retire it. In fact, Oregon hydropower generated 41% of all Oregon electricity in 2024.[1] A significant number of the hydropower projects in Oregon

[1] US Energy Information Administration Oregon State Energy Profile. Last Updated May 15, 2025 at https://www.eia.gov/state/print.php?sid=OR.

are up for relicensing in the next decade, even more by 2050. Any loss of those facilities will have a detrimental impact on Oregon's clean electricity priorities.

As NHA represents a number of water power technologies, we suggest under Clean Electricity Action 3, that the Oregon Department of Energy explicitly consider the various technologies that NHA represents. For example, Oregon's topography lends itself to constructing pumped storage technologies.[2] A 2022 report by the National Renewable Energy Laboratory found that there are over 11,000 sites in the contiguous United States with the technical potential for pumped storage development, many of which are in Oregon and the Pacific Northwest.[3] Pumped storage provides all the necessary ancillary services to ensure a reliable grid, including black start technology if needed.[4]

Also, there is potential for upgrading or adding turbines and generators to existing Oregon hydropower facilities. The average age of hydropower facilities in the United States is approaching 60 to 65 years old. Therefore, advances in hydropower turbine, generator, controls technologies by suppliers and original equipment manufacturers means that there is significant technical potential to upgrade or add capacity to existing facilities.[5] Oregon should ensure that it leverages existing infrastructure, especially its hydropower fleet, when adding new MWs to its grid.

The Draft notes the importance of high-capacity resources to complement hydropower and variable renewable energy. Marine energy offers valuable attributes in this regard: it is predictable, consistent, and often power-dense. According to a 2021 National Renewable Energy Laboratory report,[6] Oregon's wave energy technical potential is extraordinary. The study estimated that Oregon's wave resource could provide up to 93 terawatt-hours (TWh) annually — the equivalent of powering 8.7 million homes or the output of approximately 11 nuclear reactors. This means that even developing a fraction of the state's accessible wave energy resource could meet a significant portion of Oregon's current electricity needs. For example, capturing just 10% of the inner-shelf resource would generate 6.8 TWh per year — enough to power more than 600,000 homes and supply over 10% of Oregon's electricity consumption.

In addition to system benefits, Oregon is well-positioned from an infrastructure, port, manufacturing, and workforce perspective to support marine energy deployment. With the

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[2] The closed-loop, 400 MW Swan Lake Energy Storage Project is currently licensed by the Federal Energy Regulatory Commission. Closed-loop pumped storage facilities connect two reservoirs without impacting naturally flowing water bodies.

[3] National Renewable Energy Laboratory. *Closed-Loop Pumped Storage Hydropower Resource Assessment for the United States.* Authored by Evan Rosenlieb, Donna Heimiller, and Stuart Cohen. May 2022.

[4] The pumped storage facilities in Spain were instrumental in restarting the grid during the Iberian Blackout earlier this year. Additionally, the Bonneville Power Administration hydropower fleet filled the energy gap left by other technologies during the 2024 Martin Luther King Jr. holiday cold snap and winter storm.

[5] For example, the US Army Corps of Engineers is considering improvements to the John Day Dam. Upgrading the turbines *only* could gain 5.5% additional efficiency of the ~2,400 MW project. There are also four skeleton bays without turbines. *See* the US Army Corps of Engineers John Day Turbine Replacement and Generator Rewind Draft Environmental Assessment (February 2024).

[6] National Renewable Energy Laboratory. *Marine Energy in the United States: An Overview of Opportunities*. Authored by Levi Kilcher, Michelle Fogarty, and Michael Lawson. February 2021.

PacWave facility already in place, the state has a chance to attract projects ranging from early research and development to demonstration- and commercial-scale. State support could help ensure that federal investments at PacWave are maximized and that Oregon emerges as a global leader in marine energy development.

Thank you for your consideration of these important matters critical to advancing Oregon's energy priorities. We look forward to working with Oregon as it ensures that it meets its clean electricity goals in a reliable and cost-effective manner.

Sincerely,



Michael Purdie
Vice President of Regulatory Affairs
National Hydropower Association

To: Oregon Department of Energy
Re: Energy Strategy Plan draft, public comment

The pathways and policies in the Energy Strategy Plan draft focus almost exclusively on how to build out the electric power system. The purpose of that build out is to transition away from reliance on carbon-emitting fuels.

The technical information supporting the draft includes a modeling projection that the lowest-cost pathway will result in a 70% reduction in liquid fuel use by 2050 (even after accounting for the projected increase in demand for SAF/aviation fuels)

What's missing?
The draft plan does not include pathways, policies, or actions that indicate any strategy for what will necessarily be the counterpart to increased reliance on electric power sources. It should.

- What will happen to the liquid fuels infrastructure as use declines?
- What policies will prevent the transition to greater electrification from contributing to abandoned, highly polluting industrial detritus? (like the abandoned oil wells that taxpayers and local residents around the country have to pay to remediate or "live with")
- What guidance is offered to state and local decision-makers for ensuring reliable and safe availability of the still-needed liquid fuels, largely in the transportation sector?

Building out electric power necessarily should result in reducing use of liquid fuels, both fossil and bio-based. This half of the equation seems entirely missing from the Energy Strategy Plan draft. It is needed.

Thank you,
Nikki Mandell
CEI Hub Task Force

Dear Oregon Department of Energy Team,

Thank you for your thoughtful work on the draft Oregon Energy Strategy. I appreciate the clear focus on infrastructure resilience, transmission siting, and emerging technologies.

As a Southern Oregon resident with a deep personal and professional interest in climate solutions, I'd like to share a few recommendations that I believe would further accelerate our clean electricity goals—particularly by strengthening the role of solar power, agrivoltaics, and permitting reform.

1. Elevate Solar as the Cornerstone of Clean Electricity

While the draft identifies several promising technologies, it omits explicit support for widespread solar adoption—even though it remains the most cost-effective renewable energy source in Oregon.

According to EnergySage's 2025 data, the average installed cost for residential solar in Oregon is just $2.67 per watt. That means a 5 kW system typically costs $13,400 before incentives, with payback periods in many areas of 9 to 13 years.

Given that Oregon also offers one of the most generous solar rebate programs in the country, solar is uniquely positioned to help households reduce utility bills while building community resilience.

Please consider explicitly naming solar deployment (residential and community-scale) as a core pillar of the state's clean electricity future.

2. Adopt Fast, Transparent Permitting for Distributed Solar

Permitting delays remain one of the biggest obstacles to accelerating solar deployment. While the strategy references interconnection barriers, I'd encourage Oregon to go further by establishing permitting timelines and automation options for small-scale solar (residential + farm).

For example, Florida's HB 683 ensures that jurisdictions must review permits within 5 business days, and can use a tool like SolarApp+ to automate permitting. This kind of predictable, digital-first approach dramatically reduces soft costs and encourages more residential solar adoption. Similarly, standard checklists and streamlined inspection / interconnection processes could be mandated statewide.

Recommendation: Incorporate a goal of "fast, transparent, and standardized permitting for small-scale solar," with pilot programs in high-potential rural counties.

3. Embrace Agrivoltaics as a Dual-Use Solution for Rural Oregon

Agrivoltaics refers to the practice of co-locating solar energy systems with agricultural uses—such as grazing, shade-tolerant crops, or pollinator habitat. It offers a unique win-win for Oregon: producing clean electricity without displacing farmland or rural livelihoods.

The USDA Northwest Climate Hub notes several important benefits and findings for agrivoltaics in our region:

- **Heat and drought protection:** Shade beneath elevated panels helps protect crops from extreme heat and drought, which are growing risks in many areas of Oregon. Plants experience less stress under partial shade during heat waves.
- **Improved energy output:** Vegetation under panels can help cool the panels, which improves their efficiency and output.
- **Water savings:** Agrivoltaic systems can reduce evapotranspiration and water demand for certain crops—helpful in areas with dry summers.
- **Crop performance:** Some studies in Oregon show that crops like potatoes grown partially under shade (from solar panels) saw yield increases (~20%) under certain agrivoltaic settings.

Recommendation: Add language supporting agrivoltaics pilot programs, especially in Southern and Eastern Oregon, where farmers face drought conditions and land competition. Additionally, update the Oregon Renewable Energy Siting Assessment Tool to map parcels suitable for dual-use solar, and consider grants or technical assistance to support landowners interested in adoption.

4. Protect and Expand Net Metering + Storage Incentives

Finally, many homeowners in Oregon rely on net metering at a 1:1 credit ratio to make solar pencil out. These programs should be preserved and expanded, especially in areas where utilities may seek rate changes or limit export credit.

Pairing solar with battery storage is also key to resilience during fire season and grid outages. Oregon's Solar + Storage Rebate Program is excellent—please ensure it is continued, expanded, and simplified for all income levels.

Closing

Oregon has already demonstrated national leadership in climate ambition. By making distributed solar and agrivoltaics core to the strategy, bolstered by streamlined permitting, we can ensure that our transition is not only rapid, but resilient and equitable.

Thank you again for your work, and for the opportunity to contribute.

Sincerely,
Nikki VanRy
Jackson County Resident

Oregon Energy Strategy

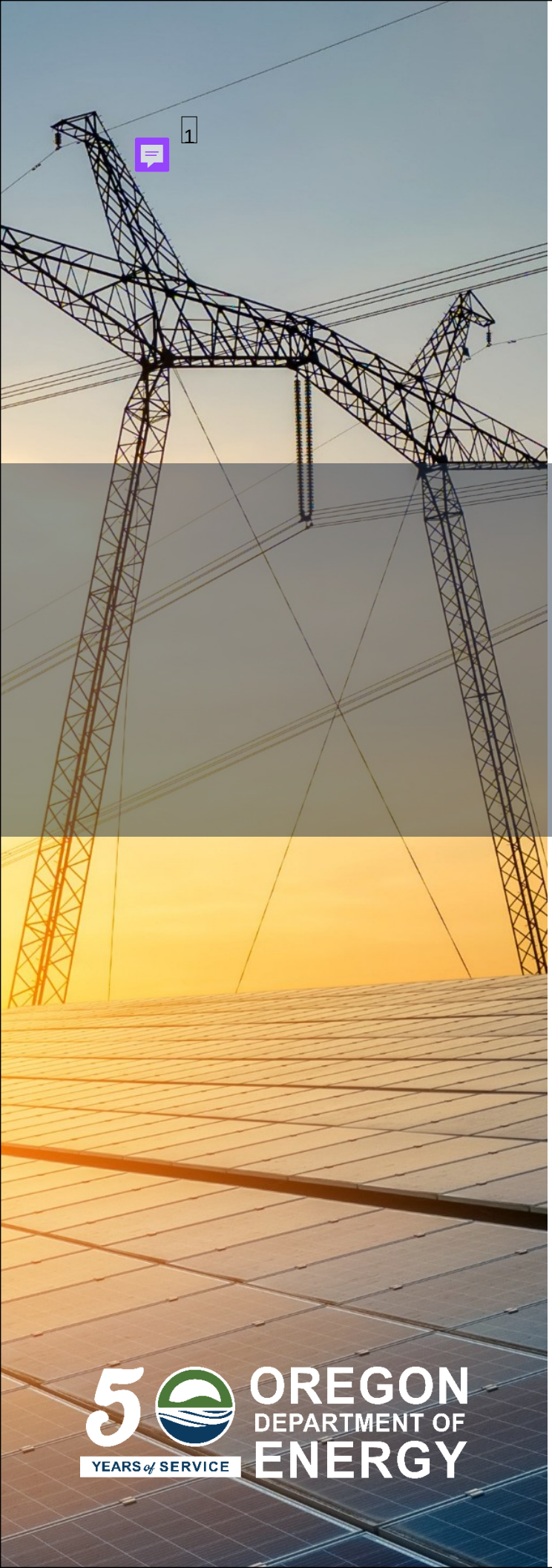
Public Comment

Nikole Young, 9.16.2025

While I appreciate the brief mention about reporting on how small modular reactors might help us solve some of our energy challenges, there is a lot of room for improvement on how we address that subject. Particularly in the beginning when we're referencing all the resources we use for electricity in our state. Out-of-state nuclear isn't mentioned, even though it's only a sliver less than solar (which we do mention). I think that if we want to have serious conversations about the benefits of nuclear, we need to be more transparent. I also think you should include some reporting recommendations on managing waste since that is one of the reasons Measure 7 passed in 1980. There are a lot of options. Reprocessing like France. Vitrification like France. Doing something similar to what WA, CA, and OR are doing to address vaccination needs with its West Coast Health Alliance (as in WA, CA, and OR can create a regional coalition to figure something out to do with the waste that could be an alternative to a federal underground repository). These are actual possibilities, and Oregon has a rare opportunity to turn course. If we don't take nuclear seriously now, we will be worse off than CA (because they have Diablo Canyon), and our rotating outages will be more frequent and much worse. What's going to happen when we eliminate coal altogether? Because over 11% of our electricity still comes from it. Are we going backwards like Germany? Or are we going to be like France? (You know what the answer should be.)

In addition to that, I think you can do more to engage with rural communities. Since they're part of your Environment Justice Communities, some of the things I comment on in the document are straight from my lived experience as a "rural Oregonian" and a very active member of my community. Meet us where we're at. Don't expect us to change because you think it's good for us.

Please see attached PDF with comments.



OREGON ENERGY STRATEGY

DRAFT for Public Comment

by the
OREGON DEPARTMENT OF ENERGY

August 2025

Summary of comments: Nikole Young Draft Markup 9.16.25.pdf

Page:1

Number: 1 Author: Nikole Young Subject: Sticky Note Date: 2025-09-12 11:32:35

Is this a local or stock photo?

OREGON DEPARTMENT OF ENERGY

50 YEARS of SERVICE

This document presents **draft policy recommendations for the Oregon Energy Strategy**.

HB 3630 directed the Oregon Department of Energy to develop a state energy strategy that identifies "pathways to achieving the state's energy policy objectives." The strategy must "recommend legislation or changes to policy necessary to implement the state energy strategy."

ODOE seeks input on these draft recommendations to inform our finalization of the report, due to the Governor and Legislature by November 1, 2025.

Please provide input through ODOE's online comment portal by **5 p.m. on September 22, 2025**.

https://odoe.powerappsportals.us/en-US/energy-strategy/

No Comments.

CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS 1
INTRODUCTION 2
Guidance for the Draft Oregon Energy Strategy Recommendations 3
Why an Energy Strategy? 3
FIVE PATHWAYS TO GUIDE OREGON 8
Pathways Modeling and Technical Analysis 10
The Five Pathways 14
Organization of Pathways → Policies → Actions 17
POLICIES TO DEPLOY THE PATHWAYS 18
NINE FEDERALLY RECOGNIZED TRIBES: FEEDBACK AND THEMES 41
AN EQUITY AND JUSTICE FRAMEWORK FOR DECISION-MAKING AND PROGRAM IMPLEMENTATION 44
Implementing the Framework 45
The Framework 47
Oregon Context 50
LEGISLATIVE AND POLICY ACTIONS 51
Transportation Actions 53
Buildings Actions 62
Clean Electricity Actions 68
Industrial Actions 75
Low-Carbon Fuels Actions 77
Cross-Cutting Actions 79
Full List of Legislative and Policy Actions 86
APPENDIX A: ENERGY STRATEGY TECHNICAL REPORTS AND PUBLIC INPUT SUMMARIES . 90
APPENDIX B: REFERENCES 91
APPENDIX C: GLOSSARY 96

No Comments.

LIST OF ACRONYMS AND ABBREVIATIONS

aMW	Average Megawatts
BPA	Bonneville Power Administration
BPS	Building Performance Standards
COU	Consumer-owned Utility
CPP	Climate Protection Program
DEQ	Oregon Department of Environmental Quality
DLCD	Oregon Department of Land Conservation and Development
EQC	Oregon Environmental Quality Commission
EV	Electric Vehicle
GHG	Greenhouse Gases
HB	House Bill
IIJA	Infrastructure Investment and Jobs Act (2021)
IOU	Investor-owned Utility
IRA	Inflation Reduction Act (2022)
kWh	Kilowatt Hour
MHD	Medium- and Heavy-Duty
MWh	Megawatt Hours
ODOE	Oregon Department of Energy
ODOT	Oregon Department of Transportation
OHCS	Oregon Housing and Community Services
OPUC	Oregon Public Utility Commission
ORESA	Oregon Renewable Energy Siting Assessment
ORS	Oregon Revised Statute
PV	Photovoltaic
RUC	Road Usage Charge
SB	Senate Bill
VMT	Vehicle Miles Traveled
ZEV	Zero-emission Vehicle

No Comments.



Introduction

Number: 1 Author: Nikole Young Subject: Sticky Note Date: 2025-09-12 11:33:26

Can you include a text/copy caption that notes this is the John Day Dam? Accessible text includes it, but an actual caption below would be nice for people who print this out.

Guidance for the Draft Oregon Energy Strategy Recommendations

This draft has six main sections:

1. **Introduction**

   Provides the background, describes the process to develop the energy strategy, and provides the context and challenges in which the Oregon Energy Strategy is being developed.

2. **Five Pathways to Guide Oregon**

   Introduces five pathways that, together, set the direction for Oregon's Energy Strategy. These pathways are meant to inform and align policies and actions to meet our energy policy objectives of clean, reliable, and affordable energy. Pathways are meant to be long-lived and represent a stable framework for action over time.

3. **Policies to Deploy the Pathways**

   Describes policies to advance Oregon's Energy Strategy. Policies are directional, and along with pathways are meant to guide actions and decisions over time.

4. **Nine Federally Recognized Tribes: Feedback and Themes**

   Emphasizes the importance of consultation and engagement with Tribes in Oregon's energy transition and summarizes key themes that ODOE has heard that are informing the energy strategy.

5. **An Equity and Justice Framework for Decisionmaking and Program Implementation**

   Presents a framework that demonstrates how legislators, agencies, and implementers can create just and equitable outcomes when developing energy policies, actions, and outcomes. Serves to guide meaningful involvement with those who have been historically and are currently excluded from decisionmaking processes[i] to ensure Oregon's energy policies meet the needs of all Oregonians by understanding and tailoring policies to the needs of specific communities.

6. **Legislative and Policy Actions**

   Describes near-term actions to advance Oregon's Energy Strategy, organized by sector (transportation, buildings, industry, electricity, fuels, and cross-cutting).

Why an Energy Strategy?

Energy is the foundation of modern life. It powers cars, heats homes, and supports our economy. Building and maintaining energy infrastructure requires investment, and that infrastructure affects local communities, cultural resources, and the environment. The energy sector is responsible for most of Oregon's greenhouse gas emissions, which negatively affect air quality and public health.[1] These effects have disproportionately impacted some more than others — environmental justice communities in particular — and continue to do so today.[ii]

In Oregon, the transportation sector is responsible for 37 percent of energy use, followed by industry (27 percent), households (21 percent), and commercial (15 percent) sectors. The largest source of energy to

[i] As defined in Oregon House Bill 4077

[ii] HB 4077 defines "environmental justice community" and defines frames the work of the Environmental Justice Task Force. https://olis.oregonlegislature.gov/liz/2022R1/Downloads/MeasureDocument/HB4077/Enrolled.

No Comments.

power these sectors is transportation fuels like gasoline and diesel (36 percent), electricity (32 percent), and direct use fuels including natural gas, biomass, and other fuels (31 percent). Much of this energy comes from fossil fuels. Oregon also benefits from clean sources of energy, including hydropower, which generates about a third of Oregon's electricity, as well as wind and solar energy, biomass, biodiesel, and ethanol.[2]

The cost of inaction on climate change is already being felt by Oregonians.[3] While climate change is occurring through emissions globally, Oregon policy makers have understood the opportunity for the state's economic growth in clean energy and technology. Oregon policymakers have enacted laws, programs, and regulations to support a shift to cleaner, more sustainable sources of energy. Some of these policies have been in place for decades, while others have been enacted recently. Together, Oregon's energy policies are transforming the energy system toward clean energy to power our homes, transportation systems, businesses, and industry. Yet until now, Oregon has not had a clear vision for how the various pieces come together. In 2022, the Oregon Department of Energy published its *Biennial Energy Report* and in it identified the need for a state energy strategy that can take an economywide look at available resources, technologies, and energy needs, and develop a shared vision for the state.[4]

There have been many developments since that publication. Oregon ramped up programs to support Oregon households and businesses in adopting new technologies, enabled by new policies and federal support. These included programs such as the Oregon Clean Vehicle Rebate Program, Community Renewable Energy Grant Program, and County Energy Resilience Grant Program. Federal incentives encouraged renewable energy development, electric vehicle adoption, and transmission expansion. At the same time, Oregon and the region have seen rapid development of tech loads, including data centers, which exacerbates concerns over electric system resource adequacy and reliability.[5] Oregon faces a housing and homelessness crisis requiring accelerated construction of housing to meet the needs of Oregonians.[6] Customers are feeling the pinch of inflation and higher energy rates.[7] [8] [9] Wildfires and extreme weather are affecting public health, electricity system operations, and utilities' ability to finance necessary investments.[10]



ODOE's Community Renewable Energy Grant Program supports projects like this community solar installation in Ontario, OR.

Since January 2025, rapid and aggressive federal policy shifts have reduced federal support for these efforts and threatened or cut future funding for Oregon's policies and the programs supporting uptake of clean, modern technologies across the state. State budget constraints – in some cases linked to federal policy changes – have reduced state resources available to support the clean energy transition. Many programs that support achieving the state's energy goals are on pause or have an uncertain funding future.

These changes make state leadership and action more important than ever. The energy transition requires an understanding of today's needs and challenges and a vision of how to steer near-term decisions to achieve long-term outcomes. Oregon's long-term vision includes a high quality of life, strong economy, and responsible stewardship of natural and working lands, waters, and cultural resources. These outcomes rely on successfully navigating a transition from fossil fuels to clean sources of energy in our electricity, transportation, buildings, industry, and agriculture sectors while maintaining energy

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 14:16:58

3% of our clean energy resource is from nuclear in WA. You need to include this in the statement for transparency purposes. Especially since you and I both know that percentage will increase over time, even if it comes from out of state. Solar is listed on here, and it's only a sliver more than nuclear. Let's add nuclear.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 11:37:40

The exception here is the utilization and investment in nuclear power. While no new tax program exists yet, the red tape at the federal level is decreasing to make nuclear more affordable and timely to build. This is a clean energy resource Oregon has an opportunity to take advantage of.

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 11:38:44

No where in the world does the use of less energy equate to a better quality of life. If we want to free ourselves of fossil fuels, we need to replace it with reliable baseload.

affordability and reliability. They rely on successfully advancing equity and inclusion of environmental justice communities to ensure that they are not disproportionately burdened by new energy development and can benefit from the clean energy transition. Meeting our goals requires a recognition that addressing Oregon's energy needs will have a footprint, so they should include a commitment to seeking least-regrets solutions wherever possible while working to maximize benefits.

The Process

In 2023, HB 3630[11] directed the Oregon Department of Energy to develop a state energy strategy and to submit a final report to the Governor and Legislature by November 1, 2025. That report must: (1) summarize the state energy strategy and pathways to achieving the state's energy policy objectives; (2) describe the department's engagement process and how perspectives informed the energy strategy; and (3) recommend legislation or changes to policy necessary to implement the state energy strategy.

HB 3630 does not define Oregon's "energy policy objectives." However, it includes criteria that require consideration for how Oregon meets its clean energy policy objectives while protecting affordability and reliability. This includes meeting the goals in HB 2021, the Climate Protection Program, and in Executive Order 20-04.[12] [13] [14] There are many other policies driving Oregon's energy transition. While the energy strategy does not list or serve to interpret the nuances of Oregon's many energy policies, the modeling and public engagement considered statutory targets and goals, and aimed to support consistency and compliance with existing law.

This document presents a draft of pathways to achieving Oregon's energy policy objectives and legislative and policy recommendations. It summarizes the process undertaken to develop the pathways and recommendations, including the technical analysis and engagement to inform pathways and policies. The final Oregon Energy Strategy will include a more detailed description of the engagement process and how engagement informed the final energy strategy, and may elaborate on additional themes in this document informed by public comment.

ODOE welcomes comments on any elements presented in this document.

Oregon's Energy Strategy has been informed by a robust public engagement process. This included information sharing and comments about technical modeling from May 2024 – December 2024 (Phase 1), followed by engagement to inform development of the policy recommendations from February 2025 – May 2025 (Phase 2). Through these phases, ODOE sought and incorporated input regarding the data and assumptions of the energy strategy; perspectives on policy priorities, challenges, and opportunities from a diverse range of interests and backgrounds; and comments from members of the Advisory Group, Inter-Agency Steering Group, Working Groups, and the public. ODOE has published a comprehensive summary of the input received during Phase 1 of the strategy development and will publish a comprehensive summary of Phase 2 along with the final report. Copies of public comments and recordings from public meetings are available on ODOE's website.

Submit comments on this Draft Oregon Energy Strategy by September 22 through ODOE's online comment portal.

No Comments.

Table 1: Oregon Energy Strategy Engagement Opportunities

Tribal Engagement	Government-to-Government outreach and engagement with the nine federally recognized Tribes in Oregon to ensure tribal perspectives informed the energy strategy.
Advisory Group	Group of experts that advised ODOE throughout the process and helped inform decisions. Group represented diverse perspectives and lived experiences across the state.
Focus Area Working Groups (Phase 1)	Eight Focus Area Working Groups informed early development of the strategy, and particularly key assumptions and scenarios for the model.
Policy Working Groups (Phase 2)	Five Policy Working Groups included subject matter experts to dive into specific topics and identify gaps and needs to inform policy recommendations that built on previous analysis.
Interagency Steering Group	Representatives from the Oregon Departments of Energy, Land Conservation and Development, Transportation, Environmental Quality, and State Lands; Oregon Public Utility Commission; Business Oregon; the Governor's office; and other agencies provided agency perspectives and guidance to develop a statewide energy strategy.
Public Listening and Information Sessions	Public forums held to provide updates on the process and gather broad views from across the state to inform the strategy.

The technical analysis (the focus of Phase 1) involved numerous opportunities to provide input and evaluate the assumptions that went into the energy pathways modeling, to tailor the alternatives analyzed by the pathways modeling to provide the most useful insights to inform policy discussions, and to shape the complementary analyses. Phase 1 public input resulted in numerous adjustments to modeling assumptions and alternative scenario design and informed the focus of the complementary analyses. Phase 1 started in May 2024 and culminated with the presentation of the modeling results in a public informational session on January 31, 2025. The modeling results were further evaluated and discussed in the Policy Working Groups in Phase 2.

Through Phase 2, ODOE held 17 Policy Working Group meetings, four Advisory Group meetings, four Inter-Agency Steering Group meetings, three public forums, and three information sessions to share technical modeling results and inform ODOE's policy drafting. Phase 2 policy discussions built on key findings from the modeling and data on current trends. Materials and recordings of these meetings are available on ODOE's website. Phase 2 policy discussions informed ODOE's development and structuring of the energy strategy and the draft recommendations by providing diverse perspectives from across Oregon on barriers to meeting our state's energy policy objectives, opportunities to overcome these barriers, and potential policy solutions.

ODOE's consultation with the Inter-Agency Steering Group and individual agencies was used to advance inter-agency alignment and to ensure that recommendations build on, and are complementary to, existing state policies and processes.

ODOE also reached out to the nine federally recognized Tribes in Oregon through formal government-to-government letters, staff-to-staff discussion, individual in-person or virtual meetings with Tribal leaders and staff, and presentations through the Legislative Commission on Indian Services and cluster groups. While ODOE continues government-to-government outreach and requests for consultation, where appropriate, ODOE has heard important themes that include: advancing tribal energy sovereignty and

No Comments.

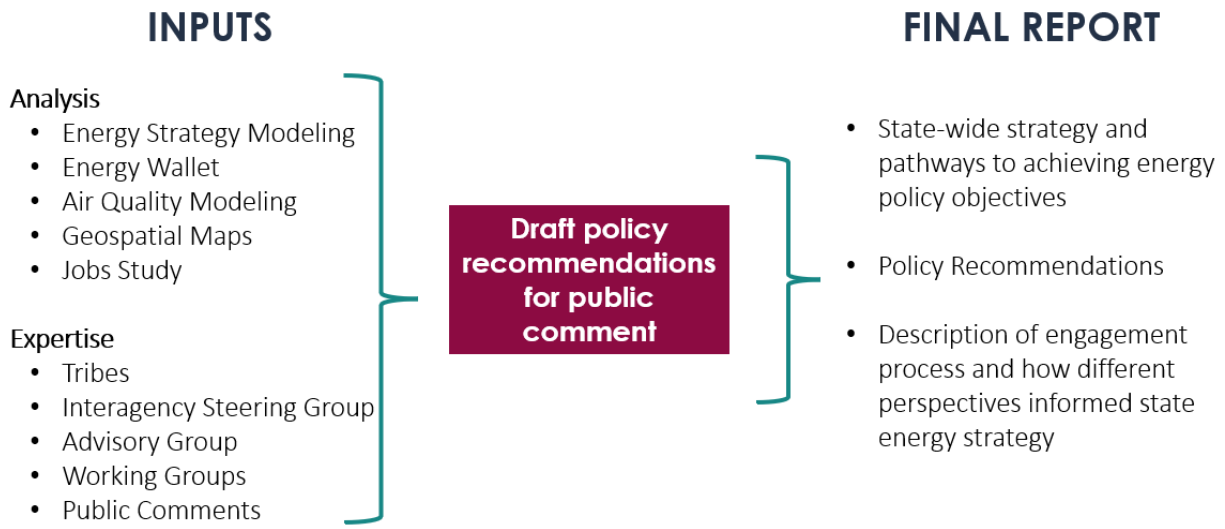
self-determination, ensuring equitable access to decision-making processes, ensuring energy affordability and energy access for Tribal members, securing stable and culturally responsive funding mechanisms, including dedicated Tribal set-asides in state funding programs, and integrating Traditional Ecological Knowledge into energy and climate planning.

A full summary of the engagement process and public comments will be available as part of the final report submitted to the Governor and Legislature by November 1, 2025.

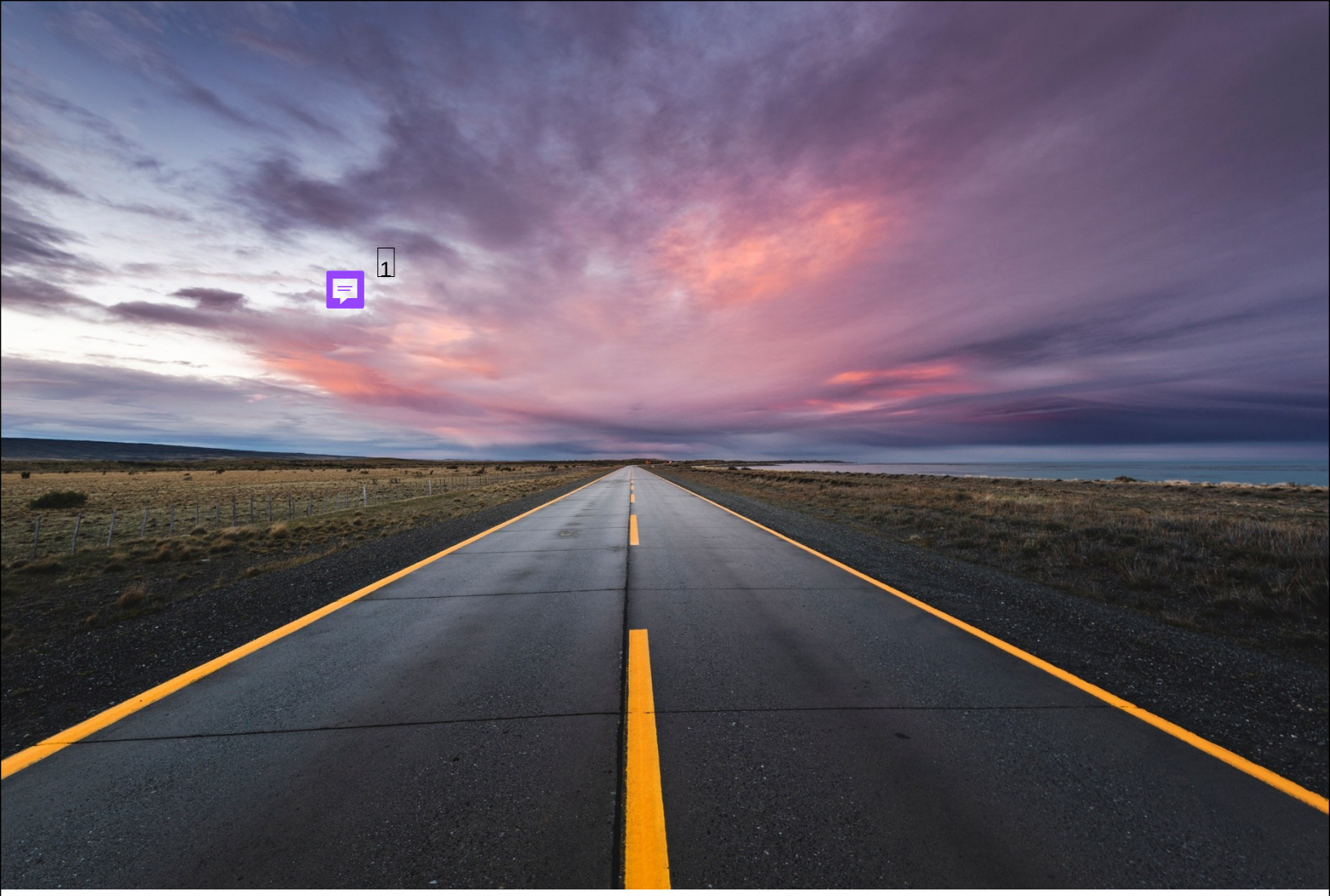
HB 3630 charges ODOE with the task of identifying pathways to achieving Oregon's energy policy objectives and developing policy recommendations to help advance Oregon's Energy Strategy. The bill further directs ODOE to update the energy strategy over time to reflect current information, data analysis, and state energy policy objectives. Energy policies and technologies are evolving quickly, which will necessitate an adaptive strategy that can adjust to address new barriers and challenges while also incorporating new opportunities that arise. ODOE recommends updating the Energy Strategy every four years to enable it to have a near-term, actionable focus, and to provide opportunities for updates and course corrections over time to keep Oregon on track to meet its long-term energy policy objectives.

The analysis includes the Energy Strategy Modeling as well as complementary analyses listed in the figure below. It draws on professional and lived expertise of Oregonians from across the state. Comments on this draft report will provide additional insights to inform ODOE as ODOE finalizes the report to the Governor and Legislature.

Figure 1: Process for Developing Policy Recommendations and Final Report



No Comments.



Five Pathways to Guide Oregon

Following the technical analysis/modeling and public engagement, ODOE proposes five pathways that together represent the direction Oregon needs to take to meet its energy policy objectives – including an energy transition that will deliver clean, reliable, and affordable energy to all Oregonians. These pathways have been optimized to account for the direction that achieves a least-cost economy-wide trajectory over time while supporting reliability, affordability, and seeking to reduce costs while maximizing benefits. Implementation of each pathway must consider burdens and benefits to environmental justice communities, applying an equity lens to prevent further disproportionate impacts to historically and currently marginalized communities.

Number: 1 Author: Nikole Young Subject: Sticky Note Date: 2025-09-12 12:01:07

Where is this located?



1. Energy Efficiency. Advance energy efficiency across buildings, industry, and transportation sectors, including by expanding access to and appeal of multimodal transportation options, to deliver the benefits of a more efficient energy system.



2. Electrification. Increase electrification of end uses across the economy, including in transportation, buildings, and industry, while incorporating measures to safeguard reliability and support affordability.



3. Clean Electricity. Invest in clean electricity infrastructure to maintain reliability and promote load flexibility to reduce system costs.



4. Low-Carbon Fuels. Advance the use of low-carbon fuels in the hardest-to-electrify end uses to achieve GHG emissions reductions while maintaining industry competitiveness and a reliable electricity grid.



5. Resilience. Strengthen resilience across all levels of the energy system, including utilities, communities, and customers, enhancing Oregon's ability to adapt to climate change and mitigate other risks.

These five pathways should not be viewed as distinct or independent areas of activity, but as interrelated components of a cohesive strategy. They are interconnected and mutually reinforcing, building on each other and interacting in complex ways. The first pathway, **energy efficiency**, is essential to reduce energy demand as much as possible, trimming the size of the overall energy "pie" that must be served by clean energy sources. Energy efficiency is a least-cost resource that can lower energy costs for consumers while supporting reliability. The second pathway, **electrification**, involves adoption of electric technologies to replace fossil fuels in many end uses, including transportation and space heating in buildings. It is also a powerful energy efficiency measure because many electric technologies are much more energy efficient than their fossil fuel counterparts. The third pathway, **clean electricity**, is expected to increasingly be the backbone of our energy system. As many end-uses electrify, the modeling conducted for the energy strategy found that the electricity system must grow significantly to meet increased demand. This elevates the need to build transmission, generation, and distribution infrastructure. The fourth pathway, **low-carbon fuels**, is essential in areas where in the near or longer term, electrification is not feasible and where low-carbon fuels are needed to support electricity system reliability. Finally, it is important to consider **resilience** across all these areas, ensuring that as measures are undertaken to mitigate climate change, opportunities to strengthen resilience are captured.

No Comments.

Pathways Modeling and Technical Analysis

The modeling conducted by the consultants to the Oregon Energy Strategy — Clean Energy Transition Institute (CETI) and Evolved Energy Research (Evolved) — examined potential pathways to reach Oregon's energy and climate objectives while maintaining reliability across the energy system. ODOE worked with the consultants to develop the model using an analysis of existing policies, energy and integrated resource plans, energy-related studies and data analysis, and state energy policy objectives.[iii]

A key component of the analysis was development of a least-cost "Reference" pathway that incorporated high levels of energy efficiency and electrification of end-uses. This pathway was then compared to several others to help understand the implications of different choices. In other words, rather than focus on what *more* might be needed to go beyond current trends – which if continued out to 2050 will fall short of meeting our energy policy objectives – the model focused on different *options to meet our objectives.*

Each alternative scenario changed a key element or assumption of the Reference Scenario and held everything else constant. This helped to isolate the impact of the change and draw out lessons learned. Much of the Phase 1 engagement focused on how to define a least-cost Reference pathway as a point of comparison for the other scenarios.

Changes to scenarios[iv] included things like exploring lower levels of energy efficiency and electrification to test the hypothesis that, based on evaluation of other studies, these would be key elements for ensuring Oregon's energy transition is on the least-cost pathway. This exercise resulted in a deeper understanding of interactions across the transportation, buildings, industrial, and electricity sectors in Oregon, and reinforced the importance of energy efficiency and electrification as key components of a least-cost pathway to economy-wide decarbonization. It also provided valuable insights into the direction the state must take to achieve its energy policy objectives.

These takeaways establish important directional insights. As ODOE engaged with the Advisory and Policy Working Groups, the process turned from the "what" (what is needed to meet our energy policy objectives?) to the "how" (how do we act to meet our goals?).

To inform this discussion, ODOE worked with our consultants to develop additional, complementary analyses to more deeply inform policy discussions. The energy pathways modeling looked at effects on

[iii] See OES-CETI-EER-Technical-Approach-to-Modeling.pdf, Sections E (Current Policy Assessment) and F (Data Approach) for more details.

[iv] There were six alternative scenarios and four sensitivities that we modeled.
The six scenarios are:
1. Delayed Energy Efficiency and Building Electrification (Delayed EE & BE);
2. Delayed Transportation Electrification (Delayed TE);
3. Limited Demand Response (Ltd DR);
4. Limited Utility-Scale Electricity Generation in Oregon (Ltd Gen);
5. High Distributed Energy Resources + Limited Transmission (High DER + Ltd Tx); and
6. Alternative Flexible Resources (Alt Flex Res).

The four sensitivities are:
0a. No Change in VMT in Reference Scenario;
0b. 50% Lower Tech Load Growth in Reference Scenario;
0c. No Advanced Clean Trucks Regulation in Delayed Transportation Electrification Alternative Scenario; and
5a. No Change in VMT in High Distributed Energy Resources + Limited Transmission Scenario.
The results of the energy pathways analysis are available at https://www.oregon.gov/energy/Data-and-Reports/Documents/2025-OES-Technical-Report.pdf

No Comments.

Oregon's economy as a whole but could not specify how different employment sectors, businesses, or households may be individually affected. The complementary analyses aimed to fill some of these gaps.

The Environmental Justice and Equity Working Group continued to meet between Phases 1 and 2 to inform the first three analyses listed below. They provided insights into the needs of environmental justice communities and perspectives on how to frame the analysis to inform policies. The analyses were then shared more broadly for public input. These analyses included:

- A household energy wallet analysis.
- Air quality modeling and associated public health impacts analysis.
- Geospatial mapping.
- A study of employment effects.

The household energy wallet[v] analysis served to better illuminate the benefits and challenges to five different sample Oregon households of adopting electric vehicles and efficient electric heat pumps when their old car or heater needs replacing. Parameters for five sample households were developed through engagement with the Environmental Justice and Equity working group, and with broader public input. The analysis considered adoption of these new technologies across different housing types, climates, and under a range of electricity and gas prices.

The analysis concluded that for the five sample households evaluated, electric vehicle and heat pump adoption generated significant reductions in energy use. However, while some households also saw cost savings, this was not the case for everyone. Electric vehicles were likely to deliver cost savings for most[1] households, while heat pumps delivered bill savings in some, but not all, circumstances. Several factors affected access and affordability to efficient electric cars and heating in the analysis. These include the upfront cost of new technologies, electricity and natural gas prices, and access to at-home charging. The type of building stock (single versus multi-family) also mattered. For gas heated homes, the switch to an efficient electric heat pump was often more expensive when different electricity and gas costs were modeled, though the need for air conditioning and lower electricity costs were found to improve its cost-effectiveness. Through the engagement process, ODOE heard that barriers such as affordability, living in rental housing, and access to clean technologies were particularly likely to affect Tribes, low-income, rural[2] and coastal communities.

The Policy Working Groups provided further detail and context to inform policy recommendations around adoption of efficient electric technologies.

The air quality modeling evaluated changes in energy demand and supply alongside corresponding changes in air pollutant emissions. This data was entered into the U.S. Environmental Protection Agency's Co-Benefits Risk Assessment, or COBRA model, to evaluate how changes in emissions of harmful air pollutants affect public health and health costs. In particular, reductions in air pollution can help prevent health conditions like respiratory and cardiovascular diseases and benefit some of the most vulnerable populations, including communities of color, pregnant women, older adults, children, and people who work outdoors.[15] [16] The analysis found significant health benefits associated with achieving Oregon's emission and clean energy targets. The benefits were relatively similar across scenarios from the energy sector modeling and translated into between $6.3 billion to $14.1 billion in cumulative benefits by 2050 from reduced mortality, fewer hospital admissions, and fewer missed workdays.

[v] View the Household Energy Wallet in the Complementary Analysis Technical Report.

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 12:20:31

This is a misleading statement. Because in both situations, neither electric vehicles or heat pumps delivered savings for all circumstances. Utilizing the word "while" to connect the heat pump result and the words "but not all" in that portion of the sentence only makes the face value of this sentence appear like EVs delivered cost savings across the board. But that is untrue. The use of "were likely" and "cost savings for most households" is an assumption based on what is likely vague, ambiguous data. Make this more apparent for the lay person. Do not use sticky words to lead assumptions that are inconsistent with what's true. The statement about EVs is an informed guess, not a truism. Make that clear.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 12:21:49

How are you defining rural communities and who from these rural communities did you engage with? How many rural Oregonians did you engage with?

ODOE worked with our consultants to develop a series of maps representing important economic, environmental, and social considerations to help support an equitable clean energy transition.[vi] These maps can be used to assess the potential effects of energy policy options on different communities and help inform more equitable policy development.

The jobs analysis built on the economywide energy strategy modeling, identifying the scale of job growth minus job losses (net jobs) that might be expected across the seven scenarios investigated. The jobs analysis suggests that Oregon stands to realize significant net gains in energy jobs by achieving its energy policy objectives. There was significant net total job growth across all scenarios, with net job gains in the electricity, buildings, and fuels sectors consistently outpacing net job losses in the transportation sector.

The Reference Scenario resulted in a total of 12,852 more aggregate jobs across the four energy sectors in 2035 compared to 2024.

The Reference Scenario resulted in a total of roughly 12,900 more aggregate jobs across the four energy sectors in 2035 compared to 2024. Employment gains are most pronounced in the electricity sector while employment losses are most pronounced in the transportation sector. Looking across scenarios, the jobs analysis suggests a range of approximately 10,700 to 18,200 jobs could be gained in the electiricty sector through 2035, and a range of approximately 6,700 and 7,500 jobs could be displaced from the transportation sector by 2035. With respect to the transportation sector, while employment in charging stations, vehicle manufacturing, and wholesale trade parts subsectors are expected to grow, these gains are expected to be outstripped by job losses in the fueling stations and vehicle maintenance subsectors. In considering these effects, the idea of co-locating charging stations at existing gas stations could be explored as a possible strategy to mitigate job losses in the fueling station subsector.

The technical analysis estimates similar levels of net job growth in both Eastern and Western Oregon by 2035: roughly 6,500 jobs east of the Cascades and roughly 6,400 jobs to the west. This amounts to a 33 percent increase in energy sector jobs compared to 2024 in Eastern Oregon and a 5 percent increase in jobs in Western Oregon. This reflects a different starting point, with Western Oregon having roughly 10 times more energy sector jobs in 2024 than Eastern Oregon. This means that relative to western Oregon, eastern Oregon is expected to see markedly larger job growth as a percentage of its 2024 baseline employment in the fuels and electricity sectors, highlighting a potential need for location-based workforce development strategies in order for rural communities to take full advantage of these employment opportunities.

Additional occupation-level analysis was conducted for the Reference Scenario. This modeling suggests that electricians, construction laborers, and HVAC and refrigeration mechanics and installers are the three occupations likely to see the greatest numbers of new employees by 2035. This additional analysis also estimated job growth across three wage tiers, namely: Below a Living Wage: less than $33/hour; At a Living Wage: $33-$48/hour; Above a Living Wage: more than $48/hour. Jobs were estimated to grow across all wage tiers with the distribution of energy sector jobs across wage tiers remaining essentially unchanged in 2035.[vii]

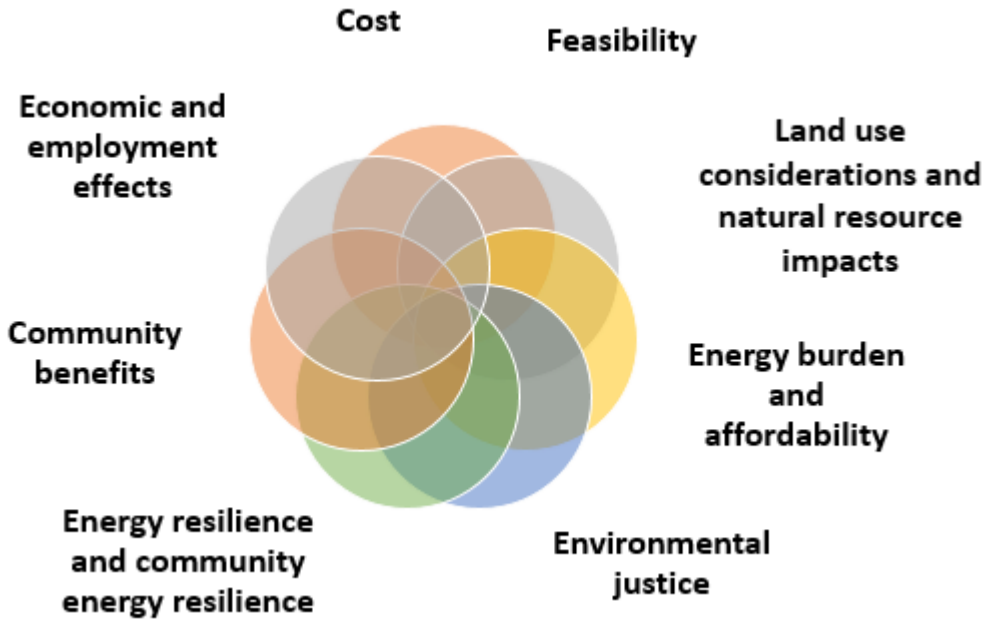
Throughout the engagement process and in considering recommendations, ODOE focused on both quantitative and qualitative data. The modeling provided information on pathways to meeting the state's clean energy objectives reliably and at least-cost economy-wide. Further technical analysis provided

[vi] View the Geospatial Mapping in the Complementary Analysis Technical Report.
[vii] View Jobs Analysis Presentation. ODOE will publish jobs analysis technical reports to accompany the final energy strategy.

No Comments.

insights into effects on household affordability, air quality, and employment. However, there are broader considerations that go beyond the ability of these analytical tools that address the many interactions between energy-related actions and broader areas of public interest. HB 3630 directs ODOE to evaluate these other areas in identifying pathways to achieving Oregon's energy policy objectives. Figure 2 illustrates additional considerations in applying the pathways from the modeling to define specific pathways, policies, and actions.

Figure 2: Key Considerations in Determining Benefits and Risks of Actions



In evaluating the complex interactions between the energy sector and these considerations, it is critical to identify approaches that maximize benefits while minimizing risk. Processes must be equitable and follow the four pillars of energy justice described in the Equity and Environmental Justice Framework section to reduce disparities and bring along communities who have been left behind. Investing in the energy transition requires a recognition of areas where trade-offs exist and to navigate choices with as much information and transparency as possible. For example, tensions frequently exist between development of needed energy infrastructure and protection of natural and working lands, waters, and ecosystems. The energy transition is an economic transition, and will create shifts in job and career opportunities and losses. In developing pathways, policies, and actions, ODOE has worked to recognize these tensions and to seek solutions that maximize positive effects while minimizing and mitigating negative impacts.

No Comments.

The Five Pathways



1. Energy Efficiency.

Advance energy efficiency across buildings, industry, and transportation sectors, including by expanding access to and appeal of multimodal transportation options, to deliver the benefits of a more efficient energy system.

Energy efficiency must be the starting point for how we address the energy transition. The less energy we use, the less we need to produce and deliver. This saves households and businesses money, promotes reliability, and reduces the costs of the energy transition economy wide.[viii] In the energy strategy Reference Scenario, energy efficiency, including from electrification, brought overall energy demand in 2050 down to 22 percent below 2024 levels. Energy efficiency means getting the same level of service (heating, cooling, comfort) using less energy. In households this can reduce energy bills and energy burden, while in businesses it can reduce operating costs, making Oregon businesses more competitive. At the same time, the initial investment in a more energy efficient technology may pose a barrier for households and businesses, requiring support to realize savings.

There are many other reasons to support energy efficiency. It can avoid the need for more energy infrastructure, relieving pressure on our natural and working lands, waters, and ecosystems. It can improve health, create jobs, and reduce energy burden. Energy efficiency has traditionally focused on improving the performance of buildings and appliances, often treating transportation policy as a separate domain. But to meet economy-wide decarbonization goals, we need to broaden our understanding of energy efficiency. Reducing vehicle miles traveled cuts energy use by reducing the length of car trips and shifting travel to more energy efficient modes where feasible. In this way, VMT reduction and supportive land use are powerful forms of energy efficiency – delivering the same or better access and mobility with less total energy consumption. Supporting compact, connected communities can further advance energy efficiency in transportation and buildings, improve public health through increased participation in active transportation such as walking, biking, and rolling, and reduce energy burden through decreased energy costs.



2. Electrification.

Increase electrification of end uses across the economy, including in transportation, buildings, and industry, while incorporating measures to safeguard reliability and support affordability.

Electrification is a powerful energy efficiency and greenhouse gas reduction measure. In the energy strategy modeling Reference Scenario, which represented the least-cost scenario modeled, electrifying on-road transportation alone reduced economy-wide energy demand by 27 percent thanks to the significantly higher efficiency of electric motors compared to internal combustion engines. In the buildings sector, electrification is the largest driver of household energy savings and – when paired with complementary measures like weatherization and efficient lighting – can reduce energy consumption in households by 47 percent.[ix] Electrification also has the potential to deliver substantial GHG emissions

[viii] The Northwest Power and Conservation Council calculates that, from 1978 through 2023, the region has saved 7,865 MW through energy savings – enough to power seven Seattles. This has avoided 25 million metric tons of CO2 and saved $5 billion from avoided energy consumption. https://www.nwcouncil.org/energy/energy-topics/energy-efficiency/.

[ix] https://www.oregon.gov/energy/Data-and-Reports/Documents/2025-OES-Technical-Report.pdf#page=108

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:01:58

This is contrary to what a thriving society is based off of. The more energy consumed, the better off a society is. I recognize the need to energy efficiency as a rule since we have extremely inefficient buildings and appliances. The fact that technology has made such things energy efficient means we should utilize those new technologies. But in no country is it better off with less energy use. We need efficiency to use it elsewhere. And that needs to be made clear. I understand the fear of rotating outages and rolling blackouts. But using less across the grid isn't the answer because disparities will still exist for those who cannot afford to upgrade. Translation of less energy use as a truism is energy poverty and that's what we're dealing and what we'll continue to deal with if our first answer to this problem is to use less energy across the board.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:05:58

So what's with the City of Portland's plea to RTO for all its companies? Seems ironic and counter to what you're saying here. Is Portland on board with this draft? Are you going to enact policies that require WFH for those who can? Because that would solve a lot of the problem. I'm curious about what stats exist for vehicle emissions in Oregon, the Portland Metro Area, and the I-5 corridor during the Pandemic when WFH was the norm and required... Perhaps you can explore that to demonstrate the public health benefit of not commuting to work?

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:06:45

Do you mean densely populated? Kind of an odd word choice here.

reductions now and in the coming decades because Oregon's electric grid already produces fewer emissions than many fuels and is expected to get even cleaner as more renewable energy is added to the system. Delaying electrification in transportation and buildings leads to significantly higher economy-wide decarbonization costs. However, this does not always translate to reduced energy bills for individual households, and requires consideration of affordability when implementing electrification measures. Finally, while the modeling demonstrates the benefits of early electrification, public engagement and additional analysis underscore the need for a carefully managed transition – one that accounts for all key considerations, including ambitious decarbonization goals, grid reliability, upfront and ongoing affordability, equitable access, and additional benefits like cleaner air and improved cooling in homes. The concept of "strategic electrification," elaborated later in this document, is an approach to advancing electrification while working to account for these other crucial considerations.



3. Clean Electricity. Invest in clean electricity infrastructure to maintain reliability and promote load flexibility to reduce system costs.

Electricity is a key fuel for Oregon, and its importance will only grow in the coming decades. Even though Oregon's statewide electricity mix is a significant source of greenhouse gas emissions today, many electric-powered technologies, such as electric vehicles, are already more energy efficient and ultimately lower emitting than their non-electric counterparts.[4] Over the coming decades, clean electricity has the potential to reduce emissions by replacing fossil fuels across many end uses. Investments in electricity generation, transmission, distribution, and storage facilities are critical to meeting Oregon's economy-wide clean energy goals. In the near term, this means planning for and investing in resources that can be built quickly, including distributed technologies like solar, storage, demand-side flexibility, and utility-scale resources wherever they can be connected to electric grids. Efforts to plan for and build transmission must accelerate to enable more clean resources to supply growing loads, and over time, emerging technologies will need to reach maturity to meet higher levels of electric demand.

Even with aggressive cost mitigation, investments in clean energy infrastructure will impose higher costs on customers because of the scale of needed investment in a relatively short amount of time. By 2030, the modeling indicated that electricity demand could increase approximately 40 percent, primarily due to tech loads like data centers. This load growth is uncertain. Yet even if only half the modeled tech load shows up by 2030, Oregon's electricity demand could still increase over 25 percent by 2030. By 2050, the modeling indicated that the portion of Oregon's total energy needs supplied by electricity could more than double.[x] This will mean deploying additional resources, including those that can provide firm power in the long-term. In-state development can be expected to provide jobs and support economic growth, but may also have negative effects, including potentially burdening environmental justice communities and competing with other priorities like agriculture and conservation. Policies and processes must apply an equity lens and work to minimize these negative effects while maximizing opportunities. Distributed energy resources like rooftop solar with battery storage and microgrids are clean resources with low land and water impact that can alleviate some of these effects while supporting household and community resilience. Demand flexibility can further reduce costs and environmental burdens by shifting demand off peak, limiting the need to construct additional power plants, and taking full advantage of variable renewable generation when it is available. This involves electricity customers – from large businesses to residential households – supporting the power system in the form of batteries, water heaters, and other

[x] https://www.oregon.gov/energy/Data-and-Reports/Documents/2025-OES-Technical-Report.pdf#page=28

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:08:45

What about the reliability factor? Even cleaner, sure, but does it also get more reliable?

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:11:42

What are your thoughts and stats around the fact the lithium mining is coming to Oregon to support the EV transition? Does that impacts greenhouse gas emissions or public health as we increase EVs on the road?

https://www.opb.org/article/2025/04/01/lithium-project-in-southeastern-oregon-gets-public-input-extension/

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:18:23

Is this commercial backup generators (which are diesel) or SMRs or something else? Because this is not a very transparent statement and is too abstract for even lawmakers in the State of Oregon to know what it is.

Number: 4 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:20:53

You need to add this to your glossary. I get that you mean baseload. But nobody else will. You could also replace "firm power" with baseload but then you'd still have to define it.

Number: 5 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:30:59

You need to explain in your mention about the VPP below that "variable renewables" (really, the right term is intermittent load) and consumer participation cannot be a 1:1 baseload (firm power) replacement. Where are we going to get that baseload when our largest utility divests from Coalstrip and our load growth requirements skyrocket?

Number: 6 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:21:38

Are you going to expound on this later?

Number: 7 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:23:55

What do you mean by microgrids? Are you referring to rooftop sollar and battery storage in a specific region to stay locally online when things go down or do you mean a local (perhaps a community owned or commercially owned) generator that keeps lights on for local consumers/residents when things go down? Or both? You need to specify and distinguish.

Number: 8 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:27:58

I think you need to dumb this down for people.

Intermittent load = renewables (don't use variable, it is not an industry term, or at least define it for Oregonians)

Peak load = battery storage

Baseload = Hmmm, I wonder where that can come from if not gas or coal?

In all of the above, you need to define these things for Oregonians. We are in the public space with this strategy since it intends to benefit the public, not the energy sector space.

electric uses. Utility business models, markets, and incentive mechanisms must aim to identify and leverage this potential while compensating customers for their role in becoming part of "virtual power plants."



4. Low-Carbon Fuels. Advance the use of low-carbon fuels in the hardest-to-electrify end uses to achieve GHG emissions reductions while maintaining industry competitiveness and a reliable electricity grid.

Today, fossil and low-carbon fuels play a critical role in providing energy for transportation, heating homes and businesses, producing electricity, and powering our industries. These include gasoline, diesel, natural gas, biomass, propane, and other fuels. Most are fossil-based and emit greenhouse gases. To achieve the least cost path to meeting the state's greenhouse gas reduction goals, most fossil fuel consumption will need to be replaced by clean electricity consumption through a strategic electrification approach that solves for affordability and reliability. Zero- or low- carbon fuels will play a strategic role where electrification is not feasible; however, based on available data and technology projections, they are expected to remain limited and costly. In the least cost pathway modeled in the Reference Scenario, fuel use across the economy declined by 70 percent by 2050. Vehicle electrification was identified as a more cost-effective strategy than producing large volumes of low-carbon fuels to power transportation.

While fuel volume is predicted to decline, fuels will be critical to providing essential energy services for the foreseeable future. For these reasons, it will be important to advance the use of low-carbon fuels over time in strategic sectors, including aviation, rail, and marine transport, long-haul trucking, agriculture and off-road equipment, and high-heat industrial processes, such as steel, cement, and chemical refining, as well as for power sector reliability. Low-carbon fuels present a potential economic opportunity for Oregon to use waste feedstocks, such as woody biomass, to develop in-state production, or as part of industrial symbiosis to enhance access to the fuels by Oregon industry and transportation, providing a long-term competitive advantage.



5. Resilience. Strengthen resilience across all levels of the energy system, including utilities, communities, and customers, enhancing Oregon's ability to adapt to climate change and mitigate other risks.

To successfully navigate the energy transition, Oregon must incorporate measures that mitigate vulnerabilities to the energy system, including growing risks due to climate change and ongoing hazards such as earthquakes, wildfires, windstorms, and winter storms identified in Oregon's Energy Security Plan. The changing climate is being felt in Oregon today. Extreme events are increasing in intensity, straining our energy systems and economy and threatening public health and safety. This includes strains on our hydropower system, transmission and distribution networks, and on homes and businesses. Available data[17] and comments from external engagement indicate a need to strengthen resilience across the energy system, create community-level solutions, and help adapt the built environment to better protect people from extreme weather, wildfires, and wildfire smoke.

Page:19

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:41:56

Industry-wide consumer surveying shows this is not a word that resonates with citizens. I would consider using something less abstract, more tangible to people who don't work in the industry.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:42:47

I would not use the word "mitigate" here. It, too, is abstract. Reducing risk is more layperson friendly.

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:43:14

Replace with "reduce the risk and impact of"

Number: 4 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:43:33

Replace with "those"

Number: 5 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:44:04

Huhn. I wonder how many Oregonians know this exists and what's in it. I didn't know it existed...

Number: 6 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:45:42

I agree. But you need to provide a fact-driven reference here to validate your claim. It is not enough to simply state is as if everyone agrees because I assure you, almost half of Oregon would disagree.

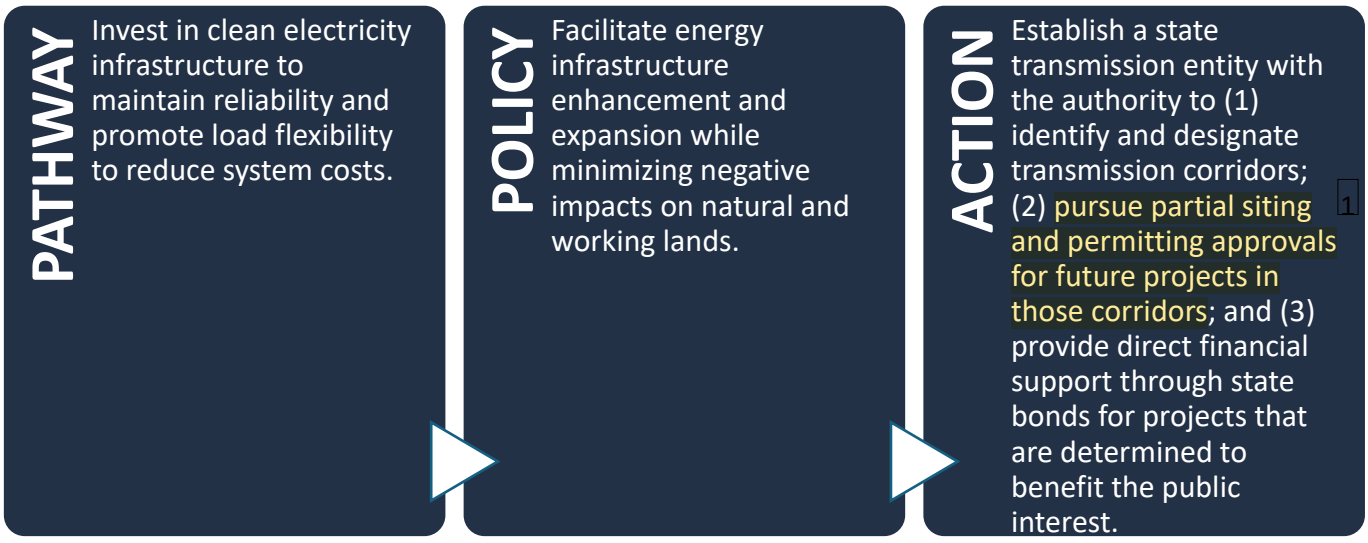
These five pathways serve to set a shared direction for our state. That shared direction must recognize the interactions between each pathway, and work to improve visibility, planning, and coordination to capture synergies and reduce the risk of inefficiencies or siloed approaches. A shared approach must also be adaptable to change. Our climate goals extend to 2040 and 2050 – a time period during which technologies will evolve and different policy approaches will offer opportunities to learn from experience. HB 3630 directs ODOE to periodically update the Energy Strategy to reflect current information, data analysis, and state energy policy objectives. ODOE recommends updating the strategy every four years to track progress and recommend actions to ensure that the pathways and policies remain on track.

Organization of Pathways → Policies → Actions

The pathways provide a foundation to align on the direction we must advance to meet our energy policy objectives. Policies and actions further define potential efforts to implement the energy strategy. Together, the Energy Strategy recommendations are structured as **pathways → policies → actions**.

- Pathways define direction that Oregon needs to pursue to meet our energy policy objectives, and are meant to guide decisions over time.
- Policies build on the pathways and provide more detail to inform near-term actions and decisions over time.
- Actions are near-term legislative and policy recommendations that focus on the next four years, addressing existing barriers and needs while delivering progress on the pathways and policies.

Figure 3: Example of a Pathway, Policy, and Action



In advancing these recommendations, it is imperative to ensure that legislators, agencies, and others responsible for crafting and implementing policy consult with Tribes and engage meaningfully with environmental justice communities and those who are disproportionately affected or left behind by energy policies. The Equity and Justice Framework is a guide to inform policymaking and implementation and should be applied across all pathways, policies, and actions related to energy. While the framework has been structured to address the effects of energy-related policies, it applies broader concepts related to best practices that aim for inclusive processes and outcomes in policymaking and implementation.

Page:20

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 13:56:38

The state needs to help its power providers and transmitters with this because our state is full of NIMBY activists that make it impossible for anything to get permitted.



Policies to Deploy the Pathways

While the pathways work together to define high-level direction for the state, more specificity helps to set a framework for action. This section presents the policies that advance the five pathways and provide a long-term framework for the development of specific actions. The italicized parentheticals provide a short-hand reference to each policy, which are used in subsequent sections. When considering the following policies, legislators, agencies, and implementors should use the five steps described in the Equity and Justice Framework to best determine beneficial processes and outcomes to communities.

Page:21

Number: 1 Author: Nikole Young Subject: Sticky Note Date: 2025-09-12 13:58:36

This is a silly photo. What about getting real, local photos of our infrastructure?



1. Energy Efficiency.

Advance energy efficiency across buildings, industry, and transportation sectors, including by expanding access to and appeal of multimodal transportation options, to deliver the benefits of a more efficient energy system.

POLICIES
1a. Deliver energy efficiency and conservation improvements in existing and new residential and small commercial buildings to align with state decarbonization goals. Prioritize programs to serve low- and moderate- income and energy burdened households. *(Buildings efficiency)*
1b. Evaluate and promote opportunities to improve energy efficiency in large commercial and industrial sectors. *(Large commercial and industrial efficiency)*
1c. Prioritize policies and increase support for programs that expand access to multimodal transportation options – including public transit, biking, and walking infrastructure – and promote development patterns that make it easier and more appealing for people to live, work, and access services without relying on a personal vehicle. (*Expand access to and appeal of multimodal transportation options)*

1a. Deliver energy efficiency improvements in existing and new residential and small commercial buildings to align with state decarbonization goals. Prioritize programs to serve low- and moderate- income and energy burdened households.

Reducing energy consumption in residential and commercial buildings is key to meeting Oregon's climate goals and minimizing costs. In 2022, existing buildings were responsible for more than 36 percent of the total energy consumed in Oregon,[2] 54 percent of Oregon's greenhouse gas emissions, and were responsible for over 40 percent of Oregon energy expenditures.[18] These energy expenditures are a significant burden, with many Oregon households having to spend more than 10 percent of their total income on home energy consumption.[19] As Oregon constructs new buildings to address the housing crisis and meet housing demand over time, it will be essential to capture all efficiency opportunities, including in building envelope and through efficient electric heating and cooling technologies. Smaller units in compact developments are an efficient type of housing, and land use policies should ensure that these are an option for Oregonians.

Need for Policies

Oregon is a national leader in residential and commercial energy efficiency,[xi] but more work is needed to overcome upfront cost barriers, expand access to information, ensure a sufficient supply of skilled labor, and help all Oregonians lower their energy bills. Energy efficiency measures in buildings include weatherization, lighting, more efficient appliances, and passive technologies like shading and cool roofs. Oregon must continue to advance building energy codes and Building Performance Standards to support lower-carbon new and existing buildings, while also decarbonizing existing small commercial and residential buildings. It is also important that when appliances or equipment break, they are replaced with high-efficiency models. This means building on existing programs and standards, including ratepayer-funded programs in utility service areas across the state and state-funded programs like the Healthy Homes Grant Program and ODOE's heat pump incentive programs. This also means working with

[xi] For example, Oregon ranks ninth on the ACEEE State Energy Efficiency Scorecard.

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:02:49

Are you going to make the process for this bureaucratic? Remove the barriers to qualify for these and don't rely on just the Public Purpose Charge. Oregonians outside the Metro area, in rural and coastal towns, need access to affordable and free energy efficiency too. They are not part of the PPC or the ETO. Most offers through their local utilities are too restrictive for their homes' needs.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:04:29

This is urbanite centric, excludes the rural and coastal and tribal communities identified in your environmental justice communities.

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:05:07

Have you defined this for us? If not, you need to in your glossary.

Number: 4 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:06:17

What does this even mean?

Number: 5 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:10:20

This is not an equitable distribution though because not all Oregon utilities are applying for it to benefit their customers. What about rural and coastal COOP or PUD customers? These kind of resources need to be provided directly to the utilities and orgs without jumping through hoops to provide realized benefits to residential Oregonians.

Tribal governments in delivering energy efficiency improvements to tribal members as well as building out the network of community-based organizations to support energy efficiency in low- and moderate-income and energy burdened households. Finally, energy efficiency policy should prioritize electrification and shifting electricity use to off-peak times and hours of high renewable capacity to ensure alignment with a least-cost economy-wide pathway to decarbonization. For example, while a consumer with an older natural gas appliance may gain energy efficiency improvements by purchasing a new, more efficient model, shifting to an electric appliance can generate even greater energy savings and its carbon footprint will shrink over time as the electricity system decarbonizes.

Risks and Barriers

Delivering energy efficiency improvements relies on actions of thousands of Oregon households and businesses. Navigating available information is challenging. Most people are not experts in energy efficient technologies or where to look for funding or financing support.[xii] The contractors who install technologies or weatherize homes require continuing training to expand their expertise, inform their investments in new technology, and help customers make informed decisions. Widespread adoption of energy efficient technologies requires understanding and overcoming the various and unique challenges that Tribes, renters, landlords, and businesses face.

One key barrier is that higher upfront investment may be needed to lower monthly bills in the long-term. Small businesses may require support to make upfront investments in energy efficient technologies. Energy burdened households who would most benefit from permanent bill reductions are at highest risk of being excluded from opportunities to weatherize their home or install the most energy efficient technology because of the high upfront cost. Without access to grants or financing, the most efficient technology is less accessible, and buildings may require other repairs before energy efficiency measures can be implemented. Renters have limited opportunities to implement investments in the homes they occupy and may face higher rent when improvements are made. The loss of federal funding and policies supporting energy efficiency risk slowing progress on energy efficiency at a time that acceleration is needed. This can exacerbate energy burden, hindering one of the fastest ways to relieve load growth, creating uncertainty for businesses and workers engaged in providing energy efficiency services. It also reinforces the importance of ratepayer-funded energy efficiency programs across Oregon's utility service areas.

1b. Evaluate, promote, and allocate funding to opportunities to improve energy efficiency in large commercial and industrial sectors.

Oregon's large commercial and industrial entities are a crucial contributor to jobs and activity in the state's economy. These entities account for 27 percent of total energy consumed in Oregon, about 34 percent of greenhouse gas emissions, and almost 29 percent of energy expenditures in our state.[20] [21] Energy efficiency can reduce energy waste and help businesses reduce their energy costs, improving the competitiveness of Oregon's industries while advancing our climate objectives. This may include custom measures unique to industries or collaborative process design such as industrial symbiosis that serve to optimize the use of energy by reducing waste and sharing resources through co-location of processes across businesses. Energy efficiency may also reduce emissions from local pollutants, particularly when

[xii] Oregon has developed a site to provide information on available incentives across Oregon: https://incentives.oregon.gov/

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:11:37

Homeowners fit into this category too. And they are at the mercy of their income and help from their utility or another community org for navigating energy efficiency.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:12:09

And because they are renters...

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:13:15

But leaving this up to community orgs and utilities allows them to pick and choose. Are there options for Oregonians to take action with financial assistance directly from the State? We do that for EVs, why not for energy efficiency upgrades?

Number: 4 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:14:01

This is likely to be less of a priority to Oregonians than cost of energy consumption.

combined with process or material efficiency, thereby reducing the negative environmental effects on neighboring communities.

Need for Policies

Oregon has policies and programs in place to encourage energy efficiency improvements in large commercial and industrial sectors. These include the Climate Protection Program, which sets decarbonization objectives for fuel suppliers and will set emissions goals requirements for energy-intensive, trade-exposed industries by 2027. The Large Electric Consumer Public Purpose Program allows some of Oregon's largest electricity users in Portland General Electric and Pacific Power service areas to invest a portion of their public purpose charge on self-directed energy conservation and renewable projects on their sites. Industries will continue to need support to identify and access low-carbon solutions for their businesses to comply with these goals. The Building Performance Standard is an important mechanism to drive energy efficiency in large commercial buildings.[xiii]

Energy efficiency improvements in commercial and industrial sectors often need to be tailored to the specific function, technologies, and processes of a facility. In addition to the policies listed above, identifying and implementing energy efficiency measures may require additional technical expertise, evaluation of savings opportunities, and tailor-made solutions. It is also essential that energy efficiency measures consider electric and hybrid electric technologies wherever possible and save costly low-carbon fuels for the hardest-to-electrify applications. State policies and regulatory targets can set industry expectations and establish a runway for the adoption of new technologies so businesses know what is coming and can plan for it.

Risks and Barriers

Large commercial and industrial energy users have much larger energy loads and use a broader range of processes and technologies than households and small businesses. For example, a data center, food processing facility, and cement manufacturer will all require very different expertise and solutions to improve energy efficiency. Businesses must overcome various challenges, including informational barriers, technical challenges, and high capital costs.

Investment in new energy efficient equipment often has a higher upfront cost. All businesses face financial pressure, and investments in efficiency measures need to result operating cost savings to pay back the investments within a reasonable time frame to be considered. Investment in nascent technologies or fuels may involve taking on new risks, and may temporarily disrupt a manufacturing process or change it. Improvements in industrial efficiency may result in job displacement as some processes are automated or require different skills and training. This has the potential to lead to greater social inequity as some communities may not have access to the training and experience needed to adjust to the new equipment or process.

1c. Prioritize policies and increase support for programs that expand access to multimodal transportation options – including public transit, biking, and walking infrastructure – and promote development patterns that make it easier and more

[xiii] BPS is Oregon's policy addressing energy use and emissions from existing commercial buildings, which account for nearly 20 percent of energy use in Oregon, based on ASHRAE Standard 100-2024 and Oregon-specific amendments. Building performance standards differ from building codes (which apply to the construction or renovation of buildings) as they regulate buildings' operational energy use.

No Comments.

appealing for people to live, work, and access services without relying on a personal vehicle.

Reducing the overall amount of driving, particularly in urban areas,[1] is critical to achieving Oregon's clean energy goals at the lowest possible cost while maximizing potential benefits. The transportation sector is the state's largest source of greenhouse gas emissions, accounting for 35 percent of total emissions in 2023. That same year, Oregonians spent $11.2 billion on transportation fuels – more than half of all energy expenditures in the state and more than all other forms of energy combined.[2]

The energy strategy modeling finds that reducing per-capita vehicle miles traveled in light-duty vehicles represents a critical least-cost measure to reduce greenhouse gas emissions. A modeled failure to achieve Oregon's VMT reduction targets proved to be the second costliest among all pathways analyzed. Expanding access to a variety of transportation options (often referred to as multimodal options), including through increased transit service and closing critical gaps in local bicycle and pedestrian networks, reduces pressure on the energy system, cuts air pollution, improves public health, and offers more reliable, affordable mobility – reducing dependence on personal vehicles and saving people money.

Need for Policies

Oregon has long been a national leader in land use and transportation planning, effectively managing urban growth and expanding mobility options, while preserving rural lands. However, achieving the state's goal for a 20 percent reduction in light-duty VMT per capita by 2050[22] will require greater investment and a stronger prioritization of multimodal transportation infrastructure.

Reducing reliance on single-occupancy vehicle trips requires a rethinking of how we fund, design, and build our transportation, housing, and land use systems. Stable, climate-aligned funding is essential to expand diverse, low-carbon mobility options and to create neighborhoods where walking, biking, and transit are safe,[2] convenient, and desirable. To get there, state agencies must work closely with planners, developers, tribal transit programs, and local governments to support denser,[3] transit- friendly development in urban and suburban areas and make it easier to access jobs, essential services, and recreation without relying on long car trips. Oregon already has several strong policies and programs designed to support these goals – including Climate Friendly and Equitable Communities, Safe Routes to School, Great Streets, and the Statewide Transportation Improvement Fund – but funding and resources for implementation remain insufficient to meet the scale of current needs.

Oregon must also work with rural communities to understand their unique transportation needs and[4] identify opportunities to expand access to transportation options, recognizing that rural Oregonians often drive longer distances and live farther apart than those in urban areas, especially outside town centers. By centering people and climate in transportation investments, Oregon can strengthen community well-being while driving down emissions.

Risks and Barriers

Identifying funding for programs that expand access to multimodal transportation options in Oregon is challenging, in part due to a historical imbalance in transportation spending that has long prioritized highways and car-centric infrastructure. This legacy makes it politically difficult to reallocate resources toward modes that some still view as secondary or less traditional. Constitutional restrictions on how[5] fuel tax revenues are used further constrain available funding sources. Additionally, multimodal projects often require complex coordination across agencies and jurisdictions and can face community resistance if not well-aligned with local needs or priorities. For example, rural communities face distinct transportation challenges, including greater distances between destinations and operational

Page:25

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:19:10

What's your solution in this category for rural, coastal and Tribal communities that have to commute to work? 100% guarantee they aren't going to move closer to Portland. I'm one of those people, and I commute 3+ hours a day to work.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:20:32

Do you plan to work with local, county, and state law enforcement in making these activities more safe?

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:21:02

Urbanite centric, excludes rural and coastal communities.

Number: 4 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:23:28

Thank you for acknowledging your need to work with us to understand our transportation needs, but the fact that you haven't already done this and you've already created a strategy is kind of insulting. We're last to mind and not important enough to invest in upfront discovery is essentially what you're saying here.

Number: 5 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:24:27

Well, you probably need to update this now that we've had an increase in gas tax from the 2025 special session...

requirements that can make traditional public transportation less feasible.[1] Safety concerns also present a barrier, both in terms of the need for well-designed, protected infrastructure for walking and biking, and ensuring personal security and comfort for riders on public transportation – especially for women, youth, seniors, and historically and currently marginalized populations.



2. Electrification. Increase electrification of end uses across the economy, including in transportation, buildings, and industry, while incorporating measures to safeguard reliability and support affordability.

POLICIES
2a. Advance and expand efforts to electrify transportation, with a focus on removing barriers to ensure the state meets its zero-emission vehicle goals.[2] *(Electrify transportation)*
2b. Facilitate and accelerate the interconnection of EV charging infrastructure and related distribution system upgrades to enable faster deployment, lower costs and complexity, and improve grid readiness. *(Distribution system readiness for EVs)*
2c. Promote strategic electrification across the residential, commercial, and industrial sectors by aligning policies and investment to deliver affordable, reliable, and clean energy. *(Strategic electrification)*

2a. Advance and expand efforts to electrify transportation, with a focus on removing barriers to ensure the state meets its zero-emission vehicle goals.

Near-term transportation electrification is critical to achieving Oregon's clean energy goals – and delaying action will drive up both costs and emissions. Oregon has established a strong policy foundation to accelerate near-term adoption of zero emission vehicles, notably through the Advanced Clean Cars II and Advanced Clean Trucks rules. While these rules are facing challenges at the federal and state level,[3] modeling shows they are critical to advancing vehicle electrification – and support the most cost-effective pathway to a clean energy transition. Electrifying transportation not only cuts emissions but brings broad economic and public health benefits[xiv]: lowering energy costs for most households,[4] keeping more energy dollars in-state, reducing harmful air pollution, and creating a fleet of batteries that can serve as a flexible grid resource.

Need for Policies

Achieving Oregon's climate and energy goals will require a fundamental transformation of the transportation sector centered on a rapid shift to zero-emission vehicles.

To accelerate the transition and create a stable funding source for Oregon's roads, the state must decouple transportation revenue from fossil fuel consumption. Current transportation funding is dependent on a gas and diesel tax and thus an inherent incentive to continue fossil fuel consumption. A more sustainable, technology-neutral revenue stream that better reflects actual road wear and tear regardless of vehicle fuel type is needed. A Road Usage Charge – a mileage based user fee that charges

[xiv] https://www.oregon.gov/energy/Data-and-Reports/Documents/2025-OES-Complementary-Analysis-Tech-Report.pdf#page=5.

Page:26

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:24:58

*impossible. Not even "less feasible"

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:34:23

What are those goals? When are they due?

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:35:22

So what happens if they're overturned during an appeal or supreme court challenge?

Number: 4 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:36:22

But it increase electricity costs and demand per household. Energy and electricity are not the same thing. Do Oregonians know that? Do lawmakers know that?

drivers based on miles driven rather than fuel consumed – is one alternative approach gaining traction in Oregon and across the country.

Oregon must also dramatically increase the availability, accessibility, and reliability of zero-emission vehicle charging and fueling infrastructure, with solutions tailored to renters, homeowners, multi-family housing, ride-hailing drivers, and fleet operators. Targeted support is needed for fleet owners navigating the complex and often costly transition to zero emission technologies, as well as more information on technology readiness and feasibility that is grounded in the real-world operating needs of Oregon fleets.

By aligning infrastructure, incentives, and funding mechanisms with its climate goals, Oregon can turn its ZEV policy commitments into widespread, equitable adoption on the ground.

Risks and Barriers

Achieving rapid electrification will require removing persistent barriers that continue to hinder progress. While electric vehicles offer long-term savings through lower fueling and maintenance costs,[xv] their higher upfront cost continues to be a major hurdle – especially as federal grants and tax credits are rolled back. The erosion of federal support at a time when electrification must accelerate to meet climate goals threatens to slow adoption and widen the gap between those who can afford to transition to EVs and those who cannot.

As Oregon works to expand the availability, accessibility, and reliability of public EV charging, it must address the needs of rural drivers and those without access to at-home charging, ensuring they have convenient, affordable options to power their vehicles. Commercial and public fleets also face significant informational and operational barriers to adopting EVs, including uncertainty around vehicle availability, range, and suitability for specific use cases. In sectors like long-haul freight, further evaluation is needed to determine where and when electrification can realistically meet business needs.

Widespread transportation electrification will also require a substantial expansion of electricity generation and upgrades to the electric grid to support new demand. The success of this transition is closely tied to the ability to scale the electricity system (Pathway 3), including sustained investments in clean energy and a reliable, resilient grid.

2b. Facilitate and accelerate the interconnection of EV charging infrastructure and related distribution system upgrades to enable faster deployment, lower costs and complexity, and improve grid readiness.

Charging station installations will need to ramp up quickly to support growing numbers of electric vehicles.[xvi] Deployment of charging stations requires close coordination with local utilities to identify sites where sufficient distribution capacity exists to avoid or defer costly grid upgrades. While utilities have traditionally handled upgrade requests on a case-by-case basis, the expected surge in demand from EV charging – as well as other electrification technologies – requires a shift toward a more proactive, streamlined, and scalable planning approach.

[xv] View the Household Energy Wallet analysis. The Natural Resource Defense Council has evaluated several studies that look at the cost of purchasing and driving an electric vehicle compared to an internal combustion engine vehicle. Electric vs. Gas Cars: Is It Cheaper to Drive an EV?

[xvi] For more information on the current state of charging infrastructure in Oregon, see the 2025 Biennial Zero Emission Vehicle Report (coming September 2025).

Number: 1 Author: Nikole Young Subject: Sticky Note Date: 2025-09-12 14:38:33

Probably should clarify that you mean single-family renters since "renters" alone is synonymous with multi-family housing for those who don't know dwelling types, which is most Oregonians.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 15:25:49

But they increase electricity use.

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:39:52

They are not as durable as combustion cars. If their batteries die, they're totaled. Not a durable investment. That's why maintenance costs are so low, they don't last as long.

Number: 4 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 15:28:27

It also has to do with technology and infrastructure not really being where it should be yet. We need to be able to charge a car as easily as it is to fill a gas tank. We need to have miles per charge be like the Tesla Model S.

Consider this scenario for someone who can afford an EV but is also a brand loyalist.

I paid $2.5K to reserve a VW ID.Buzz in June of 2024. In Sept/Oct of 2024, the price and miles per charge came out for the 1st edition I reserved. The MSRP was around $72K and the miles per charge on the best day was around 230. I drive about 140 miles round trip to work. And, I often drive more than that to drop off/pick up my kid to/from school, grocery shopping, etc. So the fact that I possibly can't get through a day without needing to charge in the middle of it made the ID.Buzz extremely undesirable.

I also had a moral issue with the price tag. VW is a People's Car brand selling a car with a luxury car price tag. I told the dealer this when I canceled my reservation. They argued with me. And I was like, "Look, I can get a base model gas Porsche Macan for that price. And for a few thousand dollars more and with the tax credits (because the ID.Buzz didn't qualify for those tax credits), I can get a Tesla Model X, which is almost twice as much miles per charge and is the top of the line EV on the market."

But I didn't get a Macan or a Model X. I bought a Premium R Line Atlas, because I wanted a VW that had the size of a Buzz but the range of my old GTI Golf. It was cheaper than the ID.Buzz, sure. But not by a lot.

This is the kind of attitude you have to address for people with the income to switch but won't for their own reasons. How are you going to do that? How can you change my mind?

Number: 5 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 14:56:51

This what needs to happen for rural drivers like myself:

1. Infrastructure needs to be there so it's as accessible and fast to charge a car as it is to fill up a gas tank.

2. EVs in all Makes need to have a minimum mileage per charge requirement. 230 miles is unacceptable.

Tesla is leading the way. But we're brand loyalists. We buy GMC, Ford, Jeep, Toyota, etc. All Makes need to have a mileage that's meaningful. My relatives who live near me will never buy a Tesla or Hyundai or Rivian. They are Toyota and Dodge drivers. I'm a VW driver. My parents are Chevy drivers. Your rural Oregonians are set in their ways. Meet them where they're at. Don't expect them to just come along because something is deemed convenient and affordable to you.

Number: 6 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:02:50

Okay, so this directly contradicts your statement about "the less energy we use, the less we need to produce and deliver," in your Energy Efficiency section, making them kind of mutually exclusive, which you also said is not the intent of these pathways since they need to work in harmony.

Please rectify this contradiction.

Number: 7 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:02:30

Does this mean you're seriously considering nuclear? Even if it's from out of state?

Need for Policies

Until recently, the electricity and transportation systems operated in silos, with little need for shared data, coordinated planning, or aligned policies. But as electric vehicles become more common on Oregon's roads, the two systems are becoming increasingly interdependent. Oregon has taken important steps toward integration – for example, requiring investor-owned utilities to submit transportation electrification plans to the Oregon Public Utility Commission every three years.[23] However, greater data sharing and cross-sector alignment are needed. As EV adoption accelerates, it is critical to understand where the grid has sufficient capacity to support new charging infrastructure and help guide efficient siting decisions for both public and private investments. In addition, Oregon must proactively coordinate planning across agencies and utilities to ensure the distribution grid can accommodate new demand while maintaining reliability and minimizing long-term costs for ratepayers.

Risks and Barriers

In many areas, the existing electric distribution system lacks the capacity to handle the growing EV load. This challenge is particularly acute at large sites – such as multi-family housing, fleet depots, and fast charging stations – which place intense, localized demand on the grid. Meeting these needs often requires locating sites with existing available capacity, which is not always feasible or known in advance, or undertaking costly and time-consuming grid upgrades. Compounding this issue, current distribution system planning processes are often too slow and fragmented to keep pace with the scale and urgency of this rapid growth.

2c. Promote strategic electrification across residential, commercial, and industrial sectors to align policies and investment to deliver affordable, reliable, and clean energy.

The energy strategy modeling demonstrated that aggressive electrification of end-uses is essential to least-cost economy-wide decarbonization. Strategic electrification – also referred to as beneficial electrification – is a guiding framework for advancing electrification while supporting affordability and reliability. For electrification to be considered strategic, it must advance one of the following areas without adversely affecting the others: (1) benefits consumers over the long run; (2) enables better grid management; and (3) reduces negative environmental impacts.[24] [25] Consideration of grid management must account for resource adequacy needs, including the effects on load growth.

Need for Policies

While Oregon has set targets to reduce carbon emissions from electricity, transportation, and direct-use fuels, there is no state guidance on the role of electrification in achieving carbon emission reduction goals that take into account interactions between these sectors. There is also no electrification target for buildings, apart from a statutory target for the state to have 500,000 heat pumps by 2030.[26] It is important to build on the insights from the energy strategy modeling and other economy-wide studies to more clearly define an electrification pathway for the sectors and applications most able to electrify.

Applying a strategic electrification lens to inform policies to promote building, commercial, and industrial electrification can ensure that the transition will be structured to benefit consumers and the grid. It can help inform key policies including buildings performance standards, energy codes, appliance standards, OPUC planning processes and ratemaking, ratepayer- and publicly- funded programs, and zoning and planning. Together with the Equity and Justice Framework, it can help focus policies and programs to overcome barriers to adoption of the most energy efficient electric technologies among environmental

Page:28

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:08:48

Lol it still does. Maybe not on paper, but operationally, it still does.

justice populations, including heat pumps for space heating and cooling and heat pump water heaters. It can inform programs that educate housholds and businesses about their energy use, how their buildings compare to other similar buidings, and what they can do to reduce energy use.

Risks and Barriers

While electrification is essential to achieving least-cost economy-wide emission reductions and maximizing energy efficiency, it poses several challenges. First, the electricity system is already constrained and will need to expand to accommodate new loads as they electrify. Second, while efficient electric heat pumps generate energy savings, they may not always generate financial savings for consumers. The energy wallet analysis found that factors affecting affordabililty included the type of housing, type of heating technology being replaced, household cooling needs, and the relative cost of electricity and gas.[xvii] Some households – and energy burdened households 1 in particular – may require support to transition from a natural gas or other fossil fuel reliant system to an electric heat pump. Heat 2 pumps can increase winter peak loads, requiring additional electricity system investments. To maximize heat pump operations, homes may require additional weatherization measures, increasing the amount of initial investment needed. Fuel switching from natural gas to electric heat pumps erodes natural gas 3 utility revenues, raising questions about how business models might adapt to a low-carbon future. Over time, as fewer customers remain on natural gas distribution networks, the costs of maintaining the network will fall on fewer customers, potentially raising bills and increasing energy burden in gas-dependent households. There is also a risk of stranded assets, and a need to manage retirement of parts of natural gas distribution systems that otherwise may require costly upgrades.

3. Clean Electricity. Invest in clean electricity infrastructure to maintain reliability and promote load flexibility to reduce system costs.

POLICIES
3a. Facilitate energy infrastructure enhancement and expansion while avoiding, minimizing, and mitigating negative impacts on natural and working lands. *(Utility-scale and distributed energy resources)*
3b. Enable consumers to support grid needs by shifting the timing of electricity consumption for flexible loads like EVs or water heaters. *(Load flexibility)*
3c. Consult and engage with Tribes to understand their concerns around energy development and to 4 identify opportunities where state policies, funding, and programs can support tribal priorities while minimizing the effects of development on environmental and cultural resources. *(Tribal consultation and engagement)*
3d. Collaborate with neighboring states and regional entities to address Oregon's needs as part of a 5 regional grid. *(Regional engagement)*

3a. Facilitate energy infrastructure enhancement and expansion while avoiding, minimizing, and mitigating negative impacts on natural and working lands.

[xvii] See the Household Energy Wallet analysis.

Page:29

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:11:41

Still need to define this

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:12:26

I wonder where a reliable, clean baseload (firm power) can come from to address this?

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:13:07

This seems like its own topic you should probably address separately?

Number: 4 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:15:31

Why are tribal communities singled out here and not part of the environmental justice communities as a whole? It seems like consulting and engaging with all communities within your Environmental Justice Communities definition might address some of your EV and transportation issues you noted above while also learning about what our priorities and concerns are around energy development...

Number: 5 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:15:54

Is this covert for "purchase clean from out of state?"

There is not currently sufficient transmission capacity, generating resources, or storage to reliably power Oregon's future electricity needs, particularly if new data centers come online as quickly as forecasted. Planning for and building utility-scale projects must be a priority. This is particularly critical when considering that utility-scale projects often take years to complete the necessary siting, planning, permitting, acquisition of equipment and materials, engineering, construction, and interconnection processes. Opportunities to expedite these processes, for example by reducing duplication and implementing efficiencies, should be pursued. Grid enhancing technologies can also help improve efficiencies of existing transmission lines. While Oregon will always rely on a combination of in-state and out-of-state resources, it is important to recognize that there are benefits to in-state development. These include energy sector jobs and broader economic growth as businesses gain access to electricity to power their activities.

In addition to utility-scale resources, it is important to build distributed energy resources, which are often more costly to build per kilowatt hour generated, but can typically be constructed more quickly, provide important resilience benefits (especially when paired with battery storage), and typically have fewer effects on natural and cultural resources. Pursuing smaller utility-scale batteries and other resources like co-located generation in some areas can also mitigate the need to build new lines when strategically deployed to areas that act as bottlenecks in the transmission system. Failure to develop sufficient resources will not only threaten system reliability and hinder progress toward Oregon's clean energy objectives but will inhibit economic development and discourage new businesses from entering the state.

Need for Policies

State guidance and support is needed to expeditiously navigate the need for more resources, while recognizing that existing siting and permitting processes are intended to provide consultation and engagement with affected communities and carefully consider development benefits and burdens on communities, the environment, and cultural resources. The need for development must be carefully balanced against these competing priorities to mitigate the environmental and community impact by resource development. Other barriers include determining how to fairly allocate costs for transmission projects and mitigating affordability concerns from new investments.[xviii]

Oregon has some existing programs and policies that incentivize development of community-scale or smaller resources. For example, the Oregon Department of Energy's Community Renewable Energy Grant Program provides grants for planning and developing community renewable energy and energy resilience projects. At least half of the grant funds are awarded for projects that serve environmental justice communities, such as communities of color, lower-income communities, and rural communities.[27] In addition, ORS 469A.210 sets a goal for community-based renewable energy projects to comprise at least 10 percent of the aggregate electrical capacity for large investor-owned utilities by 2030. In other programs, set-asides, formula, or block grants for Tribal governments have been effective, particularly in the housing and community development space, and could be effective in supporting development of distributed renewable energy. It is important to build on these and other policies over time to ensure continued growth of customer- and community- owned resources, and to expand access to historically and currently underserved communities and areas at highest risk for outages. Currently, these programs

[xviii] For example, the Committee on Regional Electric Power Cooperation (CREPC) Transmission Collaborative, a joint committee of the Western Interstate Energy Board (WIEB) and the Western Conference of Public Service Commissioners (WCPSC), is working on bringing states together to help identify cost allocation frameworks to help advance transmission development in the region. https://www.westernenergyboard.org/crepc-transmission-collaborative/.

Page:30

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:16:50

Oregon has the power to reduce the red tape and permitting timelines. It doesn't have to be a decade-long endeavor...

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:18:11

But it's illegal to produce and replace fossil fuel electricity generation with a zero-carbon baseload option in the state of Oregon (i.e. nuclear)...

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:20:14

You need to define this in your glossary. Oregonians don't know what it means.

Number: 4 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:21:09

It's astounding still that you're not acknowledging nuclear, even if you have to purchase it from out of state.

are at risk due to lack of state funding. Utility investments are likely to support some smaller-scale projects, but other funding will be necessary to capture the value of resilience benefits and other benefits to local communities.

Risks and Barriers

One of the greatest risks to reliability and meeting Oregon's clean energy goals is that new resources will not be constructed quickly enough to accommodate the pace of rising demand and to meet HB 2021 targets for the state's biggest utilities and electricity service suppliers. Even where projects already have permits and site certificates, barriers remain to get projects built, including interconnection and supply chain challenges. Cuts in federal funding and changing regulations have reduced support for renewable resources, and tariffs are increasing the costs of materials. These actions threaten to further delay clean energy projects at a time that investment and construction needs to ramp up.

While speedy action is critical, it is important to minimize and mitigate potential negative impacts on tribal cultural resources, affected communities, natural and working lands, and waters. This requires identifying not only barriers but potential benefits of particular types of developments, such as local economic development or ways to mitigate effects through agrivolatics. These potential benefits include local economic development, strengthened resilience, and environmental and public health benefits of a shift to low-carbon resources.

3b. Enable consumers to support grid needs by shifting the timing of electricity consumption for flexible loads like water heaters or EVs.

Renewable resources like wind and solar generate electricity variably, meaning that their output will fluctuate with the availability of wind and sun. New electric loads like electric vehicles and heat pump water heaters have some flexibility in when they need to draw electricity from the grid. As more variable renewable resources and more flexible electric end uses enter the system, it is important to capture the opportunities to align electricity demand with supply availability. This might mean, for example, charging a car, home battery, or pre-heating water during times of low system demand or high renewables output. It can save money by reducing peak demand and taking full advantage of available resources across the day and night. Changing the time of electricity consumption can also relieve pressure on the hydroelectric system and protect fish.[28] More specifically, strategically managed vehicle and battery charging, including options like workplace and off-peak home charging, can maximize the benefits of clean energy while reducing the strain on the grid. In buildings, electric water heaters, space heating, and cooling can all be managed flexibly to provide comfort while supporting the grid. Commercial and industrial electricity loads can also shift some of their operating hours and activate backup energy systems.

Need for Policies

Historically, Bonneville Power Administration has led the way in providing flexibility to the Northwest power market through its marketing of hydroelectric power and its occasional requests to customers to provide demand response by delaying power consumption, primarily to large industrial customers like aluminum smelters. Demand response programs for other retail customers have not historically been a priority because of the hydro system's ability to provide abundant peak power, but that ability may no longer be sufficient. With growing electric loads and an increasing share of variable renewable resources, it will be important for policies to help align demand patterns with broader energy system needs. Examples might include continued evolution of utility regulation for investor-owned utilities and

Page:31

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:26:32

The land mass required for distributed energy resources is significant. All forms of nuclear have a smaller land mass footprint than wind, solar, and battery farms. And it produces significantly more electricity all of the time. While water is needed to cool nuclear, SMRs reduce the consumption burden on water resources. It is crazy that we can't seriously consider this technology as a way to solve for all these problems you spent 100+ pages trying to solve.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 15:25:16

You need to define this when you first mention it several pages ago.

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:10:53

What's interesting is if the trend catches on, what we might see if a new peak time. Say, after 9pm, for example. Or early in the morning.

Number: 4 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:11:42

Like a Measure 7 repeal.

guidance from BPA for consumer-owned utilities to encourage utilities to offer time-of-use rates, promote managed charging or vehicle-to-grid programs, automation, or other enabling mechanisms to motivate and compensate consumers for their flexibility. It may also include technical assistance for utilities across Oregon to identify least-cost methods to align electrification of flexible loads with system operations.

Risks and Barriers

Load flexibility ultimately depends on the abilities and actions of end-use consumers, like households and businesses. Not all consumers have the ability to shift the timing of their consumption, particularly those who may lack access to automated technologies, like smart thermostats. Poorly designed or implemented load flexibility policies could unfairly burden these consumers. Conversely, there is a risk that those consumers least able to shift their consumption could be left behind as they are unable to take advantage of policies that reward load flexibility, including financial incentives from utilities or others. Any new policy to promote load flexibility must be designed with these equity concerns in mind. While these risks are significant, it should also be recognized that failing to enable load flexibility will significantly increase costs and impose other negative effects for all consumers. Load flexibility is an opportunity to mitigate the need to build new resources, which lowers costs and reduces effects on natural and working lands, cultural resources, and nearby communities. Utility action is needed to create mechanisms and incentives for load shifting. However, investor-owned utility business models continue to benefit more from capital investments in infrastructure than from investments in programs like demand response and virtual power plants. Consumer-owned utilities may face contractual barriers with Bonneville Power Administration that limit their ability to realize benefits or savings, even if load flexibility could benefit BPA's regional system. Finally, customers may not know about programs, or may not trust that they are worth participating in.

3c. Consult and engage with Tribes to understand their concerns around energy development and to identify opportunities where state policies, funding, and programs can support tribal priorities while minimizing the effects of development on environmental and cultural resources.

Indigenous Tribes and Bands have been with the lands that we inhabit today throughout Oregon and the Northwest since time immemorial and continue to be a vibrant part of Oregon today. Engagement and formal consultation with Tribes must be an essential component of policy development and implementation. Specifically, renewable energy and transmission line projects may need permits or approval from a tribal agency/Tribe. In addition, it is imperative to follow consultation requirements related to federal and state actions and their effects on Tribes, their resources, and potential treaty rights. This is particularly important in the context of building clean energy infrastructure because of the potential benefits and risks that these projects carry, and the need to ensure that past harms and injustices are not repeated. It is important to understand Tribes' concerns around energy development and to identify opportunities where state policies, funding, and programs can support tribal priorities. Identifying opportunities to advance tribal energy sovereignty can further help align with Oregon's goals of clean energy, resilience, and reliability.

Page:32

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:13:24

IOU already do this. Since this is in the same sentence as the IOU mention, I'm reading it like you expect both consumer-owned utilities and IOUs to do this. If that's not what you mean since IOU already do do this, you probably need to break the sentence up into two separate sentences.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:14:46

Recent research indicates the incentives are not enough to encourage load shifting.

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:16:04

Why not make this all inclusive to environmental justice communities?

Number: 4 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:16:52

This impacts rural and coastal towns as well. Just look at the legal battle that's happening between NXT Clean Fuels and local rural residents in Columbia County.

Need for Policies

As explained in 3a and 3b, policies are needed to advance construction of needed electricity infrastructure and to enhance demand flexibility on the power system. As policies, programs, and projects are developed, it is critical to engage Tribes in their development and implementation.

Tribal consultation requirements stem from the federal government's trust responsibility to 574 federally recognized Tribes — in particular, consulting with Tribes on federal actions or decisions, such as permits for proposed energy projects, that affect them and may affect their lands, resources, or cultural resources. In addition, Oregon law requires state agencies to maintain government-to-government relations with the nine federally-recognized Tribes in Oregon by identifying programs that affect Tribes and including representatives of Tribes in developing programs.[29] While consulting with Tribes is critical for many aspects of the energy strategy, consultation on issues affecting the shared electricity grid is highlighted here as a key opportunity.

Tribal engagement should not, however, be limited to formal requirements or specific programs or projects, but be an ongoing process to build relationships and understanding to better identify areas of cooperation and concern. Many Tribes in Oregon have voiced concerns for various types of projects, including utility scale solar, floating offshore wind, and high voltage transmission lines. Through consultation, proposed project designs have a stronger opportunity to avoid negative impacts to natural and cultural resources that are vital to a particular Tribe's traditional and current cultural practices. At the same time, many tribes have concerns about the effects of climate change and recent extreme weather on natural and cultural resources, which have motivated development of plans, taskforces, or committees to consider clean energy and energy sovereignty. There is interest in exploring partnerships with Tribes and tribal ownership of energy projects so that that the Tribe can receive revenue and build wealth for their communities. There is a need to work with each Tribe to identify opportunities where state policies, funding, and programs can support tribal priorities while minimizing the effects of development on environmental and cultural resources.

Risks and Barriers

Failing to consult and engage meaningfully with Tribes raises a risk of perpetuating historical inequities as well as disrupting a Tribe's current cultural practices. The state must comply with formal notice requirements, and in parallel work with tribal staff, as appropriate, to understand a Tribe's priorities and opportunities to address their concerns, interests, and needs when advancing policies, programs, or projects. Failing to work with Tribes on proposed projects also creates legal risk to the projects. Working with Tribes on energy projects may require support and time to ensure there is an understanding of the project, its potential effects, and whether the tribe has an opportunity to benefit from the project.

3d. Collaborate with neighboring states and regional entities to address Oregon's needs as part of a regional grid.

Oregon imports and exports electricity from across the western region as part of an interconnected electricity system. Oregon is also part of the Bonneville Power Administration's service area, which covers four states and is federally operated. Energy infrastructure, particularly transmission lines, may require action from multiple sovereigns, such as Tribal governments, the federal government, and state governments to be permitted, developed, and operated. Cross-jurisdictional coordination is also important to the efficient use of clean energy infrastructure, which can reduce costs while improving reliability. The state should engage appropriately with other sovereigns to facilitate cross-jurisdictional

Page:33

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:18:13

Renewables, hydro and nuclear*

coordination and collaboration. This engagement is essential to advocate for Oregon's interests, to maintain consistency between regional and state policies, and to advance priorities like transmission development that often rely on cooperation across utilities and jurisdictions.

Several initiatives are underway that will strengthen regional ties in how the electricity system is managed; these initiatives deserve support but also require close scrutiny. Considering the billions of dollars the West has saved through the real-time electricity market since 2014, much work is underway to further progress toward an organized electricity market. Presently, two day-ahead markets are under development: Southwest Power Pool's Markets+ and the California Independent System Operator's Extended Day Ahead Market. The Western Resource Adequacy Program is establishing resource adequacy requirements that many Oregon utilities are obligated to meet. Work to construct much-needed interstate transmission lines continues, including through the Western Transmission Expansion Coalition.

Need for Policies

The power sector is a highly regulated one. Each state has its own regulations governing in-state utility activity, while the federal government regulates interstate activity (largely transmission). In the case of consumer-owned utilities, they have their own governance structures and are also largely reliant on federal power from BPA.

Currently, the regional power marketplace is dominated by long-term bilateral contracts and long-term contract-based transmission rights. Other parts of the country have organized wholesale marketplaces, where a single independent entity dispatches resources efficiently to meet all participants' needs, and utilities and developers have increased transparency and information. Without such centralized organization, the Northwest power market has higher transactional and operational costs that ultimately increase costs for utility consumers. Since 2014, the Western Energy Imbalance Market has offered a centralized marketplace for real-time power sales, which has saved Oregon utilities millions of dollars.[30] However real-time power sales are only a small portion of marketplace transactions. Organized markets for short-term power sales do not address marketplace barriers like transmission rights and utilization.

Utilities in the region are moving toward more organized power markets to reduce costs and improve reliability. This is essential to more efficiently utilize existing infrastructure and to benefit from geographic and resource diversity across the region.[1] As the power sector decarbonizes, this regional diversity will become increasingly important. A more diversified supply mix can take advantage of different weather patterns, resource mixes, and time zones to integrate more renewable generation while mitigating[2] risks from weather changes, including extreme weather events and wildfires. Ultimately, moving toward a regional transmission organization would be an important step to improve west-wide coordination and reduce costs for consumers.

It is important that the State of Oregon engage in these activities to advance state energy policy objectives, ensure that regional activities are consistent with state policy, and strengthen Oregon's cooperation on vital areas including market development, resource adequacy, emissions accounting, and transmission planning. For example, hydropower is a key generating resource for Oregon and the Pacific Northwest, and Oregon should support regional and other planning efforts, such as by the Bonneville Power Administration and the Northwest Power and Conservation Council, to understand and mitigate[3] the expected negative impacts of climate change and extreme weather on hydropower availability. Regional processes like these are becoming increasingly important and complex as the region moves toward day ahead markets, tackles resource adequacy, endeavors to build much needed transmission, and plans for a growing and cleaner grid.

Page:34

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 15:33:18

In addition to other resources, like nuclear*

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:21:27

Replace with "reducing" or "managing and reducing"

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:22:15

Remove and replace wherever "mitigate" occurs. It is not layperson friendly.

Risks and Barriers

Perspectives and priorities of interested parties in Oregon do not always align, so regional engagement – including with Tribes, other states, and in regional processes – is essential to advance dialogue and identify mutual problems and solutions. 1



4. Low-Carbon Fuels. Advance the use of low-carbon fuels in the hardest-to-electrify end uses to achieve GHG emissions reductions while maintaining industry competitiveness and a reliable electricity grid.

POLICIES
4a. Foster development and expansion of low-carbon fuels and fuel infrastructure in Oregon to serve the hardest-to-electrify sectors in Oregon as a strategic resource, while mitigating environmental and community impacts. *(Low-carbon fuels and fuel infrastructure)*
4b. Support low-carbon fuel adoption in the hardest-to-electrify sectors including aviation, rail, marine transport, long-haul trucking, agriculture and off-road equipment, high-heat industrial processes and resources that support electric system reliability. (*Low-carbon fuels adoption)*
4c. Support a managed fuels transition that minimizes stranded assets as end-uses electrify, identifies opportunities to leverage existing infrastructure and expertise to support clean fuel alternatives, and encourages technological innovation to advance new opportunities. *(Managed fuels transition)*

4a. Foster development and expansion of low-carbon fuels and fuel infrastructure to serve the hardest-to-electrify sectors in Oregon as a strategic resource, while mitigating environmental and community impacts.

Low-carbon fuels, including liquid and gaseous fuels consumed for transportation, direct use, and electricity production, will play a growing role in Oregon's economy as the state decarbonizes. The energy strategy modeling found that electrification in transportation and buildings is part of a least-cost pathway to decarbonizing the economy, but some applications will still need to be powered by fuels. In the least-cost pathway modeled in the Reference Scenario, fuel consumption dropped 70 percent by 2050, and most remaining fuels shifted from fossil to a lower carbon alternative.

Low-carbon fuels and electricity are used in Oregon's transportation sector today but only represent about 9 percent of the fuel consumed.[31] Most low-carbon fuels consumed in Oregon are imported into the state and adoption is constrained by a limited supply. Not all of Oregon's communities have affordable access to these fuels as supply is focused on meeting demand in the urban areas along the I-5 corridor. Decarbonization in Washington and California will likely drive greater regional demand for low-carbon fuels. This may lead to increasing competition and potentially higher prices for these fuels, or simply a lack of availability in Oregon as limited supply is directed to Washington or California. Encouraging the development of low-carbon fuels regionally will be important to help meet decarbonization needs, while development of in-state fuel production and distribution will help Oregon leverage economic opportunities in the state. 2

Page:35

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 15:34:10

You need to include "everyday" or "residential" Oregonians in this. Because transmission upgrades require permits, which can be challenged by the public. Look at the Tonquin project. I understand that it's a small transmission project compared to the interconnections you references. But normal Oregonian input and buy in is just as important as Tribal input and buy in.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 15:34:32

It seems like an irony that we're prioritizing emitting fuels here.

Need for Policies

Oregon has existing policies guiding decarbonization of transportation and direct-use fuels but needs to develop new policies around fuel infrastructure development to ensure fuel supply access and program success. Oregon's Clean Fuels Program and the federal renewable fuel standard support clean fuels development.

To evaluate the potential of renewable natural gas production, the Oregon Department of Energy conducted a Biogas and Renewable Natural Gas Inventory Report in 2018 to identify fuel feedstocks and locations around the state.[32] Natural gas utilities have also been encouraged to incorporate biogas into their fuel mix with voluntary biogas goals.[33] Biogas collection factilities have been sited in Oregon but most of the fuel produced is used onsite or the environmental benefits are sold out of state. Oregon joined Washington and other public and private partners in the region in creating the Pacific Northwest Hydrogen Hub to create a test bed for clean hydrogen infrastructure in the northwest, winning a $1 billion federal investment.[34] Changing policies at the federal level have put this project at risk.

With a growing demand for low-carbon fuels, complementary policies are needed to facilitate fuel production in Oregon and help ensure low-carbon fuels are available to support targeted deployment in strategic sectors.

Risks and Barriers

While the limited amount of fossil and biofuel production in Oregon has led to economic dependence on other states, it also shielded Oregon communities from some of the environmental and social impacts associated with producing these fuels. New low-carbon fuel production facilities offer jobs and economic development but they may also add air, water, and noise pollution to communities. Identifying existing brownfields for potential development may mitigate some environmental harms of new development but may also continue historic negative health and social impacts on vulnerable communities located near industrial sites.

Biofuels are dependent on feedstocks from agricultural, municipal, and wood waste. As demand for fuel increases and competition for waste feedstocks increases, there is a risk that non-waste feedstocks could be used, potentially leading to deforestation, habitat loss, and farmland being used to produce energy crops rather than food.

Investment in low-carbon fuel production facilities carries risk as some of these fuels, such as hydrogen or ammonia, are nascent technologies with limited existing production and distribution infrastructure. Low-carbon fuels are more expensive to produce than petroleum fuels and are dependent on government subsidies and tax credits to be competitive in the fuel market. Federal and state policies may change over time, and that can have a dramatic effect on the demand for and the economics of these fuels. Technologies and the applications of these fuels are also evolving and uncertain.

Increasing fuel production in Oregon has potential social, environmental, and economic risks and also benefits to decarbonization and economic growth and independence. Oregon needs to evaluate the options and develop a comprehensive approach to attracting fuel production in the state while mitigating negative effects and preventing unintended consequences.

4b. Support low-carbon fuel adoption in the hardest-to-electrify sectors including aviation, rail, marine transport, long-haul trucking, agriculture and off-road equipment, high-heat industrial processes and resources that support electric system reliability.

Page:36

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:27:50

Why not also develop new policies that enable nuclear to come back? If we're keeping carbon emitting fuels in Oregon, why not make zero-carbon baseload electricity?

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:28:46

In what ways? Can you specify?

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:29:39

This isn't what's happening though. Not in Columbia County.

Number: 4 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:31:19

Red flag.

Shifting demand from fossil to low-carbon fuels in transportation and industry may require technical guidance and financial support from the state. Drop-in fuels or those that can be used in existing equipment and fuel storage are the easiest to adopt but some fuels and applications will require equipment retrofits and/or a change in how fuels are consumed. In transportation, the energy strategy model indicated that low-carbon fuels were needed to decarbonize aviation, rail, and marine transport as well as some long-haul trucking, agriculture and off-road equipment. In the least-cost pathway modeled in the Reference Scenario, by 2050 most industrial processes were powered by clean gas from biogenic sources or green hydrogen where electrification of applications was not cost-effective or feasible. In the electricity sector, while less gas overall was burned over time across the scenarios, the system relied on existing fossil and new low-carbon gas operating at low capacity factors to provide system flexibility and reliability. To achieve this shifting demand in how we use fuels and what fuels we do use will require clear and early direction from the state so Oregon businesses and communities have time to prepare. State government can support this transition through research, technical guidance, and resources.

Need for Policies

Oregon's fuel decarbonization policies are focused on reducing the emissions of fuels used in transportation and direct use but are limited in their support of consumers and industries that need to make the energy transition. The Clean Fuels Program aims to reduce the carbon intensity of Oregon's transportation fuels over time. The Climate Protection Program establishes a declining limit on greenhouse gas emissions from fossil fuels used throughout Oregon, including diesel, gasoline, and natural gas, out to 2050. Support is needed to drive implementation of these programs, including overcoming cost, information gaps, and technical barriers.

While some low-carbon fuel solutions such as renewable diesel, biodiesel, and ethanol are in use in transportation today, others like hydrogen and ammonia are not yet at market scale. These may be viable solutions in the future, and the state can help Oregon businesses vet the opportunity by tracking their commercial development, determining the best uses for Oregon consumers, identifying opportunities to integrate them into Oregon's energy system, and evaluating the state's role in securing access.

Existing policies do not offer clear direction around a decarbonization pathway or timeline for fuel applications like maritime, aviation, and rail transportation fuels. These transportation categories and other fuel applications without clear direction may benefit from state policies such as fuel decarbonization targets or support, allowing Oregon businesses to plan for the transition and begin to secure regional low-carbon fuel supply. Sectors that are covered by policies with direct regulatory decarbonization goals, such as energy-intensive trade-affected industries (in the Climate Protection Program) and commercial buildings (in the Building Performance Standard program) face technical, informational, and financial barriers as they transition how they use energy. There are opportunities for the state to offer research, technical, and financial assistance to support the transition and help Oregon businesses decarbonize successfully while remaining competitive.

Risks and Barriers

Decarbonization of fuels, electrification, and increased energy efficiency have the potential to reduce operating costs and offer savings for Oregon businesses over time but the initial investment and potential increased risk are significant hurdles for most businesses.

Increased adoption of low-carbon fuels may pose economic, technological, and social risks, and policies must be structured to understand and help navigate these risks. Adopting low-carbon fuel technologies

Page:37

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:33:14

Of course it will. My tax dollars paying for the time labor and financial subsidies of bio-refineries producing carbon emitting fuel in Oregon while nuclear is still outlawed. How ironic.

may require significant upfront capital, and use of low-carbon fuels may lead to higher costs, making it more difficult to compete outside of Oregon or leading to higher costs for consumers and businesses. Shifting policies creates additional risk and uncertainty. There is a limited supply of low-carbon fuels, which means Oregon businesses may be competing for access to the fuels unless new production comes online in Oregon and the region. Onsite generation and storage of fuels such as hydrogen may be a viable option but will require a greater initial investment, may potentially pose new safety hazards, and increase dependence on access to resources such as feedstocks or water.

Developing and scaling up new technologies and fuels requires continuous innovation, investment, and overcoming consumer behavior and technical limitations in energy conversion efficiency and storage. Existing infrastructure may need to be retrofitted or replaced, consumer behavior and manufacturing processes may need to change, and workforce training may be needed.

4c. Support a managed fuels transition that minimizes stranded assets as end-uses electrify, identifies opportunities to leverage existing infrastructure and expertise to support clean fuel alternatives, and encourages technological innovation to advance new opportunities.

Transitioning existing fuel consumption to electricity and low-carbon fuels is an important component of a least-cost pathway to decarbonizing transportation and buildings — but the transition poses challenges for existing fuel suppliers and customers, as well as for power system reliability. Shifting energy use from the existing natural gas system to the electricity system will require expansion of low-carbon electricity[1] generation, transmission, and distribution infrastructure. Fuel suppliers will experience a gradual decline in end-users, leaving fewer remaining customers to cover the costs of the fuel and maintaining the existing fuel distribution system. Oregon's energy system will still be dependent on petroleum fuels but[2] as consumption volumes decline it may be more challenging for fuel suppliers to remain economically viable and still provide service. It is important to consider the state's role in managing this risk, guiding gradual change while supporting innovation, and capturing opportunities to repurpose existing infrastructure for low-carbon fuels or other energy applications.

Managing this transition requires a recognition of the role of strategic electrification in decarbonizing buildings, industry, and transportation as a cost containment approach. The transition will require policy and strategic support from Oregon's Legislature,[3] state agencies, and fuel providers to address the effects of declining demand on distribution systems over time. It is also important to consider how to use existing infrastructure to support low-carbon fuel adoption in the hardest-to-electrify end uses and electricity generation, and where retrofitting is necessary to accommodate low-carbon fuels such as ammonia, renewable natural gas, and green hydrogen. Finally, it is important to explore how to use existing fuel supplier expertise and infrastructure to help deliver deeper carbon reductions through new approaches, such as through construction and management of thermal energy networks and applying geothermal or industrial waste heat, that have the potential to serve multiple buildings and even entire neighborhoods.

Need for Policies

A managed energy transition will not happen alone. The economywide interactions between sectors are not captured by the planning of any single entity and cross-fuels coordination will be needed to support resource adequacy and reliability during the transition. State policy is needed to balance the risk of investment in resources or infrastructure that may become obsolete or uneconomical to operate due to

Page:38

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:42:06

*like nuclear

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:42:36

I wonder what NW Natural thinks of this.

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:43:18

Like sending a vote to the ballot that allows Oregonians to overturn Measure 7.

changing energy demands — for example, paying for upgrades on a distribution line to a community with declining natural gas consumption over time. Absent explicit policies and analysis, it can be challenging to predict changes in consumer demand that could result in much higher natural gas costs for customers remaining on the distribution line. During this transition, non-pipe solutions such as energy efficiency or electrification as an alternative to new distribution infrastructure could reduce the risks associated with large investments. This will require a data-driven approach, regulatory guidance, and collaboration with Oregon communities. California, for example, is deploying several pilot projects to test strategies to manage the shift to electric end-uses in buildings by focusing electrification initiatives in areas where the gas distribution network is in need of upgrades.[35] It will also be important to consider policies that support innovation, leveraging expertise from the oil and gas sectors to support low-carbon fuels and other technologies like district heating and enhanced geothermal power generation.

Risks and Barriers

Decarbonizing fuel applications by transitioning from petroleum fuels to electricity or an alternative low-carbon fuel has a variety of short term economic and social risks. Long term, it is clear that mitigating climate change and reducing Oregon's dependence on finite imported petroleum fuels is beneficial. In the short term, the transition will require significant investments in new infrastructure and there will be risk associated with investing in nascent technologies and fuels. Not all consumers will be interested in transitioning to new fuels or changing how they use energy. Tribal and public engagement will be important to a successful transition.

A declining customer base of the existing fuel distribution networks is likely to raise costs for the remaining customers, elevating affordability, equity, and environmental justice concerns for those customers unable to afford switching to efficient electric technologies. It will be important to apply a strategic electrification approach to reduce and mitigate effects on environmental justice households and communities, and for policies to reduce risks of stranded assets. Some industrial users in Oregon may continue to use natural gas for their operations and/or as a backup power source because there isn't an affordable or viable alternative, but they may be subject to increasing fuel costs. Fuel suppliers will gradually lose customers but will need to remain viable where they are providing a critical service to Oregon's energy system. It will be important to mitigate the risks of relying on new markets for new fuels and technologies during the transition.



5. Resilience. Strengthen resilience across all levels of the energy system, including utilities, communities, and customers, enhancing Oregon's ability to adapt to climate change and mitigate other risks.

POLICIES
5a. Evaluate cross-fuel interdependencies and vulnerabilities to better ensure long-term reliability of the electric grid. This specifically includes strengthening coordination of electricity and natural gas system planning and exploring other cross-fuel areas requiring strategic coordination. *(Cross-fuels planning)*
5b. Fund resilience measures across the energy system, including at utility scale and in homes, businesses, and communities through a combination of ratepayer and taxpayer dollars, particularly where climate adaptation measures can also help advance climate mitigation. (*Resilience measures)*

Page:39

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:44:44

This puts the investment and upfront cost up to the consumer, though, in place of "in-pipe solutions"

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:45:06

But CA has Diablo Canyon.

5c. Maintain emergency response capabilities, including the adaptability and readiness of vehicles, supply of fuels, and fuel storage needs during the energy transition. *(Emergency response capabilities)*

5a. Evaluate cross-fuel interdependencies and vulnerabilities to better ensure long-term reliability of the electric grid. This specifically includes strengthening coordination of electricity and natural gas system planning and exploring other cross-fuel areas requiring strategic coordination.

Oregon's energy systems are under increasing pressure from wildfire, extreme weather, and other effects of climate change at the same time that they are tasked with decarbonizing. To mitigate risks and better prepare for and respond to system stress, it is important to strengthen coordination between sectors to manage climate risks and the increasing complexity of cross-sector interdependencies. This is particularly true for the power and natural gas sectors, which face confluent vulnerabilities during extreme weather events. In January 2024, the Governor declared a state of emergency after freezing rain and downed trees led to widespread power outages.[36] During that event, electricity demand across the region exceeded historic records at the same time many electricity generating resources faced performance challenges. Simultaneously, natural gas supply—critical not only for some home heating but also for gas-powered electricity generating resources—was restricted due to an issue at a key gas storage facility.[37]

As more end uses electrify and the power and natural gas systems decarbonize, it will be important to evaluate how we maintain reliability during times of peak system stress. The Oregon Energy Security Plan identifies relationships between these and other sectors that may have a growing need for more coordination to ensure a reliable energy transition. The plan identifies additional risks that will be important to plan for, including the risk of an earthquake in the Cascadia Subduction Zone, cyber security threats, and domestic and international terrorism.[17] Other regional studies have similarly identified a critical need for more coordination to ensure a reliable energy supply from the electric and gas systems.[xix]

Need for Policies

Separate entities provide energy services for different fuels, such as transportation fuels, electricity, and natural gas. Those entities have historically focused on their own individual system, without significant cross-system coordination. Yet such coordination is important to address the interconnected nature of Oregon's energy sector and the growing threats like climate change that threaten all systems. With regulatory oversight over investor-owned electric utilities, the Oregon Public Utility Commission has been encouraging regulated entities to coordinate and share information, particularly in their long-term planning processes; some energy providers have initiated this process. More guidance and support from the state is needed to enable the robust energy security planning needed for a resilient and affordable energy future, not only in investor-owned utility service areas but broadly across the state. In the near term, Oregon should focus on facilitating multi-fuel conversations to inform and improve energy reliability and resilience, particularly between the electricity and natural gas sectors. Over time, more

[xix] For example, the Pacific Northwest Utilities Conference Committee and Northwest Gas Association commissioned a third-party analysis of regional energy reports that highlights these challenges. https://www.pnucc.org/wp-content/uploads/Guidehouse-analysis-of-regional-energy-reports-2025.pdf

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:50:01

Maybe consider citing a source here.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-12 16:51:23

Solution: nuclear

coordination around distribution system planning may also be needed to manage the process of implementing building electrification where customers transition from gas networks to electric grids.

Risks and Barriers

Oregon's electric and natural gas systems are interconnected and dependent on each other but decarbonization may strain that relationship as end users electrify and the current natural gas business model evolves. The total volume of natural gas used will gradually decline but the fuel will remain critical to the remaining customers and maintaining electricity system reliability as an on-demand resource. Oregon's natural gas and electric utilities conduct resource adequacy planning for their systems as part of their integrated resource planning. These evaluations are independent of other energy systems and may conflict with the assumptions of other energy providers. Energy demands are increasing from tech loads, industry, and population growth that supports economic development but can be challenging for utilities to service. Utility infrastructure development independent of other energy systems may lead to the construction of redundant resources, stranded assets, or inadequate resources in some communities.

Maintaining system reliability while minimizing the costs of the energy transition will require energy service suppliers to share data, assumptions, and work together. The state must support utilities in getting beyond the barrier of market competition and focus on agreement around the rate of electrification in their service areas, emergency response scenarios, resources needed to meet demand, and Oregon's changing energy landscape.

5b. Fund resilience measures across the energy system, including at utility scale and in homes, businesses, and communities through a combination of ratepayer and taxpayer dollars, particularly where climate adaptation measures can also help advance climate mitigation.

Many of the measures that reduce greenhouse gas emissions also deliver resilience benefits. As temperature extremes grow, investments in measures like weatherization, heat pumps for air conditioning, and distributed renewable resources and batteries can reduce carbon emissions while protecting households from risks such as wildfire smoke, extreme temperatures, and prolonged outages. Climate change is also making other measures more expensive. For example, utilities invest in "grid hardening" to reduce risks of wildfire and wildfire-caused damage, which increase costs of building and maintaining transmission and distribution infrastructure. Costs have increased for utilities and could rise more from wildfire damage and litigation. Insurance against climate risks has become more expensive. Financial support to cover these infrastructure costs, such as bank loans to investors, is generally less available and more costly to secure.

Need for Policies

While utilities have a critical role to play in improving the resilience of their systems, resilience measures should not be constrained by a utility's funding limitations. A utility may not be able to make the investments or operational decisions needed to improve resilience at the local level for individual communities, businesses, and households. State action is needed to ensure investments are made that take into account the resilience benefits. This may include policies that can build on existing utility ratepayer funded programs, as well as existing state-funded programs such as the County Energy Resilience Grant Program, Community Renewable Energy Grant Program, and state-funded heat pump

No Comments.

programs – all of which are now in jeopardy due to lack of available state funding. Certain communities in Oregon, including those served by consumer-owned utilities, may need higher levels of government support to implement proactive grid-resilience measures and recover from damages caused by wildfire, winter storms, or other disasters. Absent government support, the increased costs necessary to pay for significant resilience or reliability investments will fall hardest on those households and businesses already suffering from a high energy burden. It is important to continue to promote and support relationships between Tribes and utilities to focus on resilience projects that benefit tribal communities and lands through programs like the federal Grid Resilience Grant program.

Risks and Barriers

Oregon's existing electricity grid and natural gas pipeline infrastructure is aging and will increasingly be vulnerable to outages, wildfires, and declines in efficiency. Existing infrastructure can also hinder the integration of new technologies and potential solutions to improve the efficient delivery of energy. Utility resilience measures require significant upfront investment and planning to implement, and many utilities in rural communities are the most exposed but have the least amount of resources to address the issues. Supply chain disruptions caused by geopolitical tensions, trade restrictions, and events like the COVID-19 pandemic have resulted in long lead times for equipment procurement and higher costs for utilities.

Households, businesses, and communities also face increasing risks that fall outside of utility cost-effectiveness calculations. For example, weatherization measures or installation of solar panels plus storage may not be cost-effective from an energy perspective, but can deliver significant benefits in the case of extreme weather and outages. Support is needed to encourage investment in resilience measures across investor- and community- owned utility service areas, and especially in rural and coastal communities that face higher outage frequency and duration.

5c. Maintain emergency response capabilities, including the adaptability and readiness of vehicles, supply of fuels, and fuel storage needs during the energy transition.

Every day, the thousands of Oregonians involved in emergency management, planning, and response provide critical services to the people of our state, protecting lives, property, and the environment. In turn, these Oregonians rely on vehicles, utilities, tools, and facilities, all of which are powered by energy. Today, emergency response vehicles — including fire trucks, police cars, ambulances, wildfire fighting crews, air support, and bulldozers — rely on a steady supply of petroleum liquid fuels. Additionally, when grid power is unavailable, backup emergency power is typically provided by liquid fuels or natural gas generators.

Even as communities increase their resilience by adding distributed generation and storage, liquid and gas fuels will likely still be needed in the foreseeable future to provide on-demand power to emergency response resources, including vehicles, planes, and backup power generation. Low-carbon fuels or other innovative technologies may be able to meet these needs while lowering greenhouse gas emissions, but it will take time to transition to these alternatives, and costs will likely be higher than traditional fuels. State and local jurisdictions will need to work with partners to develop guidance on what investments to make for emergency planning while also preparing for changes in how energy is used in the future.

Need for Policies

The Oregon Department of Energy published the Oregon Energy Security Plan in September 2024, following direction from the federal government and SB 1567. The plan is updated annually and

Page:42

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 12:35:39

I'm very concerned about this.

identifies risks to electricity, liquid fuel, and natural gas/propane systems, and proposes ways to mitigate those risks. This plan is intended to inform Tribes, the state, and local governments as they prepare for supply disruptions and make decisions related to energy systems and infrastructure investments, resilience and hardening strategies, and asset management. However, the Energy Security Plan does not specifically evaluate current statewide or local emergency planning resources or analyze how Oregon's energy transition may affect emergency response capabilities. State guidance on future emergency management resource needs can support strategic investment by governments at all levels to better prepare the state to respond and recover from future energy emergencies.

With this in mind, it is necessary for Oregon to enact and implement policies that will protect our emergency response capabilities through the energy transition. This includes maintaining a resilient supply of necessary fuels, as well as the infrastructure required to procure, transport, distribute, and store those fuels. There is a need for coordinated, strategic energy emergency management planning that aligns with state greenhouse gas reduction goals and identifies short, medium, and long-term energy needs for emergency response. This work should build upon the Oregon Energy Security Plan as well as ongoing coordination beween tribal governments and state agencies.

Risks and Barriers

There are limited alternatives to liquid fuels for most emergency response vehicles and heavy equipment. Specifically, the need for diesel fuel (or its lower-carbon variation, renewable diesel) and the need for aviation fuel (or its lower-carbon variation, sustainable aviation fuel) will be necessary and vital for Oregon's emergency response systems. This is especially true for emergency response vehicles serving locations far from the power grid that must be able to operate when the power grid is down and have to respond immediately (and not wait for charging, for example). Oregon faces regular significant natural hazards including major wildfires, winter storms, and floods that are becoming 'routine' and seasonal. Additionally, the state must continue to prepare for a potential Cascadia Subduction Zone earthquake, as well as non-natural hazards such as acts of terrorism and cybersecurity threats, all of which can impact energy systems that we rely upon for life safety.

No Comments.



Nine Federally Recognized Tribes: Feedback and Themes

Indigenous Tribes and Bands have been with the lands that we inhabit today throughout Oregon and the Northwest since time immemorial and continue to be a vibrant part of Oregon today: Burns Paiute Tribe; Confederated Tribes of Coos, Lower Umpqua & Siuslaw Indians; Confederated Tribes of Grand Ronde; Confederated Tribes of Siletz Indians; Confederated Tribes of the Umatilla Indian Reservation; Confederated Tribes of the Warm Springs Reservation; Coquille Indian Tribe; Cow Creek Band of the Umpqua Tribe of Indians, and The Klamath Tribes.

Page:44

Number: 1 Author: Nikole Young Subject: Sticky Note Date: 2025-09-16 12:44:16

Confirming, is this local? Can we have a caption indicating what it is?

As the State of Oregon charts its path forward towards a clean energy transition, it must ensure that the nine federally recognized Tribes in Oregon — sovereign nations with deep ties to the land, water, and natural resources — are purposefully included in planning, policy and investment decisions. To build an energy future that is just, effective, and inclusive, Oregon must shift how it engages with Tribes, how it structures funding, and how it integrates traditional knowledge and long-standing values into its energy work.

Through the engagement process, ODOE reached out to the nine federally recognized Tribes through formal government-to-government letters, staff-to-staff discussion, individual in-person or virtual meetings with Tribal leaders and staff, and presentations through the Legislative Commission on Indian Services and cluster groups. ODOE heard concerns about how existing energy systems overlook tribal sovereignty, cultural knowledge, and priorities, as well as support for incentive programs that can help tribal members shift to clean energy and energy efficient opportunities.

As ODOE continues government-to-government outreach and requests for consultation, where appropriate, ODOE has heard important themes. In this draft report, ODOE is not including any specific priorities of Tribes or a level of detail that would run counter to our government-to-government process. Rather, staff have synthesized feedback and are reflecting what was heard through these themes so it could be internalized and applied in the development of the Oregon Energy Strategy. As policymakers consider policies and actions to move Oregon forward on the five pathways in the Oregon Energy Strategy, the themes and synthesis below should be considered and incorporated into the design of programs and regulations.

Energy Independence & Sovereignty

For many Tribes, energy sovereignty, the ability to control and determine their own energy infrastructure and priorities, is essential to self-determination and long-term resilience. Oregon should consider establishing a **Tribal Energy Block Grant Program** that would allow Tribes to assess their risks, identify priority investments, and develop implementation strategies tailored to their communities (See Cross-Cutting Action 3). Legislative and agency-level program design should also include options for Tribes to directly administer funds for their members, with adequate administrative resources built into budgets (See Buildings Action 6). In addition, **support for community-scale energy projects and microgrids** would allow Tribes to maintain electricity during grid outages, reducing dependence on large utility infrastructure while increasing local control. Currently, these types of projects are funded by ratepayers and often require utility regulatory reforms and creative funding strategies to ensure that they are cost-effective and do not impose disproportionate costs on other rate payers. State support could help broaden support for these projects, recognizing that they serve a crucial resilience function. With the passage of HB 2065 and HB 2066 in the 2025 legislative session, there is opportunity through implementation of these new laws to help make microgrids for Tribes more likely.

Affordable Energy Options

Energy affordability also remains a major concern. Rising electricity, propane, natural gas, and gasoline prices are placing increasing financial stress on tribal households. At the same time, cleaner and more efficient technologies like solar panels, heat pumps, and electric vehicles remain unaffordable for many tribal members due to high upfront costs – even though they would likely reduce long-term energy bills and improve indoor air quality. Oregon can support more affordable energy options by working with

No Comments.

utilities and Tribes to align investments with affordability needs, including through rate design or shared infrastructure projects. **Expanding funding for energy efficiency and weatherization programs** for tribal households is also critical. The State can further support Tribes by coordinating technical assistance and making it less administratively burdensome to access funding for clean energy upgrades.

Access to Decision Making

There is strong concern in lack of meaningful inclusion of Tribes in energy decision making. Tribes are often brought into conversations only after policies or projects have already been developed. This approach disregards the Tribes' sovereign status and misses critical opportunities to incorporate cultural and ecological perspectives early in the planning process. Oregon should continue to develop state-level processes that require engagement with tribal representatives at the earliest stages of energy-related work, during idea generation, before decisions are finalized or public comment periods begin. In addition, Tribes should be invited to participate directly in the state's energy-related advisory bodies, commissions, or working groups. To support this participation, Oregon must also invest in financial and administrative support to **ensure that Tribes are compensated for their time and expertise**. Without this support, participation becomes another burden on already stretched tribal governments.

Stabilization of Funding Cycles

One of the most persistent challenges facing tribal energy development is the instability of federal and state funding. Short-term, competitive, one-time-funded grants often require significant administrative time. This cycle creates uncertainty and hinders long-term planning. Oregon should take steps to stabilize funding by **setting aside a minimum percentage of funds for Tribes** in energy incentive and grant programs, shifting from competitive awards to formula-based allocations when possible, and designing programs with multi-year funding structures. These changes would provide more predictable support and better reflect the long-term nature of energy planning in tribal communities. The uncertainty of the federal government programs makes partnership with the state even more vital.

Consultation, Cultural, and Natural Resources Values

The protection of cultural and natural resources remains a critical component of energy work with Tribes. Traditional Ecological Knowledge (TEK), sacred landscapes, and culturally significant sites are often left out of state energy planning and infrastructure decisions. Consultation processes are inconsistent across agencies and often do not meet Tribes' expectations or legal requirements. Oregon should build on the work of the Governor's Tribal Consultation Task Force to **develop standardized consultation procedures that reflect each Tribe's unique protocols, establishes clear timelines, and protects sensitive information**. State agencies should also partner with Tribes in applying for federal and philanthropic funding that supports TEK-informed planning and implementation. Where possible, the state should support projects that allow Tribes to co-develop or co-own energy infrastructure, in ways that both protect cultural resources and build economic opportunity. Existing efforts, such as the Department of Land Conservation and Development's Goal 5 rulemaking, provide an example for balancing resource protection and development and could be expanded.

No Comments.



An Equity and Justice Framework for Decision-making and Program Implementation

Number: 1 Author: Nikole Young Subject: Sticky Note Date: 2025-09-16 12:44:43

Is this local? Can we please have a caption of what it is?

As part of the Oregon Energy Strategy, the Equity and Justice Framework was informed by the Environmental Justice and Equity Policy Working Group and is designed to be used in the development and implementation of energy policy by policy makers, agencies, and other implementors. The framework serves to guide decision-making processes by reducing the disproportionate costs of energy burden, negative health effects from energy-related pollution, negative effects of energy infrastructure development on natural and working lands, and insufficient resilience against extreme weather induced by climate change. At the same time, the framework considers bolstering opportunities and benefits to environmental justice communities as the state adopts new programs, regulatory structures, and business models to move the state toward cleaner energy sources. It can help determine what equity and justice approaches could be used to develop and implement policies that move Oregon toward its energy goals.

Using targeted universalism, meaningful involvement, and the four pillars of energy justice, the Environmental Justice and Equity Working Group informed six approaches for centering equity and justice in Oregon's energy goals. Each approach has supporting metrics to understand if progress is made toward equitable outcomes. The four pillars:

The Energy Strategy's Equity and Justice Framework adopts the four pillars of energy justice from the University of Michigan's 2022 Energy Equity Project.

Procedural: All groups who stand to benefit or are burdened are provided space to participate and their input should be taken seriously throughout the process.

Recognition: No one group should dominate a process. The process addresses demographic, socio-economic, and geographic variables, disproportionate burdens, and lived experiences of environmental justice communities.

Distributive: Understanding of indirect and community benefits (health, jobs, environment, etc.) and intentional distribution of benefits to overburdened communities.

Restorative: Recognizing and reflecting on past harms and injustices caused by the energy system and actively working to prevent future harms and maximizing future benefits.

The Equity and Justice Framework is not a one-size-fits-all approach. Justice and equity meet the needs of communities and people where they are, and use of the framework must adapt to serve these needs. Often, there is not a simple answer or a linear process to realizing state energy objectives in an equitable manner. Policymakers may need to consider multiple approaches within the framework to accomplish one. For example, there may be a need to build community capacity to engage in decision-making, and the different ways to accomplish this may be tailoring translated resources *and* holding in-person, onsite listening sessions to meet varying community needs.

Implementing the Framework

The Equity and Justice Framework presents six key approaches to embedding equity and justice throughout the energy policy process. Implementing the framework will provide an opportunity to create more just and equitable practices that include access to the decision-making process, access to infrastructure development, investment in long term incentive programs, promotion of holistic workforce development, development of partnerships and resources, and consideration of cultural priorities as well as natural and working lands throughout environmental justice communities.

No Comments.

ODOE and the Environmental Justice and Equity Policy Working Group identified the five steps below to apply when developing and implementing energy policies.

1. Determine the **universal goal** for the issue being addressed and who may benefit, be harmed, or be burdened when taking action.
2. Use the **four pillars** of energy justice to provide direction to achieving just and equitable outcomes in energy policies.
3. Use the approaches in the framework table to develop targeted actions (**targeted universalism**) to meet the universal goal while keeping the **four pillars** in mind.
4. **Identify metrics** that can be collected before, during, and/or after implementation to demonstrate success and understand gaps in the policy implementation.
5. **Review the outcomes** through the lens of the determined universal goal, targeted strategies, and metrics. Complete an analysis to understand if there are gaps and if a new goal or strategy is needed to meet the metrics.

In defining, implementing, and tracking progress on policies, it is important to endeavor to advance the following six approaches to ensure an equitable energy transition that advances energy justice. These approaches should be considered broadly and across many areas of energy policy such as energy efficiency adoption, prioritizing energy burdened households, and environmental justice communities.

Potential metrics are meant to create a starting point for conversation and should be made more specific depending on the particular policy and implementation. These potential metrics are only some ideas and not a finite list. Additionally, while the majority of these metrics are written as quantitative approaches, it is recommended to include qualitative methodologies for a complete picture of benefits, burdens, barriers, and outcomes.

No Comments.

The Framework

APPROACHES	POTENTIAL METRICS
1. Provide Equitable Access to Decision-Making Processes • All policies or programs to develop energy infrastructure are designed to ensure environmental justice and energy burdened communities have equitable access to meaningful involvement to decision-making processes and bodies. This includes using accessible language, language translations, and encouraging participation from non-technical experts and experts with community-based knowledge to include those with lived and professional experience. • Intentionally reduce barriers to the participation of environmental justice groups and community members in decision-making processes and bodies, including evaluating the feasibility of providing direct financial support and indirect support for participation and incorporating the cost into agency program planning.	• Percentage of participants with economic, health, pollution burden or other energy-burden factors such as climate vulnerability score. • Percentage of budget dedicated to supporting meaningful involvement. • Percentage of feedback provided by environmental justice participants incorporated into policies and proposals. • Post-process survey on accessibility and transparency.
2. Ensure Equitable Access to Infrastructure Development Processes Design policies and programs to deliver equitable access to clean technologies and measures for environmental justice and energy burdened communities, recognizing that they often deliver multiple benefits including clean energy, resilience, health, affordability, and other benefits. Examples include weatherization, electric vehicles and vehicle charging infrastructure, energy efficient electric heat pumps, and distributed energy resources. • Examples include weatherization, electric vehicles and vehicle charging infrastructure, energy efficient electric heat pumps, and distributed energy resources.	• Reduced frequency and duration of power outages in environmental justice and medically vulnerable communities. • Increased weatherization and other conservation investment in environmental justice communities. • Number of heat pumps, distributed energy resources, and other clean energy technologies deployed to the benefit of environmental justice communities. • Number of public electric vehicle charging stations in under-resourced communities compared to per capita average across comparable communities/households. • Number of charging stations in low to moderate income multifamily housing compared to per capita average across nearby communities. • Proportion of technologies and measures installed in low- and moderate- income households as a percentage of total.

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 12:55:24

You know, Oregon Humanities is doing something similar but to better understand the general cultural needs of Oregonians. You may be able to partner with them.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 12:53:40

How do you do that? I live in a rural community and have not heard anything about this strategy or ODOE stuff locally. I work in the energy industry, which is how I know about it. (Also, I wouldn't mind being invited to the conversation.)

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 12:57:14

I think you need to be cautious of waste and bureaucratic levels that make offers and programs fairly inaccessible to Oregonians. I work with some agencies and they get nothing done, they simply suck up funds and stall on their commitments. This costs taxpayers money and ultimately robs Oregonians of being able to actualize benefits.

3. Invest In Long Term Incentive Programs for Environmental Justice Communities • Develop statewide prioritization criteria for energy funding and assistance to reduce barriers for people with the greatest assistance need. • Provide increased and stable funding and assistance for those in low-income and energy burdened households to include transportation burden, commensurate with increases in energy costs. • Identify opportunities to reduce monthly bills, even where costs are rising, through deeper weatherization and energy efficiency measures. • Establish revolving loans with beneficial features such as low interest rates and longer repayment terms to minimize monthly loan payments for low- and medium-income households.	• Number of energy funding/assistance programs created specifically for or serving majority energy- and transportation-burdened households within environmental justice communities. • Percentage of program participants who are part of an environmental justice community. • Percentage of program participants served versus eligible populations. • Reductions in negative environmental-related health conditions (such as asthma, respiratory disease, etc…) in environmental justice communities.

4. Promote Holistic Workforce Development in Environmental Justice Communities
• Develop and expand trainings, apprenticeships, and continuing education programs for sales, contractors, tradespeople, and landlords in relevant incentive programs to include:
  • Cultural responsiveness
  • New technologies
  • Overall benefits in underserved communities
	• Number of energy-related college, vocational, and apprenticeship programs offering energy-related training opportunities and incentives to environmental justice communities.
	• Percentage of individuals enrolled who identify as environmental justice community members.
	• Percent of environmental justice community-owned business in a specified energy-related industry dependent on the program or policy.
	• Percent of policies supporting hiring, training, and retention of people from environmental justice communities.
	• Percentage of employees who live in the community where the work is taking place.
	• Percentage of program expenditures going to environmental justice community-owned businesses.

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 12:59:27

I wonder if you can involve the small utilities whose customers will benefit from these? I live in Clatskanie and our Clatskanie PUD electricity is cheap, but our offers are either limited or qualification is a joke (I didn't qualify for a rebate on a new sliding glass door because the material of the original door didn't qualify, even though it wasn't energy efficient, how silly is that?!).

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 12:59:59

Will you be working with local financial institutions or would this be a government loan program?

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 13:02:02

This is a big opportunity

Number: 4 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 13:03:44

Bring municipal government along on the journey. Involve Chamber of Commerce groups. Present to Planning Commissions so they understand the benefit when contractors and homeowners are tying to improve residential buildings.

5. Develop Partnerships and Resources in Environmental Justice Communities • Provide community outreach and informational opportunities that include in-person engagement, and resources/tools that use plain/accessible language and is in multiple languages. • Partner with community organizations who are trained and compensated appropriately, with long-term funding, to be trusted partners and community navigators in the field. • Consider opportunities to collaborate with city and county governments and utilities to best support communities and customers. 1	• Number of people participating in processes and/or programs from environmental justice communities. • Number of materials developed (e.g. fact sheets, two-pagers, informational fliers) that are culturally specific (e.g. plain language, translated, regionally specific) and relevant and percentage of program materials available in multiple languages. • Number of partner environmental justice organizations/trusted community organizations participating in or distributing program materials. • Percentage of meetings hosted with interpretation and translation services.
6. Consider The Effects of Energy Policies on Natural and Working Lands, Cultural Resources, and the Broader Environment • Balance energy needs — like access to affordable energy and economic opportunity — with the needs of ecosystems and cultural priorities. 2 • Make decisions that minimize harm to both communities and nature, and ensure that environmental burdens and benefits are distributed equitably, without disproportionately impacting marginalized groups.	• Improved outdoor air quality particularly in areas with disproportionately poor air quality. • Improved indoor air quality particularly in areas with disproportionately poor air quality. • Increased investment for wildfire risk management. • Increased salmon/wild fish populations / increased populations of endangered or culturally significant wildlife. • Reduction in heat island effects in urban areas – measured by relative temperatures in green spaces vs adjacent city spaces and reductions in average cooling load for local buildings.

Page:52

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 13:04:33

Glad you have this on here.

Number: 2 Author: Nikole Young Subject: Sticky Note Date: 2025-09-16 13:04:46

Author: Nikole Young Subject: Sticky Note Date: 2025-09-16 13:05:43

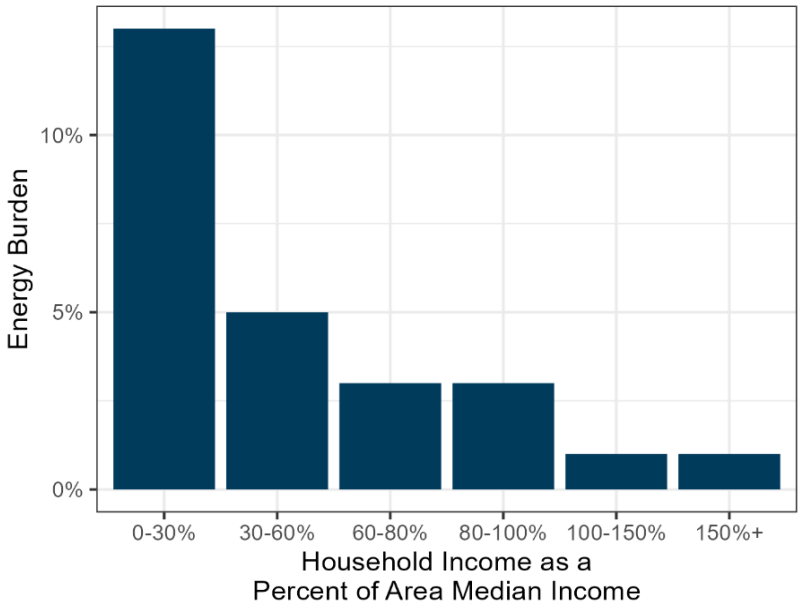
I don't think you have much control over this. This is a planning and permitting issue. Siting certs for energy related projects are one thing. But water use permits, air quality permits, etc. don't involve you.

Oregon Context

To create equitable strategies for accomplishing our state's climate and energy goals, it is important to recognize there are disparities in how Oregonians experience benefits from or are burdened by our energy system. For example, Oregonians who are energy burdened spend a greater proportion of their annual household income on home energy costs. Figure 1 demonstrates this energy burden in Oregon. Oregon is already experiencing the effects of climate change in the increased frequency of extreme weather and natural disasters, such as the 2021 heat dome which caused an estimated 116 deaths (of which the majority were older than 60, living alone and without access to air conditioning in their homes).[38] The record 2020 wildfire season burned 1.49 million acres; the Labor Day mega fires alone burned over 850,000 acres, resulted in 11 deaths, and destroyed or damaged 4,000 homes.[39] These wildfires devastated Talent and Phoenix, in particular destroying more than 1,700 mobile or manufacture homes, and the financial security of many community members, many of whom still do not have permanent replacement housing five years later.[40] Climate change related emergencies have a direct effect on the health of the communities, and their resilience and recovery from these events is dependent on the community's access to resources like local health care and emergency preparedness. Increased incidences of extreme weather can strain already limited resources for environmental justice communities.[41]

The state is currently in the process of developing an Environmental Justice Mapping Tool to help identify communities underrepresented in government processes and harmed by environmental and health hazards. This tool, which is expected to be available in 2027, may provide more comprehensive insight into disparities created by the development and use of energy in the state and could be used in future updates of the Oregon Energy Strategy along with other relevant tools and data. These insights will be vital for developing equitable policy. However, even as that tool is under development, there should be a concerted effort by policy makers, agencies, and implementors to "meaningfully involve" and "fairly treat[42]" those who have been historically and are currently excluded from decision making processes and actions. This is the goal with the Oregon Energy Strategy's equity framework.

Figure 1: Energy Burden by Household Income[43]



No Comments.



Legislative and Policy Actions

Number: 1 Author: Nikole Young Subject: Sticky Note Date: 2025-09-16 13:16:12

Love this pic. Would be nice if there was a caption.

HB 3630 directs ODOE to recommend legislation or changes to policy necessary to implement the state energy strategy.[11] The previous sections presented strategies and policies to align decisions with direction needed to meet our energy policy objectives. This section identifies near-term actions that build on existing policy frameworks, serve to overcome barriers, will lay a foundation for continued progress over time.

Oregon faces several immediate challenges that affect the state's ability to meet its energy goals. These include:

- Increasing demand for electricity at a pace and scale that threatens to potentially outstrip supply
- A shift in federal funding and policy
- Extreme weather events exacerbated by climate change
- Erosion of federal support for social services
- Economic uncertainty

These challenges will affect Oregon's economy and state budget and require that near-term actions operate in a context of competing priorities and heightened uncertainty and risk.

In identifying actions, ODOE staff focused on actions needed to overcome near-term barriers to addressing our energy policy objectives. This work was informed by tribal outreach and consultation and by engagement with working groups, the Advisory Group, Inter-Agency Steering Group, and public forums. In identifying near-term priorities, and building on inputs from engagement, staff sought to answer the following questions:

1. Does the action address a critical near-term barrier to achieving one of the five strategies and related policies?
2. Might the action support longer-term needs to achieving the strategies and policies?
3. What are the benefits and risks of the action, accounting for both energy and non-energy considerations?
4. Does the action improve, worsen, or make no change to existing disparities. How can we address benefits and/or unintended consequences for environmental justice communities?
5. How would the action affect affordability and reliability in the state?

The recommended policy actions have been informed by engagement, technical analysis, and evaluation of existing policy frameworks and energy trends. This includes engagement with Tribes and with other state agencies, the Policy Working Groups, Advisory Group, public forums, and written comments. The technical analysis includes the energy strategy modeling and complementary analyses summarized earlier in this document. Evaluation of existing policies and trends was undertaken by ODOE staff and informed by resources and perspectives shared during public engagement and comment periods.

This section presents the 42 near-term actions that ODOE recommends for consideration by the Governor's office, legislators, and by state agencies. Actions are presented by sector (transportation, buildings, industry, electricity, fuels, and cross-cutting). Each sector begins with a description of the vision for that sector, near-term priorities, and longer-term outlook, followed by actions.

Actions are characterized by the primary focus of the action. For example, does the action provide funding to help advance a given technology? Serve to develop data to make better informed decisions? Introduce or amend an area of regulation? Establish a policy mechanism to enable a key area of investment? While an action may involve more than one of these focus areas, actions have been organized as having a primary area of focus falling in one of the following four areas. This

No Comments.

characterization serves to help Legislators, the Governor's Office, and other decisionmakers to quickly identify actions by the core activity they would advance:

- Funding
- Data and information
- Regulation

Each action advances one or more pathways and policies, and requires application of one or more approaches from the equity and justice framework. To help see these connections, each action is followed by italicized headings identifying the pathways, policies, and equity and justice approaches that relate to that action.

Transportation Actions

Vision



The transportation sector includes on-road vehicles like cars, trucks, and buses; industrial and agricultural vehicles and equipment; and modes such as aviation, marine shipping, and rail. It includes personal vehicles and public transportation, as well as infrastructure for active transportation, including sidewalks and dedicated bicycle lanes. This sector is responsible for 35 percent of Oregon's greenhouse gas emissions, making it the largest source of emissions in the state.

The Energy Strategy modeling found that transportation electrification and reducing vehicle miles traveled offer the greatest cost and energy savings, compared to strategies that rely more heavily on replacing fossil fuels with low-carbon fuels. While electrification is a viable and cost-effective strategy for most on-road transportation, some segments of the sector – such as aviation, marine and rail transport, long-haul trucking and shipping, and agricultural or other off-road equipment – are more difficult to fully electrify and will require increasing shares of low-carbon fuels to achieve decarbonization. The Low-Carbon Fuels Actions section describes near-term priorities to support this transition, while this section focuses on strategies to electrify on-road vehicles and expand access to and appeal of multimodal transportation options.

Achieving Oregon's climate and energy goals will require a fundamental transformation of the transportation sector – accelerating the transition to zero-emission vehicles, reducing reliance on single-occupancy trips, and shifting to low-carbon fuels. Meeting this challenge demands a strong and sustained commitment to expand existing programs and establish new ones that directly support these shifts. Current funding levels are inadequate to address the scale of the challenge.

Meeting the state's transportation-related climate goals – and ensuring compliance with programs like Advanced Clean Cars II and Advanced Clean Trucks[xx] – requires a coordinated strategy between state agencies, electric utilities, and industry to understand needs, close funding gaps, remove barriers, and provide targeted support across the zero-emission vehicle landscape. With the withdrawal of key federal tax incentives, it's critical for the state to step in with new and expanded funding mechanisms, including

[xx]Using the Congressional Review Act, the Trump Administration revoked California's authority to exceed federal pollution limits and enforce the Advanced Clear Cars II and Advanced Clean Trucks programs. This action affects the dozen states that follow California's standards, including Oregon. California, Oregon, and nine other states are currently in the process of litigating the revocation, citing the U.S. Government Accountability Office and the Senate parliamentarian ruling that California's air quality standards cannot legally be blocked using the Congressional Review Act.

No Comments.

sustainable support for vehicle incentives and infrastructure through direct financial assistance and tools like the revolving loan fund. These funding and financing mechanisms must be inclusive of low-income households who are often left behind due to upfront costs and lack of affordability. Broadening access to clean, affordable mobility options through initiatives like a statewide e-bike incentive program will further support a more equitable and inclusive transition.

Support for fleets is also essential. Developing technical assistance programs for public and private fleets and strengthening programs that offer financial support will accelerate the transition to ZEVs. Advancing medium- and heavy-duty electrification will also require the development of strategic planning tools, such as a statewide MHD ZEV roadmap and hosting capacity maps. Simultaneously, Oregon must prepare for the deployment of hydrogen fuel cell electric vehicles through the coordinated development of minimum standards and regulations for heavy-duty hydrogen refueling infrastructure in Oregon.

In addition, policy barriers must be addressed. For example, the way Oregon funds its transportation system limits investments in multimodal infrastructure and transportation electrification.[xxi] It is essential to align transportation funding with the state's climate goals. This requires reevaluating how transportation is funded and where those funds are directed – shifting away from traditional reliance on fossil fuel revenues and highway-centric investments, and toward a fuel-neutral revenue source and support for zero-emission vehicles and multimodal transportation options. To guide this transition, a Climate-Aligned Transportation Funding Task Force is needed to review existing funding structures and recommend strategies to ensure stable, sustainable funding that supports the sector's energy transition. Similarly, expanding local governments' authority to generate and direct transportation revenues toward climate-aligned infrastructure provides critical flexibility to meet the scale and urgency of the sector's transition, while enabling funding mechanisms that reflect local needs and priorities.

At the same time, near-term funding is needed and must be directed toward programs that address immediate priorities, such as expanding multimodal options and deploying zero-emission vehicles and infrastructure. Aligning long-term structural funding reform with targeted, program-level investments is essential to building a transportation system that is sustainable and supports climate goals while also addressing immediate priorities.



These near-term actions will lay the groundwork for deeper shifts over the next 5-10 years to keep Oregon on track toward its transportation electrification and decarbonization objectives.

Transportation Action 1. Establish a dedicated, sustainable, and long-term state revenue source to support the rapid deployment of zero emission vehicle charging and fueling infrastructure across the state.

Pathways: Electrification, Low-Carbon Fuels
Policies: 2a (Electrify Transportation)

[xxi] For further discussion of the funding mechanisms for transportation in Oregon, refer to Transportation Action 2 (relating to a Climate-Aligned Transportation Funding Task Force).

Number: 1 Author: Nikole Young Subject: Sticky Note Date: 2025-09-16 13:37:17

I wonder if this section will need to be updated based on the special session votes/passages?

Equity and Justice Approaches: 1 (decision-making); 3 (incentive programs)

The Legislature should establish a dedicated, sustainable, and long-term state revenue source to support the deployment of ZEV charging and fueling infrastructure across Oregon, including incentives for publicly accessible, fleet depot, workplace, and multi-family housing installations, as well as customer-side distribution system upgrades needed to enable high-capacity battery electric vehicle charging, particularly for commercial fleet operators and transit agencies.

Oregon has adopted ambitious zero-emission vehicle targets across light-, medium-, and heavy-duty sectors through the adoption of the Advanced Clean Cars II and Advanced Clean trucks rules. Achieving these targets will require the proactive, strategic deployment of accessible and reliable charging and fueling infrastructure – built in advance of vehicle adoption – to give consumers and fleet operators confidence that refueling zero emission vehicles will be convenient, dependable, and aligned with operational needs. However, Oregon currently lacks a sustainable, long-term state funding source dedicated to supporting this critical infrastructure buildout. Existing incentive programs rely heavily on federal funding, which is both limited and uncertain. Compounding the challenge, infrastructure deployment often requires expensive distribution system upgrades – costs that are frequently ineligible for current incentives or cost-sharing programs.

To meet Oregon's ZEV goals and close the infrastructure and funding gaps, the state must establish a dedicated and durable revenue source that ensures consistent investment in charging and fueling infrastructure. New revenue should flow through existing funds for ZEV infrastructure, including the Medium- and Heavy-duty Electrification Charging Fund and the Transportation Operating Fund, to ensure continued and coordinated state investment.

Creating this revenue stream presents significant political and legal challenges. Oregon faces major constraints on how transportation revenue can be raised and spent. With existing revenue sources already stretched thin and many earmarked for traditional road projects, reallocating or introducing new funding for ZEV infrastructure will likely require navigating legal constraints, competing budget priorities, and differing stakeholder perspectives. Despite these challenges, identifying a sustainable funding path forward is critical to enabling the widespread transition to zero-emission transportation and realizing the state's climate goals.

Transportation Action 2. Establish a Climate-Aligned Transportation Funding Task Force to review Oregon's transportation funding mechanisms for alignment with the state's energy and climate policy priorities and make recommendations.

Pathways: Energy Efficiency, Electrification
Policies: 1c (Expand access to and appeal of multimodal transportation options); (2a (Electrify Transportation)

Equity and Justice Approaches: 1 (decision-making)

Convene an ODOT-led Climate-Aligned Transportation Funding Task Force comprising legislators, state and local government entities, public interest and environmental justice advocates, and industry representatives, to review existing and potential transportation funding mechanisms for alignment with the state's energy and climate policy priorities – while ensuring stable, long-term funding.

The Task Force shall report to the legislature on:

No Comments.

1. An evaluation of existing transportation funding mechanisms to determine how they may support or hinder Oregon's transportation decarbonization goals, including vehicle electrification, VMT reduction and multimodal transportation infrastructure, and equitable access to clean mobility. This includes identifying statutory or constitutional barriers that restrict the use of transportation revenues for climate-aligned investments. Recommend opportunities to better align funding policies with climate outcomes.
2. Identification, assessment, and recommendation of new or reformed revenue options that incentivize zero emission vehicle adoption, support VMT reduction and multimodal transportation options, and advance equitable transportation access.

Funding Priorities

Transportation Action 3. Implement a Road Usage Charge program for all light-duty passenger vehicles to stabilize transportation funding and support accelerated adoption of zero emission vehicles.

Pathways: Energy Efficiency, Electrification

Policies: 1c (Expand access to and appeal of multimodal transportation options); (2a (Electrify Transportation)

Equity and Justice Approaches: 1 (decision-making); 5 (partnerships and resources)

A Road Usage Charge is a mileage-based user fee that charges drivers based on miles driven rather than fuel consumed. Piloted through Oregon's voluntary OReGO program for more than a decade, road usage charges are gaining national traction as a fairer, more stable alternative to the fuel tax. By aligning user fees with how much and how far people drive, a RUC can stabilize revenue, promote fairness, support climate and equity goals, and encourage more efficient travel.

The Road Usage Charge program (OReGO) should be broadly adopted for all vehicles, not just hybrid and electric. Doing so will send price signals to users for each and every mile they drive, and support VMT reduction. It should also be designed to build in the costs of climate externalities, such as vehicle weight and supports investments in electrification and multimodal transportation options.

Transportation Action 4. Increase funding for the Zero-Emission Incentive Fund and create a stable, long-term revenue source for the Zero-Emission Medium and Heavy-Duty Vehicle Incentive Fund to accelerate the adoption of light-, medium- and heavy-duty ZEV statewide.

Pathways: 2 (Electrification)
Policies: 2a (Electrify transportation)

Equity and Justice Approaches: 3 (incentive programs)

The next four years represent a pivotal window for accelerating the adoption of zero-emission vehicles across the light-, medium- and heavy-duty sectors. Continued and expanded state funding for ZEVs during this period is essential to sustaining progress. Key federal incentives, including the light-duty EV tax credit (Section 30D) and the Commercial Clean Vehicle Credit (Section 45W), have been eliminated

No Comments.

with the recent passage of the H.R. 1 (One Big Beautiful Bill), and Oregon's regulatory foundations for ZEV adoption, including the Advanced Clean Cars II and Advanced Clean Trucks rules, are under legal and political threat. Until now, federal tax credits have played a central role in improving the total cost of ownership for ZEVs. Without them, costs will rise significantly, especially for low- and moderate-income households and small businesses.

It is imperative that state funding fill this gap to the extent feasible, helping to maintain momentum and ensure that adoption doesn't stall during this uncertain federal landscape. In doing so, Oregon can send a strong and consistent market signal to industry, attracting private investment in charging infrastructure, vehicle availability, and workforce development. In the absence of federal certainty, state programs help keep businesses confident in Oregon's ZEV market. Moreover, medium- and heavy-duty fleets – which are costly and complex to electrify – require dedicated, sustained investment. A stable state revenue stream targeted at MHD ZEVs ensures continued progress toward electrifying fleets that have disproportionate impacts on air pollution and emissions.

Transportation Action 5. Increase statewide support for public and active transportation in Oregon by expanding the statewide payroll tax to fund transit and boosting investments in Safe Routes to School and Great Streets at levels that reflect the scale of community needs.

Pathways: 1 (Energy Efficiency)
Policies: 1c (Expand access to multimodal transportation options)

Equity and Justice Approaches: 1 (decision-making); 2 (infrastructure development); 5 (partnerships and resources)

Access to multimodal transportation options in Oregon – including public transit, walking, and biking – is essential for reducing Oregon's dependence on single-occupancy vehicles and lowering vehicle miles traveled. These shifts are critical to meeting the state's climate goals, improving air quality, and reducing traffic congestion. But to achieve meaningful reductions in VMT and build a transportation system that truly supports climate action, equity, and public health, Oregon must significantly increase its investment in transit and multimodal infrastructure. That means expanding the Statewide Transit Tax and securing dedicated state funding for Safe Routes to School and Great Streets. These investments will enable more Oregonians to choose cleaner, safer, and more affordable ways to get around – and are essential to building healthier, more sustainable communities.

The Statewide Transit Tax is the primary state funding source for transit. Without a significant increase, many transit agencies face the prospect of cutting service by up to 25 percent in the next several years.[44] Such cuts would disproportionately affect low-income and transit-dependent communities, particularly in rural and underserved areas. In contrast, adequate funding would allow agencies to expand routes and service hours, increase frequency, and serve more people – making transit a more viable and attractive option statewide.

Active transportation must also play a much larger role in reducing VMT – especially for short trips, which make up a large share of daily travel. Enabling more people to walk, bike, and roll not only reduces emissions but also saves money and improves public health and community livability. However, safety concerns are a major barrier, especially for vulnerable populations. Existing programs like Safe Routes to School and Great Streets directly address these concerns by investing in infrastructure that makes active

No Comments.

travel safer and more appealing. Yet, demand far outpaces available resources: Safe Routes to School is currently oversubscribed by 2.5 to 1,[45] and Great Streets lacks a dedicated funding stream, relying heavily on limited federal dollars. Increasing funding for these programs and new programs focused on multimodal infrastructure is essential for meeting the state's VMT reduction goals.

Transportation Action 6. Establish a statewide incentive program for both standard and cargo e-bikes, with enhanced incentives and prioritization for income-qualifying Oregonians to ensure equitable access to clean, affordable transportation options.

Pathways: 1 (Energy Efficiency)
Policies: 1c (Expand access to multimodal transportation options)

Equity and Justice Approaches: 3 (incentive programs)

Electric bikes, or e-bikes, offer a clean and affordable alternative to car trips, particularly for short and medium-distance travel common in urban and suburban areas. They produce zero tailpipe emissions, reduce traffic congestion, and are more likely than conventional bicycles to replace car trips, thereby helping to lower transportation emissions. E-bikes are an especially attractive low-carbon alternative for households that do not have access to at-home charging for EVs, such as multi-family housing residents. They are also significantly more affordable to own and operate than conventional vehicles, expanding access to low-carbon mobility for a wider range of Oregonians.

While e-bikes are significantly more affordable than cars, upfront costs remain a barrier for many households, especially for cargo e-bikes which are more expensive but they can transport multiple passengers or large loads. A statewide incentive program, especially one that offers higher rebates for low- to moderate-income individuals, would improve equitable access to clean mobility options. Without targeted support, e-bike adoption may be concentrated among higher-income households, exacerbating existing mobility and economic disparities. This action would be complementary to work underway by many municipalities to make biking infrastructure available and to reduce emissions, cost, and traffic congestion associated with driving.

Transportation Action 7. Expand local governments' authority to generate and direct transportation revenues toward climate-aligned transportation infrastructure that meets local needs and priorities.

Pathways: 1 (Energy Efficiency); 2 (Electrification)
Policies: 1c (Expand access to multimodal transportation options); 2a (Electrify Transportation)

Equity and Justice Approaches: 1 (decision-making); 2 (infrastructure development)

Many of Oregon's local governments face mounting pressure to address climate change, equity, and mobility needs, but are constrained by limited authority to raise and direct revenue for transportation infrastructure. Current state laws often require voter approval for local fuel taxes or vehicle fees, and many transportation districts lack authority to levy payroll taxes – creating delays and restricting communities' ability to respond quickly to evolving transportation needs or invest in timely, climate-aligned solutions. Expanding local authority to generate and allocate transportation revenues – through tools like fuel taxes, vehicle registration fees, and payroll taxes – would give communities the flexibility to meet the scale and urgency of climate and equity-driven transportation challenges. This policy would

No Comments.

enable local governments to implement funding mechanisms more quickly, reduce reliance on state and federal funding cycles, and establish stable, sustainable revenue streams. With greater autonomy, localities could accelerate investments in multimodal, zero-emission, and equity-focused transportation infrastructure and target resources toward local priorities such as transit expansion, active transportation networks, and ZEV infrastructure. To ensure these new funding tools do not exacerbate existing disparities, strategies should include safeguards such as income-based exemptions, discounts for low-income households, or reinvestment of revenues in historically and currently underserved communities to improve transit access, reduce transportation costs, and expand mobility options.

Data & Information

Transportation Action 8. Develop a strategic roadmap to guide the deployment of medium- and heavy-duty zero emission vehicles in Oregon, co-led by the Oregon Department of Transportation and Department of Environmental Quality, with support from the Oregon Department of Energy. The Roadmap should include a technology readiness and feasibility assessment, as well as a statewide infrastructure needs assessment. Funding should be allocated to support its development.

Pathways: 2 (Electrification); 4 (Low-Carbon Fuels)
Policies: 2a (Electrify transportation); 3c (Load flexibility); 4a (Low-carbon fuels and fuel infrastructure)

Equity and Justice Approaches: 1 (decision-making)

Oregon has adopted ambitious targets and strategies for the electrification of medium- and heavy-duty vehicles through adoption of the Advanced Clean Trucks rule and the Statewide Transportation Strategy. However, the state lacks a clear, sector-specific strategy to operationalize these goals for MHD vehicles, which are among the most difficult to electrify. A Strategic Roadmap will provide the actionable steps needed to meet regulatory targets in a coordinated and cost-effective way.

MHD ZEV technologies are rapidly evolving, but their commercial availability and suitability vary significantly by fleet type, application, and geography. A Roadmap that includes a Technology Readiness and Feasibility Assessment, and that is developed in collaboration with Oregon fleets and in consideration of their real-world operating needs, ensures that state investments are grounded in technical and economic reality. Engaging fleets early and meaningfully provides critical insights into vehicle availability, performance in diverse operating conditions, maintenance considerations, and total cost of ownership. It also helps identify deployment barriers unique to specific sectors. By incorporating fleet perspectives, the Roadmap can prioritize solutions that are both practical and scalable.

In addition, scaling MHD ZEV adoption will require substantial upgrades to Oregon's charging and fueling infrastructure. High-powered public charging sites, depot charging for fleets, and hydrogen fueling stations all require long lead times, significant grid capacity, and coordination across utilities, regulators, and fleet operators. A Statewide Infrastructure Needs Assessment is necessary to identify these needs early, avoid deployment bottlenecks, and enable strategic investments that maximize equity, efficiency, and emissions reductions.

Lastly, MHD vehicles are major contributors to local air pollution, particularly in low-income and historically marginalized communities located near highways, ports, and freight hubs. A Strategic

No Comments.

Roadmap can prioritize fleet electrification in these high impact areas, support both climate and environmental justice goals.

Transportation Action 9. Establish a statewide technical assistance program to support public and private fleets in planning and executing a successful transition to zero-emission vehicles (ZEVs).

Pathways: 2 (Electrification); 4 (Low-Carbon Fuels)
Policies: 2a (Electrify transportation); 3c (Load flexibility); 4a (Low-carbon fuels and fuel infrastructure)

Equity and Justice Approaches: 4 (workforce); 5 (partnerships and resources)

A lack of technical expertise and resources remains a significant barrier for fleets looking to transition to zero emission vehicles. The shift to ZEVs involves a steep learning curve, from understanding vehicle options to planning for infrastructure, fuel, and grid impacts. This program would provide comprehensive support to fleets across Oregon by equipping them with the tools and knowledge they need. The proposed program should provide hands on guidance and analytical support, including through the development of fleet transition plans, infrastructure and site readiness assessments, electricity and fuel cost analyses, and evaluation of load management strategies to optimize energy use and reduce operational costs. The program would accelerate ZEV adoption, reduce attrition rates of existing incentive programs, and ultimately lower administrative burdens and costs for state agencies and fleets alike.

Transportation Action 10. Require IOUs to publish and maintain interactive, feeder-level Hosting Capacity Maps (HCMs) showing available capacity for EV charging infrastructure, building electrification, distributed generation, and battery storage.

Pathways: 2 (Electrification); 3 (Clean Electricity)
Policies: 2a (Electrify transportation); 2b (Distribution system readiness for EVs); 3b (Utility-scale and distributed energy resources); 3c (Load flexibility)

Equity and Justice Approaches: 5 (partnerships and resources)

A lack of accessible, consistent, and up-to-date information on grid capacity is a significant barrier for transportation electrification, particularly for projects requiring large new electrical loads. While Oregon's investor-owned utilities currently publish hosting capacity maps, these are primarily focused on distributed generation and vary widely in scope, detail, and update frequency.

This policy action would build on existing efforts to establish uniform standards and processes for IOUs to regularly publish feeder-level data on grid hosting capacity. These maps should reflect the grid's ability to accommodate both transportation and building electrification loads – such as EV charging infrastructure and heat pumps – as well as distributed energy resources like solar PV and battery storage. As electrification advances, consumer-owned utilities may also find value in undertaking this exercise, and technical assistance to support these sorts of efforts will be important for the state to support.

Greater transparency and consistency in hosting capacity data will support informed planning, reduce project delays, and enable more strategic investments in electrification infrastructure across sectors.

No Comments.

Regulation

Transportation Action 11. Establish a multi-agency working group to develop regulations and minimum standards for public heavy-duty hydrogen refueling infrastructure in Oregon. This group should address key elements such as technical specifications, safety protocols, fuel quality standards, consumer protection measures, and streamlined permitting processes to ensure that stations are safe, reliable, and accessible. The working group should also establish targets for the carbon intensity of hydrogen supplied at fueling stations and recommend inclusive processes for community engagement in station siting decisions to align with Oregon's climate and equity goals.

Pathways: 2 (Electrification); 4 (Low-Carbon Fuels)
Policies: 2a (Electrify Transportation); 4a (Low-carbon fuels and fuel infrastructure)

Equity and Justice Approaches: 1 (decision-making); 5 (partnerships and resources)

The absence of hydrogen refueling infrastructure in Oregon presents a major barrier to the deployment of heavy-duty hydrogen fuel cell vehicles. Without existing infrastructure, the state lacks established regulations and protocols to ensure public safety, fuel quality, and consumer protection. This action aims to proactively prepare Oregon for future deployment by establishing clear, statewide regulations and minimum standards for hydrogen refueling infrastructure. These standards should address equipment testing, fuel quality assurance, public safety protocols, and station certification processes, ensuring a reliable and safe fueling experience.

The effort will enhance coordination among key state agencies – including ODOE, ODOT, DEQ, and the Oregon Department of Agriculture – to ensure a streamlined, consistent approach to infrastructure deployment. To support a consistent and coordinated regional hydrogen fueling network, the working group should also collaborate with neighboring jurisdictions, including California, Washington, and British Columbia, that are also advancing hydrogen infrastructure, particularly along the I-5 corridor. Harmonizing standards and regulatory frameworks across the regions will support seamless vehicle operations across jurisdictions, create certainty for infrastructure developers, and strengthen the West Coast's position as a leader in zero-emission freight.

Recognizing the importance of equity in infrastructure planning, the working group should also develop best practices for inclusive community engagement in station siting decisions. This includes ensuring that environmental justice organizations and impacted communities are provided with transparent information, early, ongoing, and meaningful opportunities for participation, and the resources needed to advocate for their interests in station siting and decision-making processes.

Transportation Action 12. Amend DEQ's Clean Fuels Program to extend Advance Crediting eligibility to high-mileage private fleet operators – such as delivery, ride-hailing, logistics, and service fleets – whose vehicles operate predominantly in Oregon.

Pathways: 2 (Electrification); 4 (Low-Carbon Fuels)

Policies: 2a (Electrify Transportation); 4a (Low-carbon fuels and fuel infrastructure)

Equity and Justice Approaches: 3 (incentive programs)

No Comments.

High mileage fleets – such as delivery vans, ride-hailing vehicles, logistics carriers and service fleets – have a disproportionate impact on greenhouse gas emissions and local air quality due to their intensive vehicle use. Targeted support for these fleets can accelerate emissions reductions by prioritizing the electrification of the vehicles that drive and pollute the most. As upfront costs remain a barrier, providing early access to credits would offer predictable, much-needed capital to help fleet operators invest in ZEVs and infrastructure before they realize long-term savings from reduced fuel and maintenance costs. This amendment to the Clean Fuels Program would create strong financial incentives for electrification where climate and health benefits are greatest while strengthening market certainty, attracting private investment, and reinforcing Oregon's broader climate and transportation electrification goals.

Buildings Actions

Vision



The buildings sector includes residential and commercial buildings. Within these designations are single- and multi-family homes, commercial buildings like stores, hotels, and warehouses, and public buildings like hospitals, schools, and universities. There is a wide diversity of building types, ages, designs, and construction materials, making building decarbonization a complex challenge.

Oregon is facing a housing and homelessness crisis, and building more housing quickly is a top priority for the state. Decarbonization measures in new buildings present an important opportunity to align housing construction with affordability. Housing must not just be available, but also cost effective to build and affordable to live in. Poorly insulated housing and inefficient appliances may be less expensive to install, but drive up monthly energy bills that can only be overcome with expensive retrofits and replacements. Multifamily housing can help meet housing and decarbonization goals affordably, due to the higher energy efficiency of shared wall construction and lower landscaping per unit.

Oregon has experience implementing decarbonization measures in buildings, providing a strong foundation to increase the pace and scale of action needed to achieve our state's energy policy objectives. This experience includes measures identified by the Energy Strategy modeling as essential to a least-cost pathway to decarbonization like weatherization, adoption of efficient heat pump technologies, and distributed energy resources. These measures can also advance resilience. Weatherization can help buildings withstand greater temperature swings while protecting indoor air quality from wildfire smoke, and heat pumps can provide efficient cooling and heating. Distributed energy resources, which include solar PV panels paired with battery storage and electric vehicles, can provide backup power as outage frequency increases with extreme weather and public safety power shutoffs.

As the energy wallet analysis showed, heat pump technologies yield significant energy savings, but may not always be the least cost option for individual households or building owners – even when they represent a least-cost economywide option in the long term. In addition to maintaining existing utility- and state- funded programs, additional incentives for heat pumps will be necessary to overcome the upfront cost barrier to purchasing a heat pump and expand access to efficient cooling for households without it. Programs should evaluate how to ensure energy burdened households are able to access efficient heat pumps for heating and cooling and to mitigate any bill associated increases. Similarly, it may be necessary to consider how to protect renters where rents may go up following energy efficiency

No Comments.

improvements. The strategic electrification steps defined in Building Action 2 will be important to help inform the approach to efficient heat pump adoption.

Four main areas of policy support building decarbonization today: the Climate Protection Program sets fuel decarbonization targets; new Building Performance Standards and steadily progressing efficient energy codes will lead to lower-carbon new and existing buildings; appliance standards and labeling programs drive the market towards efficient models; and incentive programs, including federal, state, and ratepayer-funded programs, support uptake of the most efficient technologies and measures. Evaluation of these existing policies finds gaps that near-term actions aim to help fill:

- The state lacks an electrification strategy for buildings – particularly residential buildings. A detailed analysis is needed to guide a reliable, affordable, and largely electric trajectory, and to identify least-cost strategies to realize the shift from fossil fuel to clean infrastructure.
- The Building Performance Standard does not cover small commercial buildings or single-family homes, leaving a gap in setting clear direction for this sector.
- The Building Performance Standard is an energy efficiency policy, and while improved efficiency will reduce emissions, the Standard alone will not result in sector wide decarbonization.
- Existing building code and appliance standards set minimum thresholds, and still allow for inefficient and high carbon emitting technologies, equipment and appliances to be sold and installed.

Guidance on strategic electrification would help identify a path to a strategic transition for residential and commercial buildings, informing compliance with existing regulations, development and updates to Oregon's Building Performance Standards for new and existing buildings, and setting clear direction for residential buildings not covered under the BPS. In addition, it will be important to continue to track federal appliance standards and to be ready to step in with Oregon standards should they be removed.

Existing funding streams are insufficient to achieve the pace and scale of investment needed to decarbonize buildings. An essential feature of existing energy efficiency programs is that support is offered to low- and moderate- income households, and this program focus must continue. At the same time, there are many able-to-pay households, including some low- and moderate- income homeowners, for whom a low- or no- cost loan can overcome the upfront cost barrier of purchasing a high-efficiency appliance. Shifting support to loans for able-to-pay households would help replenish public funds over time as loans are paid back, creating a revolving source of financing that can grow over time. A revolving loan fund would provide attractive financing options for households and allow direct funding support to focus more strongly on low- and moderate- income households who are unable to afford upfront costs or financing. The revolving loan fund could complement existing financing programs as well as other mechanisms like on-bill financing supporting clean energy investment in Oregon.

In addition to these priorities, existing programs must continue to be funded. A particular priority is to earmark flexible funding for deferred maintenance measures like a new roof or replacing rotting walls to enable households requiring deeper upgrades to benefit from energy efficiency and other decarbonization measures.

These near-term actions are essential to set the groundwork for increased activity over the longer term. As the revolving loan fund gets established and grows, more Oregonians will be able to benefit from low-cost loans. Guidance on strategic electrification should provide a vision for investment in building decarbonization, filling gaps in existing policy, informing recommendations for Oregon's Building Performance Standards for existing buildings, expected in 2030, and providing background for updates to the BPS for existing buildings over time.

No Comments.

Buildings Action 1. Advance strategic electrification in buildings in conjunction with other measures that support state decarbonization and resilience goals reliably, affordably, and equitably. Direct the Oregon Department of Energy to develop a building decarbonization roadmap with recommendations to advance strategic electrification and other decarbonization measures, and as necessary, to provide data and analysis on building decarbonization to inform policies and programs.

Pathways: All

Policies: 1a (Buildings efficiency); 2c (Strategic electrification); 3b (Utility-scale and distributed energy resources); 3c (Load flexibility); 4c (Managed fuels transition); 5a (Cross-fuels planning); 5b (Resilience measures)

Equity and Justice Approaches: 1 (decision-making); 3 (incentive programs)

The energy strategy modeling found that electric heat pumps for water and space heating and cooling play an essential role in a least-cost economy-wide pathway to decarbonization. Delaying the high levels of energy efficiency and electrification in the Reference Scenario cost $17 billion more in 2050. The energy wallet analysis, however, found that while efficient electric technologies generated energy savings across sample households, they do not always generate cost savings for that household. Factors including the technology being replaced, need for air conditioning, and differences between single- and multi- family housing all contributed to the leve of household costs and savings. There are also uncertain technology and energy costs that can make adoption of efficient heat pump technologies more or less accessible to a household. It will also be important to consider how to electrify in a way that supports electric system reliability through measures such as demand flexibility, pairing electrification with weatherization, and leveraging dual fuel heat pumps to shift electric loads away from peak hours.

More detailed analysis is needed to evaluate and apply available data and trends on building stock and technologies to help establish a building decarbonization trajectory and incorporate strategic electrification into policies and programs. Current analysis of building data is largely based on limited survey data. While this data can help inform policies, expanding analysis is important to help provide more detailed recommendations that can serve the needs of different communities across Oregon. This may include actual utility energy use data, incorporating building characteristic data from local jurisdiction permitting offices, existing state and utility programs, and from available real estate databases.

Agencies may develop interim recommendations for their own policy and regulatory purposes that can inform the Roadmap. For example, the OPUC may seek to develop realistic and data driven electrification forecasts for utility service areas that consider trajectories for building electrification from a systems perspective. It will be important to work across agencies to ensure the Roadmap integrates such analyses.

As a repository for energy data, information, and analysis, ODOE is positioned to lead development of a building decarbonization roadmap, and to provide ongoing support to inform state policies and programs. These include building performance standards, energy codes, appliance standards, OPUC planning processes and ratemaking, ratepayer- and publicly- funded programs, and zoning and planning. The analysis should inform how to incorporate environmental justice community needs into policies and planning.

No Comments.

The roadmap should consider, at a minimum, existing building stock and technologies, energy costs and cost uncertainties, and benefits of efficient heat pump technologies and other energy efficiency measures. It should consider emerging options, such as district energy newtorks. The roadmap should take into account affordability, reliability, regulatory principles, and prioritize equity considerations.

Buildings Action 2. Update energy efficiency and demand response program and delivery infrastructure to promote strategic electrification.

Pathways: 1 (Energy Efficiency); 2 (Electrification)
Policies: 1a (Buildings efficiency); 2c (Strategic electrification)

Equity and Justice Approaches: 1 (decision-making); 3 (incentive programs); 5 (partnerships and resources)

To decarbonize, it is necessary to shift buildings toward greater overall efficiency and to reduce their carbon footprint. Cost-effectiveness evaluations should look beyond a single-fuel appliance efficiency and consider the total energy usage of a building. This lens would help identify the role of strategic electrification as an energy efficiency and decarbonization measure where cost-effective. It would provide a mechanism to advance the key finding from the energy strategy modeling that electrification of buildings is a lower cost, lower risk pathway than continued reliance on direct use fuels and transitioning them to low-carbon fuels over time. In addition to heating, electric heat pumps also provide efficient cooling, which benefits households that need to adopt air conditioning to manage higher summer temperatures and protect indoor air quality from wildfire smoke. These benefits should also be accounted for, where appropriate.

As appliances and equipment electrify, demand response will be increasingly important to manage electricity system peaks, as well as to take advantage of abundant wind and solar resources. Acquisition of cost-effective demand response resources should account for these systems benefits, and customers should be compensated for the flexibility they provide. The value of dual-fuel systems should be recognized as a reliability resource to mitigate system peaks, particularly during extreme winter weather events.

More broadly, energy efficiency and demand response programs should incorporate a strategic electrification lens, and adopt approaches that recognize the value of strategic electrification as a least-cost decarbonization resource. Additional financial support should be made available to households facing cost barriers to adopting efficient technology. The building decarbonization roadmap (Buildings Action 1) will consider this broader picture and the role of different approaches to reduce carbon emissions in buildings. Some of these changes may require legislative action. Those actions should be informed by findings from the analysis and roadmap in Building Action 1.

Buildings Action 3. Prioritize measures in energy efficiency incentive programs that relieve pressure on the power system. In the near term, maintain – and where possible accelerate – building weatherization, replacement of less efficient electric heating with efficient electric heat pumps, and expand demand flexibility.

Pathways: 1 (Energy Efficiency); 2 (Electrification); 3 (Clean Electricity)

No Comments.

Policies: 1a (Buildings efficiency); 2c (Strategic electrification); 3b (Utility-scale and distributed energy resources); 3c (Load flexibility)

Equity and Justice Approaches: 3 (incentive programs); 4 (workforce)

This action serves to redouble efforts on energy efficiency and demand flexibility that can quickly alleviate pressure on the electricity system. This includes utility ratepayer programs in IOU and BPA service territories as well as state programs such as Home Efficiency Rebates and Home Electrification and Appliance Rebates. Ensure that programs and incentives prioritize low-income households.

Energy efficiency and electrification are key strategies for Oregon. In the near-term, the power system faces pressure from rapidly rising loads, extreme weather, and long lead times to construct utility-scale resources. Weatherization and replacing inefficient electric heating systems with efficient electric heat pumps can trim winter peak loads and provide lifesaving cooling during increasing summer peaks. Installing heat pumps as dual fuel systems (e.g., heat pump primary and natural gas reserve) in some homes can further electrification goals and provide options for resilience and peak reduction during the winter months. Load flexibility can leverage existing electric loads to shift off peak or to switch to backup sources of heat, further alleviating the highest-stress times on the power system.

While these measures are already being implemented under existing programs, it is important to emphasize the need to maintain existing programs during a time of public budgetary pressures, and where possible to accelerate them in the near-term given the challenge of meeting rising demand. This includes programs that enable renters to implement energy efficiency measures, such as through the Rental Home Heat Pump Program. For ratepayer-funded programs, re-visiting the limits of current cost benefit analyses could help better quantify the many non-energy benefits of energy efficiency measures, such as improved indoor air quality and protection from wildfire smoke from weatherization and access to efficient cooling from heat pump installation.[46]

Funding Priorities

Buildings Action 4. Prioritize existing incentive programs offering essential energy efficiency and weatherization improvements, particularly those focused on low- and moderate- income households.

Pathways: 1 (Energy Efficiency); 2 (Electrification)

Policies: 1a (Buildings efficiency); 2c (Strategic electrification)

Equity and Justice Approaches: 3 (incentive programs)

Continue ratepayer-funded programs and restore state programs that provide essential support for household energy efficiency, weatherization, emergency appliance replacement, and installation of high efficiency equipment and appliances. For federally funded programs that will lose funding, consider how state funds can support the revolving loan fund as well as programs that offer direct support for low- and moderate- income households. This can help drive greater carbon reductions in our state with less money by prioritizing direct funding for the households with the most needs, while shifting other funds to finance our clean energy future. A revolving loan fund can offer a revolving source of low-cost loans for able-to-pay households and expand financing options to help low- and moderate- income homes who are often subject to predatory lending practices.

No Comments.

Buildings Action 5. Earmark flexible funding for deferred maintenance measures necessary to enable low- and moderate- income homes to install efficiency and weatherization technologies and measures.

Pathways: 1 (Energy Efficiency)

Policies: 1a (Buildings Efficiency)

Equity and Justice Approaches: 3 (incentive programs); 5 (partnerships and resources)

Many low-income households require maintenance measures to be completed before any equipment or weatherization measures can be installed. There is a lack of funding for these kinds of upgrades, including in owner-occupied and rental housing, creating a barrier to new technologies. Earmarked funding would help overcome this barrier.[47] Eligible entities to distribute funds should include Community Action Partnership agencies and other community partners that provide energy-related services, including consumer-owned utilities and community-based organizations. The revolving loan fund could, over time, provide additional financing support for qualifying households.

Buildings Action 6. Allow higher administrative costs for energy programs that serve or benefit[xxii] Environmental Justice Communities, to better manage cost shortfalls experienced by programs and projects that benefit the overall system.

Pathways: 1 (Energy Efficiency); 2 (Electrification); 3 (Clean Electricity)

Policies: 1a (Buildings efficiency); 2a (Electrify transportation); 3b (Utility-scale and distributed energy resources)

Equity and Justice Approaches: 1 (decision-making); 5 (partnerships and resources)

Administrative cost limits for energy programs that benefit communities and do equity work represent a barrier to administering programs. Often, program funding and grant recipients must seek additional funding to support the staff necessary to manage grant programs before they can access funds. Some examples of cost shortfalls this could address are related to providing a higher level of service or "wrap-around" services to low- and moderate- income families, including more rigorous quality assurance, translation services, project planning and management, and more. This measure recommends that policy makers and program developers and implementers adjust program framework to raise the cost limits for the share of funding that can go to support administration of grants and programs, including those that support Tribes. Additionally, policymakers and program developers should consider allowing for advance funding to begin work, especially where the cost of the work creates significant cash flow issues for implementers and grant recipients waiting on reimbursement.

The updated administration cost level should be established through consultation with organizations that implement energy programs and projects and a review of best practices. Changes to legislative funding allocations for state programs, Public Utility Commission metrics for utility program cost effectiveness metrics, OHCS and ODOE rulemaking for state funded energy programs, and federally funded grant program rules (and associated laws) would be necessary to address this issue across all energy programs in Oregon.

[xxii] For more on the benefits of energy efficiency programs, see 2022-BER-Policy-Briefs.pdf

No Comments.

Regulation (Codes and Standards)

Buildings Action 7. Modify the Oregon Residential Specialty Code to require progress on energy efficiency and decarbonization requirements for new buildings. In the near term improve envelope efficiency measures, especially if less efficient or fossil-fueled technologies (such as electric resistance or natural gas) are used for primary space or water heating systems. Reach code should reflect goals for economy wide decarbonization and may need to define what 'net zero' carbon in buildings would be.

Pathways: 1 (Energy Efficiency); 2 (Electrification)

Policies: 1a (Buildings efficiency); 2c (Strategic electrification)

Equity and Justice Approaches: 2 (infrastructure development); 4 (workforce)

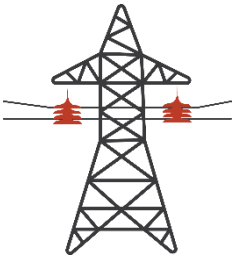
This policy action addresses greenhouse gas emissions in new residential buildings. Fossil fuel powered appliances used for primary space and water heating are significantly less energy efficient than electric heat pumps and result in direct emissions of greenhouse gases during drilling, transportation through pipelines, and end use combustion. While the electricity sector also has associated emissions from generation sources, emissions are expected to decrease over time. This means that an electric appliance installed today will have a declining emissions profile over time.

This action aims to balance the goal of advancing energy efficient buildings with the preference by some customers for installing non-electric primary heating systems. It also leaves flexibility for non-electric backup systems. It steers the residential market toward efficient electric heat pumps, which have the added benefit of enabling summer cooling — an increasing public health necessity in much of the state.

Clean Electricity Actions

Vision

Clean electricity actions cover investment in the electricity sector, from utility-scale generation, storage, transmission, and distribution to distributed renewable resources that include customer-sited generation and storage. They also encompass an increased focus on how customer-side resources interact with the electricity system, including through measures like load shifting in residential, commercial, and industrial sectors. Load shifting may include actions like charging an electric vehicle overnight instead of during the day, or pre-cooling a home before the mid-day peak happens.



Electricity is a key fuel for Oregon to meet its energy and climate policy objectives. Oregon's electric utilities provide an essential service that supplies energy for nearly every Oregon home and business, for

No Comments.

many industries, and increasingly for transportation. Electricity is not emissions free today,[xxiii] but many electric-powered technologies, such as electric vehicles, are already more energy efficient and ultimately lower emitting than their non-electric counterparts.[4] Strategic electrification is a critical component to a least-risk, least-cost pathway to meeting our state's climate goals. The energy pathways modeling indicates that by 2030, Oregon's electricity demand could increase approximately 40 percent, even with aggressive levels of energy efficiency. The biggest near-term driver is new tech loads, including data centers. This load growth is uncertain. Yet even if only half the modeled tech load shows up by 2030, Oregon's electricity demand could still increase more than 25 percent by 2030.

Meeting these current and growing needs for electricity requires a pace and scale of construction of new electricity infrastructure that is not being met today. This problem is not unique to Oregon. According to the Western Electricity Coordinating Council, resource plans for utilities across the West call for an unprecedented amount of development in the next ten years.[48] Failure to construct the necessary resources increases the risks of power supply disruptions, including power outages. Even those areas without load growth face heightened risks of disruptions due to extreme weather events, and those utilities need to be empowered to invest in resilience measures to mitigate outage risks.

This is a challenge that utilities should not face on their own. Electricity prices have already increased across the state, and many utility customers cannot afford the rate increases needed to support new investments. Yet the existing policy landscape asks utilities to manage these costs on their own. Absent intentional public sector investment, there will be pressure for utility customers to bear a disproportionately high share of the costs for Oregon's economy-wide clean energy transition.

There are several reasons underpinning the need for state support. Investment is needed on a rapid timeline and scale to meet rising demand and clean electricity goals. This means concentrating capital investments in a much shorter timeframe than has been seen in many decades. Inflation has significantly increased the cost of new infrastructure, and these cost increases are already affecting customer bills. Climate change is increasing risk and cost. For example, extreme weather is sharply increasing winter and summer peak demand. Changing precipitation patterns are affecting hydroelectric system operations. And more intense wildfire seasons are leading to increased costs for resilience measures like grid hardening and public power safety shutoffs. Without state support, these factors threaten to overwhelm ratepayers at a critical time for electricity sector investment.[xxiv]

The state must consider opportunities to reduce these costs and ways to leverage other funding sources to support this transition. State support is particularly critical to help historically and currently underserved communities that could be unduly burdened in the transition or otherwise left behind. Facilitating new development should not undermine past and current efforts to minimize the effects of development on our natural and working lands and waters, to engage environmental justice communities, and to mitigate energy burden. At the same time, the state should carefully consider opportunities to promote more in-state development of clean electricity resources, in order to generate local jobs and economic development. If Oregon does not accelerate new resource development within

[xxiii] The electricity sector is a leading source of greenhouse gas emissions and accounted for nearly 29 percent of the state's carbon footprint in 2023. Achieving the clean energy targets in HB 2021 (2021) would mean many, but not all, of these emissions are eliminated. Achieving further decarbonization of the electricity sector would mean even greater emissions benefits from electrifying other end uses.

[xxiv] It will also be important to track demand projections closely to avoid over-investment, which can burden ratepayers even more with stranded costs. The example of the Washington Public Power Supply System investments in large nuclear projects in the 1950s should serve as a cautionary tale where over-investment and cost overruns led to the largest municipal bond default in US history. Washington Public Power Supply System (WPPSS) - HistoryLink.org

No Comments.

the state, utilities will increasingly rely on out-of-state resources to serve growing loads. This would mean Oregon misses out on potential jobs and other economic benefits from in-state development, and the costs of these necessary investments will primarily flow out of state rather than directly or indirectly supporting Oregon households and businesses.

The following actions aim to deliver progress on this vision in the near-term. In this time frame, the top priority is facilitating enhancement and expansion of clean energy infrastructure to maintain reliability. Transmission enhancements and expansions require collaboration and support, which the state can better provide through establishing a state transmission entity charged with designating transmission corridors and facilitating development within them. Development, whether by incumbent utilities or by independent developers, is needed both regionally and in the state. Updating the Oregon Renewable Energy Siting Assessment Tool will help guide in-state development assessments. Oregon should also continue its engagement and support for regional activities, particularly as federal policies threaten to diverge from shared Northwest clean energy goals.

Additional recommendations could emerge from two proposed studies described in this section. These studies should provide recommendations that facilitate the expedited development of clean energy infrastructure while still mitigating the negative effects of infrastructure investments on Oregon's natural and working lands as well as on electricity rates and energy affordability.

Enabling Mechanisms

Clean Electricity Action 1. Establish a state transmission entity with the authority to (1) identify and designate transmission corridors; (2) pursue partial siting and permitting approvals for future projects in those corridors; and (3) provide direct financial support through state bonds for projects that are determined to benefit the public interest.

> *Pathways: 3 (Clean electricity); 5 (Resilience)*
>
> *Policies: 3a (Tribal and regional engagement); 3b (Utility-scale and distributed energy resources); 5b (Resilience measures)*
>
> *Equity and Justice Approaches: 1 (decision-making); 2 (infrastructure development); 3 (incentive programs); 5 (partnerships and resources); 6 (natural and working lands, cultural resources, broader environment)*

Across the Pacific Northwest, transmission constraints hinder access to least-cost generation and contribute to reliability concerns. Line expansions and additions are not proceeding at the pace or scale necessary to meet Oregon's policy objectives.[xxv] There are several reasons for this that a new state entity[xxvi] could help address. First, siting and permitting a single transmission line, particularly across both federal and state jurisdictions, can take years or even decades; these processes can affect even

[xxv] There are multiple ongoing workstreams focusing on this issue, and the proposed policy action is intended to add value beyond those workstreams. Those workstreams include Bonneville Power Administration's Transmission Planning Reform discussions, https://www.bpa.gov/energy-and-services/transmission/transmission-planning-reform, as well as the Western Transmission Expansion Coalition (WestTEC), https://www.westernpowerpool.org/about/programs/western-transmission-expansion-coalition.

[xxvi] The state legislature considered establishing a state transmission authority in the 2025 legislative session but did not do so. HB 3628 (2025). As noted in the final paragraph here, any new state entity would need to be carefully designed and have clear authority to undertake the necessary work while mitigating the risks of this approach.

No Comments.

smaller projects aimed at upgrading existing lines. To reduce this barrier, a new state entity could establish designated corridors for transmission development and obtain limited siting approval for development within the corridor, including development of enhanced, expanded, or new transmission facilities but also of storage and electric generating resources. Having a new state entity pursue limited siting approval for an entire corridor would retain Oregon's historic focus on robust siting and permitting processes, while enabling individual projects within a given sited corridor to proceed more rapidly than is currently possible. This work to establish designated transmission corridors should be informed by engagement with utilities and regional transmission planning efforts (see policy action 29 below), including taking a hard look at transmission asset utilization practices and potential business reforms to maximize the efficient usage of the existing grid. In addition, the new state entity should be explicitly authorized to utilize an environmental justice and energy justice lens and equitable processes through meaningful community involvement, as defined in House Bill 4077, to prioritize affected environmental justice communities in undertaking any designation process.

Second, the costs of financing a transmission project are often assigned today to one or very few entities, although upgrades can benefit numerous entities. As a result, needed projects are often delayed. A state entity with authority to identify projects that benefit the public interest and provide financial support for those projects—not only through undertaking limited siting processes but also potentially direct state-level funding through bonding authority—would help to overcome a significant bottleneck in existing processes.

A new state entity would need to be created, authorized and funded to undertake this work. Additionally, the Energy Facility Siting Council would need additional authority and guidance to review corridor-based proposals and to review subsequent limited in-corridor project proposals.

Risks of this approach include complicating an already complex process and using taxpayer dollars for projects that may not provide direct value statewide. Prioritizing projects that provide statewide benefits will also need to be balanced with prioritizing projects that best mitigate historic and current environmental injustices. Any new entity would need to be carefully designed and have clear authority to undertake the necessary work to expedite transmission development while mitigating these risks.

Clean Electricity Action 2. Direct the Oregon Department of Energy to conduct a study on barriers preventing construction and interconnection of permitted projects and recommend actions to overcome barriers.

Pathways: 3 (Clean Electricity)

Policies: 3b (Utility-scale and distributed energy resources)

Equity and Justice Approaches: 1 (Decision-making); 2 (Infrastructure development); 6 (natural and working lands, cultural resources, broader environment)

Siting and permitting are often cited as primary barriers to new resource development in Oregon. Yet, a number of large-scale renewable projects have received approval from the Energy Facility Siting Council only to wait months or years before beginning construction or simply abandoning their project. A study could shed light on the barriers these projects are encountering and where regulatory reforms could improve the overall development process.

The OPUC[49] [50] and Bonneville Power Administration[51] are in the process of conducting generation interconnection reforms. These efforts must continue. This action builds on those processes to identify

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 14:00:11

Big time!

opportunities to overcome barriers to construction and interconnection of new generation, as well as evaluation of where governmental siting and permitting processes and generator interconnection processes might be better aligned.

Clean Electricity Action 3. Report on developments in emerging technologies, including long-duration storage, enhanced geothermal, floating offshore wind, and small modular nuclear reactors, to identify the role they can play in meeting the state's electricity needs; also explore opportunities for pilot programs in the near-term.

Pathways: 3 (Clean Electricity)

Policies: 3b (Utility-scale and distributed energy resources)

Equity and Justice Approache: 1 (Decision-making); 2 (infrastructure development); 6 (natural and working lands, cultural resources, broader environment)

The energy strategy modeling clearly indicated the value of having high-capacity resources to complement hydro and variable renewable resources on the electricity system. Several emerging technologies may help meet this need; however, today it is not clear which will present the most cost-competitive opportunities for Oregon.

These projects will require large capital investments and have long lead-times, meaning that any state support would be needed well in advance of when these technologies would be expected to come online. Oregon is currently engaged in development of an Offshore Wind Roadmap that will evaluate the steps needed to develop floating offshore wind off the Oregon Coast. This roadmap will advance analysis on the value of offshore wind and policy actions that would set the stage for future development.[52] The AltaRock Enhanced Geothermal Systems demonstration project is underway near Newberry Volcano in Oregon, exploring the role that enhanced geothermal power might play in our energy future.[53] And while Oregon law does not practicably allow siting nuclear facilities in Oregon, an Oregon-based company is undertaking research and development to develop modular nuclear reactor design.[54]

This study, led by the Oregon Department of Energy, will evaluate emerging technologies in Oregon, regionally, and in light of shifting federal incentives to ensure state policymakers have up-to-date information as these processes advance and requests for state support arise. ODOE will also look for opportunities to access federal funding and resources for the evaluation and potential demonstration projects.

Clean Electricity Action 4. Study government policy incentives for local electricity investments and identify opportunities for the state to better advance infrastructure needs, economic development and energy justice objectives.

Pathways: 3 (Clean Electricity); 5 (Resilience)

Policies: 3b (Utility-scale and distributed energy resources); 3c (Load flexibility); 5b (Resilience measures)

Equity and Justice Approaches: 2 (Infrastructure development); 3 (Incentive programs); 4 (workforce) 6 (natural and working lands, cultural resources, broader environment)

Page:75

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 14:06:17

Thank you! Please do not delete this.

Number: 2 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 14:07:19

I thought we pulled the plug on this. Maybe my news source was wrong.

Number: 3 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 14:07:57

This law may change. I hope it does.

This action aims to inform government incentive and policy support for local electricity investments to align Oregon's energy policy objectives with economic growth and energy justice. Absent informed state support, some Oregon communities, including existing environmental justice communities, may face higher costs and other burdens from a statewide energy transition without enjoying commensurate local benefits. Similarly, some cultural resources or natural resources, like high value habitats or working lands, may be unduly affected in certain areas of the state.

State support for local electricity investments can support local economies by providing power for new businesses, creating local energy jobs, and otherwise promoting local economic development. Such investments may include a range of projects like rooftop solar, electric vehicle charging stations, local microgrids, and large-scale infrastructure investments. Providing funding to such projects helps fill a gap in traditional utility investing that focuses on the greatest economic value to that utility's system and does not consider opportunities to redress historic or current inequities that may extend beyond one utility's purview. With support from other agencies such as Business Oregon, the Oregon Department of Energy could be well-positioned to lead this study. This study would identify areas where additional incentives or improvements to existing program design would best advance infrastructure needs, economic development and energy justice objectives. Policymakers should be prepared to implement recommendations from this study once undertaken.

Data and Information

Clean Electricity Action 5. Update and enhance the Oregon Renewable Energy Siting Assessment Tool, with a goal of providing a robust database of lands suitable for various types of electricity infrastructure projects.

Pathways: 3 (Clean Electricity)

Policies: 3b (Utility-scale and distributed energy resources)

Equity and Justice Approaches: 2 (infrastructure development); 6 (natural and working lands, cultural resources, broader environment)

The Oregon Department of Energy maintains the Oregon Renewable Energy Siting Assessment tool, which is an interactive application that allows users to review data and gain a coarse level perspective of potential land use, military, natural resources, and other considerations related to land use across Oregon. The information serves to help the public and developers understand land use and natural resource constraints and limitations when exploring potential development opportunities for electricity infrastructure. Currently, funding is not available to update all datasets in the tool or add new data layers. Some valuable data layers are not even available to add and would require investments in surveys to collect the underlying data. For example, during the development of the ORESA tool, it was identified that it would be helpful to support renewable energy reporting functionality for larger areas (e.g., regions or statewide)to show areas where constraints are minimal and renewable energy opportunities are relatively high. In addition, DSL is drafting the Renewable Energy Analysis for School Lands, which will explore a new classification, "renewable energy lands."

This action does not recommend updating any one specific dataset. A report from the Eastern Oregon Solar Siting Rules Advisory Committee, managed by the Oregon Department of Land Conservation and Development, is expected to make recommendations informing strategic direction for ORESA and its

No Comments.

data sets in late 2025. The Legislature should carefully consider those recommendations in that forthcoming report and implement them.

Regulation

Clean Electricity Action 6. Direct the OPUC to investigate opportunities to modify utility business models and ratemaking practices to enhance marketplace competition and thereby lower costs in utility planning and resource procurements.

Pathways: All

Equity and Justice Approaches: 2 (infrastructure development); 4 (Workforce)

Traditional ratemaking rewards utility investors for making capital investments and does not reward non-capital spending like procuring power via a contract or pursuing non-wires solutions such as energy efficiency and customer demand response. This structure disincentivizes investor-owned utilities from pursuing or facilitating non-utility owned resources at all scales, a phenomenon recognized as the "utility build-vs.-buy bias." It is difficult to know with certainty the lost opportunity of adhering to historical methods, but it is likely that this regulatory structure deters independent non-utility investment in needed resources, from customer-sited storage to microgrids to large-scale generation projects to transmission upgrades. It also likely deters non-investment spending by investor-owned utilities. Regulatory mandates and rules endeavor to overcome this structure's shortcomings, and continuing enforcement and modernization efforts should be continued.[xxvii]

With additional funding and staff capacity, the Oregon Public Utility Commission could undertake the long process needed to adequately evaluate potential reforms like performance-based ratemaking that could ultimately ensure investor-owned utilities deliver the services that customers need at reduced cost. This goal is the anticipated outcome of successfully removing utility disincentives to the diverse ownership of clean generation, storage, and transmission resources. This investigation will likely not provide near-term benefits to ratepayers, but it could provide significant long-term value after (1) reporting metrics are identified, then (2) a foundational baseline of information is established, and finally (3) performance incentives or penalties are established if appropriate. Without sufficient resources for investigation or baseline-setting, a drastic change to traditional ratemaking could increase risks to ratepayers without improvements to service or utility spending methods.

SB 688 (2025) explicitly authorizes the OPUC to consider performance-based ratemaking for varied purposes. The proposed action builds on that new law with more specific direction and additional funding for OPUC. The proposed action in no way proposes to limit the scope of SB 688, which includes a broad definition for the "public interest" that the OPUC must consider in undertaking any investigation of performance-based ratemaking.

[xxvii] For example, OPUC Docket No. UM 2348 (Staff Investigation into Integrated Resource Plan and Request for Proposal Modernization) is a critical effort. The proposed policy action furthers that ongoing workstream and does not replace it.

No Comments.

Clean Electricity Action 7. Expand the Oregon Department of Energy's statewide energy infrastructure resilience programs, including increasing funding for and amending the Community Renewable Energy Grant Program to support projects that improve energy resilience.

Pathways: 3 (Clean electricity); 5 (Resilience)

Policies: 3b (Utility-scale and distributed energy resources); 4a (Low-carbon fuels and fuel infrastructure); 4c (Managed fuel transition); 5a (Cross-fuels planning); 5b (Resilience Measures)

Equity and Justice Approaches: 2 (infrastructure development), (incentive programs); 6 (natural and working lands, cultural resources, broader environment)

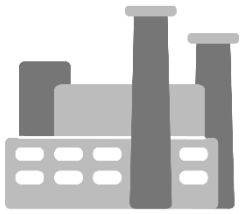
Oregon has several existing programs to fund energy and energy infrastructure resilience projects, including as examples ODOE's Grid Resilience Grant Program, Community Renewable Energy Grant Program and County Energy Resilience Grant Program. With uncertainty around the availability of federal funding dollars to support these investments for Tribes, local governments, communities, and households, it is important for the state to provide funding for electric system resilience.

These programs are critical to enhancing energy security. The Oregon Energy Security Plan highlighted the importance of improving the resilience of community owned electric utility infrastructure. These improvements reduce the frequency and duration of power outages as well as decrease the need for liquid-fueled back-up power generation. Improved resilience supports decarbonization and reduced reliance on imported liquid petroleum fuels. Many small electric utilities in Oregon do not have the rate payer base to increase costs and fully pay for robust grid resilience infrastructure improvement projects. A more robust grant program funded by the state could spur needed improvements that reduce the risk of costly wildfires and other hazards.

Similarly, resilience funding should support efforts to advance community energy resilience like microgrids. HB 2066 (2025) directs the OPUC to develop a regulatory framework for microgrids. However, communities that want to make use of the new regulatory framework will need access to technical knowledge to effectively engage with utility partners. With major federal funding sources of microgrids recently cut, it will be difficult for many projects to move forward absent state support in securing adequate technical assistance and project funding.

Industrial Actions

Vision



Oregon's industrial sector needs policy direction and support to comply with state decarbonization targets while remaining competitive in a world of rising energy costs. Current operations are dependent on imported fossil fuels to power manufacturing processes that result in a significant amount of GHG emissions. To meet state decarbonization targets, Oregon industry will need to transition to cleaner and more efficient manufacturing processes. Identifying cost effective pathways for businesses to reduce their emissions, mitigate energy costs, and remain competitive in regional and global markets will be critical to transitioning Oregon's industrial sector. In addition to supporting industrial competitiveness and sustainability, these actions have the potential to reduce emissions in affected communities.

No Comments.

Energy modeling conducted for the Oregon Energy Strategy determined that investment in energy efficiency and electrification can reduce some energy demand, and adoption of low-carbon fuels will be essential to decarbonize the hardest-to-electrify processes. Many high heat applications do not have an equivalent electricity technology replacement and will continue to be dependent on combustible fuel to meet energy demand. Low-carbon fuels have the potential to meet this energy demand while reducing lifecycle emissions. Low-carbon fuels such as biofuels or hydrogen also present the opportunity of onsite production and storage using waste feedstocks, water, or other local resources.

These industrial policy actions highlight the need to collaborate with Oregon businesses to research and better understand the barriers and opportunities available to decarbonize Oregon industry.

Industrial Action 1. Identify and evaluate short and long term decarbonization options for the emissions-intensive, trade-exposed large industrial entities in Oregon that are obligated to reduce their greenhouse gas emissions under the Climate Protection Program.

Pathways: 1(Energy Efficiency), 2 (Electrification), 4 (Low-Carbon Fuels)

Policies: 1b (Large commercial and industrial efficiency), 2 (Strategic electrification), 4b (Low-carbon fuels adoption), 4c (Managed fuels transition)

Equity and Justice Approaches: 3 (decision-making); 4 (workforce)

Direct ODOE, DEQ, and Business Oregon to collaborate with emissions-intensive, trade-exposed sources (EITEs) covered by the Climate Protection Program (CPP) on a study to identify opportunities for decarbonization, including energy efficiency, demand response, industrial symbiosis, electrification of thermal processes, low-carbon fuels, carbon capture and storage and other opportunities to support compliance with the Climate Protection Program. Recommendations from that study should then be implemented by state agencies and the legislature.

Under the Climate Protection Program, emissions-intensive, trade-exposed industrial sources must reduce their greenhouse gas emissions over time. These thermal energy industries combust solid, liquid, and gaseous fuels to produce their products and need proven decarbonization solutions to invest in to comply with the Climate Protection Program and remain competitive. DEQ will develop GHG emission intensity targets for these sectors in 2027 and will need to help these industries identify a path to compliance. Reducing industrial emissions requires tailored solutions to address a range of different processes and technologies. This action will help advance understanding of what those solutions might look like across Oregon's industrial landscape.

Funding Priorities

Industrial Action 2. Fund an industrial modernization revolving loan fund to bolster adoption of energy efficiency improvements, electrification of thermal processes, industrial symbiosis, smart manufacturing, and application of low-carbon fuels where electrification is not feasible for large industrial entities.

Pathways: 4 (Low-carbon fuels)

No Comments.

Policy: 4b (Low-carbon fuels adoption), 4c (Managed fuels transition)

Equity and Justice Approaches: 3 (incentive programs); 4 (workforce)

This action would build on the previous action and support implementation of measures to decarbonize emissions-intensive, trade-exposed sources (EITEs) covered by the Climate Protection Program (CPP). Industries will require support to help identify innovations that can help decarbonize their processes while maintaining competitiveness in the national and global economy. Support may include technical assistance, collaborative forums, low-cost financing, or grants to help industries identify and deploy approaches to decarbonization.

Low-Carbon Fuels Actions

Vision



Low-carbon fuels include both liquid fuels such as ethanol, renewable diesel, and biodiesel, primarily used for transportation, as well as gaseous fuels, such as renewable natural gas and hydrogen, used for heating, manufacturing, and other direct uses. The shift to low-carbon fuels requires investment on the demand side, including in industries reliant on high-heat industrial processes as well as aviation, rail, and marine transport. It also requires supply-side investments to ensure that both transportation and direct use fuels are available where and when needed.

Some low-carbon fuels are already being used in Oregon to reduce emissions in transportation. Renewable diesel consumption has grown from 16 million gallons in 2019 to almost 171 million gallons in 2024, and renewable natural gas consumption, including out-of-state purchases, has increased from just over 2 million diesel gallons equivalent in 2019 to almost 4 million diesel gallons equivalent in 2024.

In the near-term, the focus on the demand-side is to explore the opportunities for low-carbon fuels in hardest-to-electrify industries in Oregon and generating opportunities to fund and finance measures that shift operations to low-carbon fuels.

On the supply-side, the focus is on aligning policies, programs, and incentives for low-carbon fuels in Oregon with that of neighboring states while identifying lowest impact sites for low-carbon fuel facilities in Oregon. This would allow Oregon to define approaches to support technologies that have the support of our broader regional economy, reducing the risk of stranded costs or of Oregon "going it alone." Oregon is currently researching and investing in a potential hydrogen economy with Washington and Montana by supporting demonstration projects in the Pacific Northwest Hydrogen Hub. Identifying regional demand for low-carbon fuels as well as the lowest impact sites for fuel production would help enable development of strategic sectors to our economy while minimizing negative effects such as harmful emissions on neighboring communities.

Data and Information

Fuels Action 1. Direct the Oregon Department of Energy, Oregon Department of Land Conservation and Development, and Business Oregon to create criteria to identify sites with the greatest opportunity for low-carbon-intensity fuel production development in

No Comments.

Oregon by assessing existing brownfields and industrial sites across the state, and publishing recommendations on how to improve engagement with local communities.

Pathways: 4 (Low-carbon fuels)

Policy: 4a (Low-carbon fuels and fuel infrastructure)

Equity and Justice Approaches: 1 (decision-making); 5 (partnerships and resources); 6 (natural and working lands, cultural resources, broader environment)

Low-carbon fuel production potential exists in Oregon and energy modeling demonstrated a growing demand for these fuels. Some low-carbon fuels are already produced in Oregon, including biodiesel from used vegetable oil as well as renewable natural gas from agricultural, wood, and municipal waste, and wastewater. While Oregon imports most of the low-carbon fuels it consumes, in-state production can help support local economies and increase access to the fuel. In-state production could deliver other benefits, such as improved power system reliability by co-locating renewable natural gas production with electricity generation to help meet peak demand.

Finding a suitable location for low-carbon fuel production is one of the main barriers identified to producing these fuels in Oregon. This study would help identify criteria for sites likely to have the lowest impact on communities and the environment by focusing on industrially zoned and brownfield areas. It will be important to involve environmental justice communities in the evaluation process both in criteria selection, and in evaluating ways to improve engagement with local communities when siting facilities.

Fuels Action 2. Direct the Oregon Department of Energy to develop a low-carbon fuels roadmap that evaluates current policy support mechanisms for low-carbon fuels, identifies gaps and opportunities, and recommends additional support mechanisms that align with regional and national frameworks for low-carbon fuels in transportation and in commercial and industrial sectors.

Pathways: 4 (Low-carbon fuels)

Policy: 4a (Low-carbon fuels and fuel infrastructure), 4b (Low-carbon fuels adoption), 4c (Managed fuels transition)

Equity and Justice Approaches: 1 (decision-making); 2 (infrastructure development); 6 (natural and working lands, cultural resources, broader environment)

An evaluation of support mechanisms and markets for low-carbon fuels would help inform how Oregon can most constructively support decarbonization of our economy. For example, working with public partners to evaluate and recommend fuel decarbonization targets over time for maritime, aviation, and rail transportation will provide industry with direction and advance state decarbonization goals. The evaluation should also include an investigation of potential feedstocks to produce low-carbon fuels in Oregon and which gaseous and liquid fuels make the most economic sense for Oregon to produce to meet demand. The process should engage environmental justice and other affected communities to ensure that their views inform the roadmap.

No Comments.

Fuels Action 3. Direct the Oregon Department of Energy to research and forecast fuel needs for emergency preparedness in collaboration with Tribes and public partners across the state, and ensure that these needs are met as technologies evolve throughout the energy transition.

Pathways: 5 (Resilience)

Policy: 5c (Emergency Planning)

Equity and Justice Approaches: 1 (decision-making); 5 (partnerships and resources)

State, Tribal, county, and local jurisdiction emergency management teams are evaluating the ability of Oregon communities to respond during an event. Most emergency response vehicles and fuel storage are dependent on fossil fuels to meet their community needs. The decarbonization of Oregon's energy systems will lead to the adoption of new technologies, electrification, and greater use of low-carbon fuels. The rate of the change to new technologies or fuels and the impact to emergency management is evolving, which can be challenging for jurisdictions to know what to invest in and plan for.

To support resilience of the energy system, Oregon should analyze areas around the state where fuel may be in limited supply for emergency response needs, and identify specifically where and how the state, local governments, Tribes, and private sector partners can build fuel storage capacity and maintain a reliable supply of liquid fuels. Analysis of future fuel storage locations must be done in conjunction with local governments and Tribal governments, the private sector, and communities, and must not cause undue impacts to disadvantaged neighborhoods. Emergency response capabilities must be able to respond at any location in our state, and the most remote areas of Oregon are frequently those that face significant risk from wildfire or other natural disasters, and may have limited means to respond to those disasters.

The Oregon Department of Energy would collaborate and coordinate with energy and emergency management Tribal and public partners to research and map the fuel needs of local jurisdictions, track adoption rates of new technologies and fuels, and provide guidance to local jurisdiction emergency management teams on how to prioritize investments in emergency management energy resources. This work would expand the depth and reach of the existing County Energy Resilience Grant Program and Energy Security Plan. A grant program for participating Tribes and local governments would need to be funded to support the sharing of data as well as help governments implement findings from the research. Results of the research project would refine and support the development of emergency plans and procedures at the Oregon Department of Energy.

Cross-Cutting Actions

The following actions advance progress in more than one sector.



Regulation

Cross-Cutting Action 1. Direct the Environmental Quality Commission to adopt rules imposing registration and reporting requirements upon all new large electric loads to

No Comments.

inform greenhouse gas emissions analyses, and to evaluate whether policy changes are needed to bring emissions in line with state policies.

Pathways: 3 (Clean Electricity); 4 (Low-Carbon Fuels)

Policies: 3a (Utility-scale and distributed energy resources); 4b (Low-carbon fuels adoption)

Equity and Justice Approaches: 1 (decision-making)

Although new tech loads, such as data centers, are expected to be the biggest near-term driver of electricity demand growth, relatively little information is available for these loads—or what resources will serve them. Some will be served by utilities with clean energy requirements pursuant to HB 2021 (2021), but others will not. Most of Oregon's consumer-owned utilities receive all or nearly all of their electricity supply from the Bonneville Power Administration. Yet federal law restricts BPA's ability to supply new large loads, which is defined as "any new load, or expansion of an existing load, at a single facility that grows by 10 average megawatts (aMW) or more in any consecutive 12-month monitoring period."[xxviii]

There is a risk that utilities will rely on the wholesale market to meet power needs for these loads, exacerbating resource adequacy concerns, increasing emissions, and raising power costs for the region as a whole. By contrast, if these loads procure clean power through long-term contracts, it could help finance the development of new, clean generation for the region.

Imposing new obligations poses a risk of discouraging new loads and new economic development in the state. Yet having better data would benefit the state in considering policy changes, which could be undertaken by the EQC.

Funding

Cross-Cutting Action 2. Establish and identify a source of funding for a revolving loan fund to provide a stable source of low-cost and no-cost loans to support the energy transition and resilience.

Pathways: All

Equity and Justice Approaches: 1 (decision-making); 3 (incentive programs); 5 (partnernships and resources)

This action would establish a dedicated revolving loan program that primarily serves to amplify the lending capacity of existing entities delivering grants and loan programs to support access to clean energy technologies for households and businesses. Examples include local credit unions, utility programs, the Energy Trust of Oregon, community organizations, local governments, and state agencies. It would be necessary to work with state agencies and the legislature to identify seed funding and establish an appropriate framework. It will be important to ensure that the new financing does not result in defunding or re-prioritizing programs and/or assistance for energy efficiency measures for residents with low and moderate incomes.

The energy transition will require significant investment in new technologies and infrastructure. A stable source of financing is critical to support the pace and scale of investment required to both reduce

[xxviii] For more on this, see BPA's New Large Single Load fact sheet, available at fs-202011-new-large-single-load.pdf.

No Comments.

greenhouse gas emissions and enhance resilience to climate impacts. A revolving loan fund can provide a stable and growing pool of money to support measures driving uptake of clean energy technologies over time.

A revolving loan fund also provides an opportunity to support loan products that provide access to financing for low- and moderate- income and environmental justice households who have either not had access to loans or been subject to predatory lending practices. A revolving loan fund can enable existing grant and rebate programs to focus more direct assistance funding to low- and moderate- income households who do not qualify for traditional loans.

The revolving loan fund should include programs that make financing available in, at minimum, the following areas: energy efficiency and electrification measures in residential and commercial buildings; light-, medium- and heavy-duty zero emission vehicle and ZEV charging or fueling infrastructure; and distributed resource investment.

Cross-Cutting Action 3. Establish a Tribal Energy Block Grant Program to support Tribal energy priorities, cultural values, and community needs through alignment with their own energy planning processes or the Oregon Energy Strategy.

Pathways: All

Equity and Justice Approaches: 1 (decision-making); 3 (incentive programs); 5 (partnerships and resources)

The Tribal Energy Block Grant program would provide direct, flexible funding to federally recognized Tribes to design and implement energy programs that reflect their own priorities, cultural values, and community needs. Modeled after other successful block grant structures, such as federal housing block grants, this program would shift decision-making power to the Tribes by allowing them to determine how best to use their funds, whether for energy efficiency upgrades, renewable energy deployment, workforce development, planning and capacity building, or other strategies that align with the policy recommendations in the Oregon Energy Strategy or tribal energy strategies. Rather than prescribing a one-size-fits-all approach, the program would recognize the sovereignty of each tribe and support locally tailored solutions that promote energy resilience, affordability, and self-determination. The program should build in administrative support and multi-year funding to ensure the program's stability and reduce the administrative burden that often accompanies competitive grant processes. Ultimately, this program could serve as a key tool in operationalizing the state's commitment to equity and Tribal energy sovereignty.

Data and Information

Cross-Cutting Action 4. Develop a state-wide definition of energy burden that combines household and transportation costs to help inform Oregon's energy transition.

Pathways: All

Equity and Justice Approaches: 1 (decision-making); 5 (partnerships and resources)

Direct the Oregon Department of Energy to develop a consistent, cross-agency definition of energy burden that incorporates both building energy costs and transportation-related energy expenses. This

No Comments.

updated definition can be used across agencies to assess and track how policies – particularly those related to electrification in buildings and transportation, as well as investments in multimodal transportation – affect household energy costs over time. Under this action, ODOE would cooperate with other agencies in developing this definition, including OHCS, OPUC, ODOT, DEQ, and DLCD.

Currently, transportation energy costs – often the largest single energy expenditure for many families, as demonstrated by the Energy Wallet analysis – are not included in traditional definitions of energy burden. As Oregon moves toward widespread electrification of buildings and vehicles, a modernized definition is critical for understanding how shifts in energy consumption and fuel sources impact affordability, particularly for low-income, as well as currently and historically marginalized communities. Without updating how energy burden is calculated, the state risks overlooking significant changes in household energy spending, such as the shift from gasoline to electricity for vehicles.

Incorporating transportation into the energy burden framework would also allow agencies and policymakers to more accurately assess the impact of alternative mobility investments, such as expanded public transit, safe biking and walking infrastructure, and other strategies that reduce household transportation costs. A common, inclusive definition would provide a valuable tool for guiding equitable policy development, targeting financial assistance, and measuring progress toward affordability and environmental justice goals statewide.

Cross-Cutting Action 5. Conduct a biennial survey on energy affordability and report on trends to inform state policymaking.

Pathways: All

Equity and Justice Approaches: 5 (partnerships and resources)

Rising costs for electricity, gasoline and other energy uses are of concern to Oregon households and businesses across the state. Yet a holistic view of energy affordability is difficult to form due to lack of information, a problem exacerbated by the loss of federal tools and support. To obtain the most accurate picture of household and business energy costs and energy needs, the state should undertake a recurring survey of household and business energy costs and energy consumption patterns. For example, electricity service is not reliable if consumers cannot afford to use electricity to meet basic needs, such as air conditioning during extreme heat events. Energy security includes access to affordable energy.[17] This information would help the state make informed decisions about the potential impacts of energy policies and how to shape policy to address them.

The survey of energy affordability should include energy costs both in buildings and transportation, as well as vehicle miles traveled and usage of alternative modes of transportation. In this way, this action should link to action Cross-Cutting Action 5, which recommends developing a shared definition of energy burden that includes both building and transportation related energy costs. This will ensure that, as the transportation sector evolves and vehicles electrify, Oregon is tracking the effects of this shift on household and business energy costs and consumption patterns.

Cross-Cutting Action 6. Direct the Oregon Department of Energy to facilitate the sharing of data and joint planning to enhance energy resilience and reliability.

Pathways: 5 (Resilience)

No Comments.

Policies: 5a (Cross-fuels planning), 5b (Resilience measures)

Equity and Justice Approaches: 5 (partnerships and resources)

The Oregon Energy Security Plan highlighted the need for coordination between energy providers and the state to ensure that credible contingencies are part of their planning regime and there is adequate coverage across the state. Energy providers in the Pacific Northwest have already begun to explore enhanced coordination and planning, and this action would call on the state to support and build on these efforts. The state would encourage participation by electric and gas utilities, fuel providers, and energy stakeholders.

Better data and coordination could potentially mitigate the risks of or effects from extreme weather events, such as the winter storm of January 2024. During that event, electricity demand across the region exceeded historic records at the same time many electricity generating resources faced performance challenges. Simultaneously, natural gas supply—critical not only for some home heating but also for gas-powered electricity generating resources—was restricted due to an issue at a key gas storage facility.[37]

Greater coordination can help energy providers share high level resource adequacy data and engage in and participate in state emergency planning. This activity will provide transparency into Oregon's larger energy system, how energy use may change over time based on energy provider data like new large loads joining the electric system, and how the system may respond during an event. Results of planning activities and data will inform future iterations of the Oregon Energy Security Plan.

Cross-Cutting Action 7. Identify gaps in current and estimated occupation-level employment to meet Oregon's future energy need and support and expand workforce development efforts. Direct ODOE to study gaps and recommend actions.

Pathways: All

Equity and Justice Approaches: 1 (decision-making); 4 (workforce); 5 (partnerships and resources)

As the energy sector evolves to meet Oregon's future energy needs and policy objectives, the energy industry workforce will need to evolve as well. The jobs analysis conducted for the energy strategy demonstrates a need for greater employment in several key occupations, including electricians, HVAC specialists, and others. If workforce development needs in these occupations are not addressed, this may lead to employee shortages and delay in meeting Oregon's energy goals, particularly in rural, frontier, and remote areas. At the same time, industries engaged in the extraction, dissemination, and use of fossil fuel are likely to see job displacement. This may lead to greater unemployment in certain industries if retraining and new opportunities are not available.

A workforce needs assessment would serve as a step toward improving our understanding of these areas of potential shortage and displacement and provide guidance on strategies to support further development and retraining of the necessary workforce. The study should consider how different potential strategies for building the clean energy workforce would affect the promotion of a just transition, including considerations around: job quality, pay, benefits, demographic diversity in hiring and training geography/location, and the role of different development opportunities such as apprenticeships, college and vocational education programs, and dedicated training programs.

No Comments.

Other

Cross-Cutting Action 8. Advocate for federal policies that support advancement of state energy objectives.

Pathways: All

Equity and Justice Approaches: 1 (decision-making); 5 (partnerships and resources)

Federal policies play an important role in relation to state energy objectives. For example, the Clean Air Act Section 209(b) waivers (often referred to simply as the California waivers), ENERGY STAR program, appliance and equipment standards, and funding are examples of federal programs that support state energy objectives. Federal policy can also make it more difficult for Oregon to reach its energy policy objectives.

This action directs state agencies to identify existing federal programs that align with the Oregon Energy Strategy and advocate for policies that support achievement of state energy objectives and continue to elevate the needs of environmental justice communities. This includes engaging with Oregon's federal delegation to ensure that Oregon's voice is heard in Washington, DC.

Cross-Cutting Action 9. Direct state agencies to increase coordination with community-based organizations, utilities, Energy Trust of Oregon, and other partners to advance consumer education and facilitate delivery of energy related services.

Pathways: All

Equity and Justice Approaches: 1 (decision-making); 5 (partnerships and resources)

Oregon's energy transition involves Oregon households and businesses making informed decisions about building upgrades, equipment purchases, vehicle purchases and other choices with long term energy implications. Comprehensive resources should be developed to ensure that every Oregon home or business has the information needed to navigate complex energy decisions. Consumer education should be shared at level of consumers, customers, and communities through culturally appropriate materials that are translated and in plain or accessible language. Community based organizations and industry partners should have access to training and funding to enable participation, to ensure all energy related measures meet quality, performance and financial expectations.

This action recommends coordination to facilitate delivery of energy related services. Equipment installers, vehicle dealers, and other providers of clean energy services are often the main actors engaging consumers and helping them make purchase decisions. As technologies evolve and to advance the state's energy policy objectives, these service providers must be knowledgeable about new technologies and have information available for consumers, such as availability of rebates or low-cost loans, as well as information on upfront costs and operating costs over time to capture the benefits of more energy efficient technologies.

No Comments.

Funding

Cross-Cutting Action 10. Increase resources, funding, and staff levels at agencies as needed to implement actions necessary to advance Oregon's energy policy objectives.

Pathways: All

Equity and Justice Approaches: 1 (decision-making)

As legislators and the Governor consider actions in the Energy Strategy, this action urges them to provide needed funding and to implement those actions.

It is clear that the clean energy transition will be most effective and equitable if managed well. Yet no single entity has explicit authority to undertake this management work. Instead, a number of different Oregon state agencies play a role in enabling, supporting, and overseeing the energy transition. The scale of the challenge brought to these agencies often outbalances the scope of resources currently available to them.

Agencies named in the energy strategy include key agencies responsible for implementing energy policy and providing essential analysis and information across the transportation, fuels, utilities, and broader energy systems. This includes the Oregon Department of Transportation, Department of Environmental Quality, Public Utility Commission, Department of Energy, and Department of Land Conservation and Development. There are many other agencies involved in supporting implementation of Oregon's energy policies in way that protects natural and working lands, inland and coastal waters, economic development, housing development, public health, and many other essential public services.

Wherever named or included in the implementation of an action, it is important to ensure that resources are made available to enable agency action.

Cross-Cutting Action 11. Direct ODOE to develop a community benefits framework that can be used as appropriate across the agency to address outreach and engagement, workforce needs, prioritizing environmental justice communities, and equitable practices.

Equity and Justice Approaches: 1 (decision-making); 5 (partnerships and resources)

Federal uncertainty highlights the need for a formalized state community benefits framework that provides meaningful involvement with Environmental Justice communities as defined in HB 4077. Community Benefits Plans were required in many Inflation Reduction Act and Infrastructure Investment and Jobs Act grant funded programs. Changes in federal policy will likely result in community benefits plans no longer being required or funded by the federal government. A community benefits framework would provide a foundation to continue supporting and funding community benefits through the state. It would provide an opportunity for projects/programs to learn more about community needs and interests as well as direct benefits through metrics and then develop an implementation plan that carries those benefits throughout the life of the project.

No Comments.

Full List of Legislative and Policy Actions

Transportation

1. Establish a dedicated, sustainable, and long-term state revenue source to support the rapid deployment of zero emission vehicle charging and fueling infrastructure across the state.
2. Establish a Climate-Aligned Transportation Funding Task Force to review Oregon's transportation funding mechanisms for alignment with the state's energy and climate policy priorities and make recommendations.
3. Implement a Road Usage Charge program for all light-duty passenger vehicles to stabilize transportation funding and support accelerated adoption of zero emission vehicles.
4. Increase funding for the Zero-Emission Incentive Fund and create a stable, long-term revenue source for the Zero-Emission Medium and Heavy-Duty Vehicle Incentive Fund to accelerate the adoption of light-, medium- and heavy-duty ZEV statewide.
5. Increase statewide support for public and active transportation in Oregon by expanding the statewide payroll tax to fund transit and boosting investments in Safe Routes to School and Great Streets at levels that reflect the scale of community needs.
6. Establish a statewide incentive program for both standard and cargo e-bikes, with enhanced incentives and prioritization for income-qualifying Oregonians to ensure equitable access to clean, affordable transportation options.
7. Expand local governments' authority to generate and direct transportation revenues toward climate-aligned transportation infrastructure that meets local needs and priorities.
8. Develop a strategic roadmap to guide the deployment of medium- and heavy-duty zero emission vehicles in Oregon, co-led by the Oregon Department of Transportation and Department of Environmental Quality, with support from the Oregon Department of Energy. The roadmap should include a technology readiness and feasibility assessment, as well as a statewide infrastructure needs assessment. Funding should be allocated to support its development.
9. Establish a statewide technical assistance program to support public and private fleets in planning and executing a successful transition to zero-emission vehicles (ZEVs).
10. Require IOUs to publish and maintain interactive, feeder-level Hosting Capacity Maps (HCMs) showing available capacity for EV charging infrastructure, building electrification, distributed generation, and battery storage.
11. Establish a multi-agency working group to develop regulations and minimum standards for public heavy-duty hydrogen refueling infrastructure in Oregon. This group should address key elements such as technical specifications, safety protocols, fuel quality standards, consumer protection measures, and streamlined permitting processes to ensure that stations are safe, reliable, and accessible. The working group should also establish targets for the carbon intensity of hydrogen supplied at fueling stations and recommend inclusive processes for community engagement in station siting decisions to align with Oregon's climate and equity goals.
12. Amend DEQ's Clean Fuels Program to extend Advance Crediting eligibility to high-mileage private fleet operators – such as delivery, ride-hailing, logistics, and service fleets – whose vehicles operate predominantly in Oregon.

Buildings

1. Advance strategic electrification in buildings in conjunction with other measures that support state decarbonization and resilience goals reliably, affordably, and equitably. Direct the Oregon Department of Energy to develop a building decarbonization roadmap with recommendations to

No Comments.

advance strategic electrification and other decarbonization measures, and as necessary, to provide data and analysis on building decarbonization to inform policies and programs.

2. Update energy efficiency and demand response program and delivery infrastructure to promote strategic electrification.
3. Prioritize measures in energy efficiency incentive programs that relieve pressure on the power system. In the near term, maintain – and where possible accelerate – building weatherization, replacement of less efficient electric heating with efficient electric heat pumps, and expand demand flexibility.
4. Prioritize existing programs offering essential energy efficiency and weatherization improvements, particularly those focused on low- and moderate- income households.
5. Earmark flexible funding for deferred maintenance measures necessary to enable low- and moderate- income homes to install efficiency and weatherization technologies and measures.
6. Allow higher administrative costs for energy programs that serve or benefit Environmental Justice Communities, to better manage cost shortfalls experienced by programs and projects that benefit the overall system.
7. Modify the Oregon Residential Specialty Code to require progress on energy efficiency and decarbonization requirements for new buildings. In the near term improve envelope efficiency measures, especially if less efficient or fossil-fueled technologies (such as electric resistance or natural gas) are used for primary space or water heating systems. Reach code should reflect goals for economy wide decarbonization and may need to define what 'net zero' carbon in buildings would be.

Clean Electricity

1. Establish a state transmission entity with the authority to (1) identify and designate transmission corridors; (2) pursue partial siting and permitting approvals for future projects in those corridors; and (3) provide direct financial support through state bonds for projects that are determined to benefit the public interest.
2. Direct the Oregon Department of Energy to conduct a study on barriers preventing construction and interconnection of permitted projects and recommend actions to overcome barriers.
3. Report on developments in emerging technologies, including long-duration storage, enhanced geothermal, floating offshore wind, and small modular nuclear reactors, to identify the role they can play in meeting the state's electricity needs and opportunities for pilot programs in the near-term. 1
4. Study government policy incentives for local electricity investments and identify opportunities for the state to better advance infrastructure needs, economic development and energy justice objectives.
5. Update and enhance the Oregon Renewable Energy Siting Assessment Tool, with a goal of providing a robust database of lands suitable for various types of electricity infrastructure projects.
6. Direct the OPUC to investigate opportunities to modify utility business models and ratemaking practices to enhance marketplace competition and thereby lower costs in utility planning and resource procurements.
7. Expand the Oregon Department of Energy's statewide energy infrastructure resilience programs, including increasing funding for and amending the Community Renewable Energy Grant Program to support projects that improve energy resilience.

Number: 1 Author: Nikole Young Subject: Comment on Text Date: 2025-09-16 15:39:13

I wonder if there is an opportunity to include reporting on nuclear waste management. What does reprocessing waste look like if we were to do it in Oregon? What would vitrification look like if we turned that recycled waste into glass for safer storage? We shouldn't need to wait on someone else to standardize it in the US to take the lead. France has already taught us how to do it. Since spent nuclear fuel is such a concern (one reason Measure 7 passed), I think there is value in solving for it should we bring nuclear back to Oregon. I know about Hanford's vitrification plant, but as I'm writing this, there are rumors that it won't ever open because of the US DOE wanting to abandon the project. That would be a convenient resource to us if it gets up an running. But we can solve for it ourselves with the help of OSU if we're inclined.

Industry

1. Identify and evaluate short and long term decarbonization options for the emissions-intensive, trade-exposed large industrial entities in Oregon that are obligated to reduce their greenhouse gas emissions under the Climate Protection Program.
2. Fund an industrial modernization revolving loan fund to bolster adoption of energy efficiency improvements, electrification of thermal processes, industrial symbiosis, smart manufacturing, and application of low-carbon fuels where electrification is not feasible for large industrial entities.

Low-carbon Fuels

1. Direct the Oregon Department of Energy, Oregon Department of Land Conservation and Development and Business Oregon to create criteria to identify sites with the greatest opportunity for low-carbon-intensity fuel production development in Oregon by assessing existing brownfields and industrial sites across the state, and publishing recommendations on how to improve engagement with local communities.
2. Direct the Oregon Department of Energy to develop a low-carbon fuels roadmap that evaluates current policy support mechanisms for low-carbon fuels, identifies gaps and opportunities, and recommends additional support mechanisms that align with regional and national frameworks for low-carbon fuels in transportation and in commercial and industrial sectors.
3. Direct the Oregon Department of Energy to research and forecast fuel needs for emergency preparedness in collaboration with Tribes and public partners across the state, and ensure that these needs are met as technologies evolve throughout the energy transition.

Cross-cutting Actions

1. Direct the Environmental Quality Commission to adopt rules imposing registration and reporting requirements upon all new large electric loads to inform greenhouse gas emissions analyses, and to evaluate whether policy changes are needed to bring emissions in line with state policies.
2. Establish and identify a source of funding for a revolving loan fund to provide a stable source of low-cost and no-cost loans to support the energy transition and resilience.
3. Establish a Tribal Energy Block Grant Program to support Tribal energy priorities, cultural values, and community needs through alignment with their own energy planning processes or the Oregon Energy Strategy.
4. Develop a state-wide definition of energy burden that combines household and transportation costs to help inform Oregon's energy transition.
5. Conduct a biennial survey on energy affordability and report on trends to inform state policymaking.
6. Direct the Oregon Department of Energy to facilitate the sharing of data and joint planning to enhance energy resilience and reliability.
7. Identify gaps in current and estimated occupation-level employment to meet Oregon's future energy need and support and expand workforce development efforts. Direct ODOE to study gaps and recommend actions.
8. Advocate for federal policies that support achievement of state energy objectives.
9. Direct state agencies to increase coordination with community-based organizations, utilities, Energy Trust of Oregon, and other partners to advance consumer education and facilitate delivery of energy related services.

No Comments.

10. Increase resources, funding, and staff levels at agencies as needed to implement actions necessary to advance Oregon's energy policy objectives.
11. Direct ODOE to develop a community benefits framework that can be used as appropriate across the agency to address outreach and engagement, workforce needs, prioritizing environmental justice communities, and equitable practices.

No Comments.

APPENDIX A: ENERGY STRATEGY TECHNICAL REPORTS AND PUBLIC INPUT SUMMARIES

Technical Approach Document

https://www.oregon.gov/energy/Data-and-Reports/Documents/OES-CETI-EER-Technical-Approach-to-Modeling.pdf

Modeling Assumptions and Sources

https://www.oregon.gov/energy/Data-and-Reports/Documents/Oregon-Energy-Strategy-Modeling-Assumptions-Sources.pdf

Energy Pathways Technical Report

https://www.oregon.gov/energy/Data-and-Reports/Documents/2025-OES-Technical-Report.pdf

Complementary Analyses Technical Report

https://www.oregon.gov/energy/Data-and-Reports/Documents/2025-OES-Complementary-Analysis-Tech-Report.pdf

Phase 1 Comment-Response Document

https://www.oregon.gov/energy/Data-and-Reports/Documents/OES-Phase1-Comment-Response-Document.pdf

Phase 2 Comment Summaries

Forthcoming with Final Report

No Comments.

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No Comments.

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No Comments.

APPENDIX C: GLOSSARY

Term	Definition
Actions	Near-term legislative and policy recommendations intended to build on policy frameworks, overcome barriers, and lay a foundation for continued progress toward state energy policy objectives over time.
Advanced Clean Cars II	A regulation adopted by ODEQ in continuation of the first Advanced Clean Cars regulation, governing the sales of passenger cars, SUVs, and light duty trucks in Oregon. Advanced Clean Cars II applies to the 2026-2035 model year; will require auto manufacturers to deliver 100 percent new zero emission battery electric and plug-in hybrid electric vehicles by 2035; and ensures new gasoline and diesel vehicles sold through 2024 have the cleanest emissions possible.
Advanced Clean Trucks	A regulation adopted by ODEQ to reduce tailpipe and greenhouse gas emissions through advanced clean technology. The rule requires manufacturers of medium- and heavy-duty vehicles (Class 2b – 8) to sell zero-emission trucks as an increasing percentage of its overall sales from vehicle model year 2025 through 2035.
Advisory Group	A group of subject matter experts and interested parties convened by ODOE to provide a diverse range of perspectives for the development of a comprehensive and well-informed Oregon Energy Strategy. For more information, refer to the AG Charter.
Agrivoltaics	Agrivoltaics, sometimes called dual-use solar or agrisolar, refers to the practice of producing both food and electricity using solar panels on the same parcel of land.
Air quality modeling	For Oregon's Energy Strategy, the air quality modeling interfaced with EPA's COBRA model and the energy pathways modeling results to provide insights on the benefits of reduced pollutant emissions on public health outcomes associated with several scenarios.
Ammonia	A colorless gas compound with a characteristic pungent smell, made from hydrogen and nitrogen. Today, ammonia is mainly used to make fertilizer, cleaning products, and plastics, but is also seen as a promising carbon-free resource to power maritime or other heavy transport, generate electricity, and store and distribute hydrogen.
Strategic electrification	Strategic electrification – also referred to as beneficial electrification – is a guiding framework for advancing electrification while supporting affordability and reliability. For electrification to be considered "strategic" it must advance one of the following areas without adversely affecting the others: (1) benefits consumers over the long run; (2) enables better grid management; and (3) reduces negative environmental impacts. *From updated drafting, based on RAP definition.*
Biomass	Any organic matter that is available on a renewable or recurring basis, including agricultural crops and trees, wood and wood residues, plants, algae, grasses, animal manure, municipal residues, and other residue materials, especially when this matter is used for or space heating,

No Comments.

	cooking, electricity generation, and transportation. Biomass can be burned directly for heat or converted to liquid and gaseous fuels through various processes. Wood and wood waste is Oregon's largest source of biomass. Oregon used biomass to produce renewable natural gas, a biogas that has been purified to be a substitute for fossil natural gas, often to meet specifications required for injection into a natural gas distribution pipeline. Oregon also produces plant-derived ethanol fuel and biodiesel from used cooking oil to be used as transportation fuels.
Bonneville Power Administration	A federal agency that markets the power produced by Federal Base System resources and resources acquired under the provisions of the Northwest Power Act of 1980. Bonneville sells power to public and private utilities, direct-service industrial customers and various public agencies. The Northwest Power Act charges Bonneville with other duties, including pursuing conservation, acquiring sufficient resources to meet its contract obligations, funding certain fish and wildlife recovery efforts, and implementing the Northwest Power and Conservation Council's Power Plan and Fish and Wildlife Program.
Building Performance Standard (BPS)	Oregon's policy addressing energy use and emissions from existing commercial buildings, which account for nearly 20 percent of energy use in Oregon, based on ASHRAE Standard 100-2024 and Oregon-specific amendments. Building performance standards differ from building codes (which apply to the construction or renovation of buildings) as they regulate buildings' operational energy use. For more information on the BPS program, refer to https://www.oregon.gov/energy/save-energy/Pages/BPS.aspx.
Climate Protection Program	A program administered by Oregon Department of Environmental Quality that establishes a declining cap, or limit, on greenhouse gas emissions from fossil fuels used throughout Oregon, including diesel, gasoline, and natural gas. The program is designed to reduce these emissions 50 percent by 2035 and 90 percent by 2050. For more information on the CPP, refer to https://www.oregon.gov/deq/ghgp/Documents/cppOverviewFS.pdf.
Community energy resilience	The ability of a specific community to maintain the availability of energy needed to support the provision of energy-dependent critical public services to the community following nonroutine disruptions of severe impact or duration to the state's broader energy systems.
Community Renewable Energy Grant Program	A grant program established by HB 2021 and administered by ODOE to offset the cost of planning and developing community renewable energy and energy resilience projects; make community renewable energy projects economically feasible for qualifying communities; promote small-scale renewable energy projects; and provide direct benefits to communities across this state in the form of increased community energy resilience, local jobs, economic development or direct energy cost savings to families and small businesses. For more information of the Community Renewable Energy Grant Program, refer to

No Comments.

	https://www.oregon.gov/energy/Incentives/Pages/CREP.aspx. *Adapted from HB 2021*.
Complementary analyses	Analytical efforts that followed on the energy pathways modeling to further inform the Energy Strategy. The complementary analyses included a Household Energy Wallet analysis, air quality modeling, geospatial mapping, and a study on employment effects.
Consumer-owned utility (COU)	A not-for-profit utility governed by a local, elected board. Oregon COUs have a long history of contracting with BPA for significant amounts of their power supply.
Day-ahead market	A regional transmission organization or independent system operator-administered market where the RTO or ISO schedules electricity production to meet forecasted demand one day in advance, based on factors, including weather, the day of the week, and planned power plant outages. Day-ahead markets function as auction markets for next-day electricity service. Entities that would like to buy or sell electricity for the next day can enter bids with the market operator. These bids indicate the price at which an entity is willing to buy or sell a quantity of electricity for a given time period, often a specific hour(s) of the next day. The market operator takes the bids it receives, and for each time period of the next day, creates supply and demand curves. The market operator creates the supply curve by ordering each of the sell bids from lowest to highest price and creates the demand curve by ordering each of the buy bids from highest to lowest price. Examples of forthcoming day-ahead markets include Southwest Power Pool's Markets+ and California Independent System Operator's (CAISO's) Energy Day Ahead Market.
Demand response	Changes in electricity usage by consumers in response to peak load periods to decrease demand on the grid and maintain electricity reliability.
Distributed energy resources	Small, modular, energy generation and storage technologies that provide electric capacity or energy near sites of use. Examples include rooftop solar panels and customer-sited battery storage. An electric vehicle may be a distributed energy resource if it has the ability to provide vehicle-to-grid power; otherwise, it is a flexible load.
Distribution infrastructure	The physical equipment used to distribute electric power at voltages below 38,000 volts, including but not limited to poles, primary lines, secondary lines, service drops, transformers, and meters.
Electric vehicle	A battery-powered vehicle that runs on electric motors.
Electricity load	The amount of electricity drawn from the electrical grid. Load may also refer to a specific use of electricity, such as a heating load.
Electric resistance heating	An electric resistance heater produces heat when an electric current passes through the resistance of a conductor. Electric resistance heatng equipment can include baseboard heaters, electric furnaces, and electric wall heaters.
Energy	The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible

No Comments.

	and can be changed to another form useful for work. Electrical energy is usually measured in kilowatthours, while heat energy is usually measured in British thermal units (Btu). In the electricity context, energy may refer to electricity available in a given moment, as distinct from capacity that represents the ability to produce electricity in a specific future moment. Energy capacity is further defined below.
Energy burden	Home energy burden is the percent of household income spent on home energy bills. Energy bills include electricity, natural gas, and other home heating fuels, and are compared to the total income of the people in that household. If a household is spending more than 6 percent of its income on home energy costs, it is considered burdened. The Energy Strategy recommends that a statewide definition of energy burden be developed to combine household and transportation costs and provide cross-agency consistency in the energy transition.
Energy capacity	The maximum power that a machine or system can produce or carry under specified conditions. The capacity of generating equipment is generally expressed in kilowatts or megawatts. In terms of transmission lines, capacity refers to the maximum load a line is capable of carrying under specified conditions.
Energy efficiency	Using less energy to perform the same task or produce the same result; in the Energy Strategy, electrification of end uses is discussed as distinct from energy efficiency for organizational purposes, but electrification is generally best understood as an energy efficiency measure.
Energy justice	The goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those historically harmed by the energy system ("frontline communities"). Energy justice explicitly centers the concerns of marginalized communities and aims to make energy more accessible, affordable, clean, and democratically managed for all communities. The practitioner and academic approaches to energy justice emphasize these process-related and distributive justice concerns.
Energy pathways modeling (the modeling)	A planning tool that calculates energy needed to power an economy while meeting policy targets, such as a greenhouse gas emissions target, and the economy-wide least-cost way to meet those energy needs with efficiency, clean electricity, electrification, clean fuels, and carbon sequestration. Energy pathways modeling uses a "backcasting" approach that, based on current circumstances, optimizes ways to achieve given policy targets rather than forecasting a future based on current information and trends. For more context on household-level affordability analysis, refer to the Energy Wallet.
Energy reliability	The degree to which the performance of the elements of the electrical system results in power being delivered to consumers within accepted standards and in the amount desired. Reliability encompasses two concepts, adequacy and security. Adequacy implies that there are sufficient generation and transmission resources installed and available

No Comments.

	to meet projected electrical demand plus reserves for contingencies. Security implies that the system will remain intact operationally (i.e., will have sufficient available operating capacity) even after outages or other equipment failure. The degree of reliability may be measured by the frequency, duration, and magnitude of adverse effects on consumer service.
Energy resilience	The ability of energy systems, from production through delivery to end-users, to withstand and restore energy delivery rapidly following nonroutine disruptions of severe impact or duration.
Environmental justice	The equal protection from environmental and health risks, fair treatment and meaningful involvement in decision making of all people regardless of race, color, national origin, immigration status, income or other identities with respect to the development, implementation and enforcement of environmental laws, regulations and policies that affect the environment in which people live, work, learn and practice spirituality and culture.
Environmental justice community	Includes communities of color, communities experiencing lower incomes, communities experiencing health inequities, tribal communities, rural communities, remote communities, coastal communities, communities with limited infrastructure and other communities traditionally underrepresented in public processes and adversely harmed by environmental and health hazards, including seniors, youth and persons with disabilities.
Flexible load	An appliance or device with power consumption that can be varied to shift electricity demand and restore balance to the grid during peak events.
Focus-area Working Groups	The topic-focused groups convened by ODOE to provide specific input or feedback to inform the modeling and technical analysis.
Heat pumps	Unlike other heating devices that produce heat through the combustion of fossil fuels, such as furnaces, heat pumps exchange heat from one space to another. Air-source heat pumps run on electricity and use a refrigerant to absorb heat from outside air and release it into an indoor space. They can also provide cooling by running in the opposite direction. Air-source heat pumps are the most common type of heat pump in residential buildings in the United States.
Household Energy Wallet analysis	An analysis of energy pathways scenarios' effects on sample household energy burdens and affordability based on the cost of delivering energy to customers according to factors like household VMT, vehicle type, home size, and heating and cooling technology and needs..
Hydrogen	The most abundant element in the universe and the lightest of all gases. Hydrogen occurs naturally on Earth only in compound form with other elements in liquids, gases, or solids. Hydrogen combined with oxygen is water (H_2O), and hydrogen combined with carbon forms different compounds (hydrocarbons) found in natural gas, coal, and petroleum. Hydrogen can be produced—separated—from water, fossil fuels, or

No Comments.

	biomass and used as a source of energy/fuel that has a high energy content per unit of weight.
Industrial symbiosis	Voluntary collaboration among businesses or organizations to share and exchange materials, energy, water and by-products in order to optimize resource use, reduce waste and enhance economic and environmental outcomes.
Interagency Steering Group	A group of Oregon state agency and government representatives, from the Oregon Departments of Energy, Land Conservation and Development, Transportation, Environmental Quality, and State Lands; Oregon Public Utility Commission; Business Oregon; the Governor's office; and other agencies provided agency perspectives and guidance to develop a statewide Energy Strategy.
Integrated resource planning	Planning by utilities to meet the future energy and capacity needs of their customers through a "least-cost, least-risk" combination of energy generation and demand reduction. IRPs include estimates of future energy needs, analysis of the resources available to meet those needs, and the activities required to secure those resources. IRP drafting is a large, stakeholder-driven process that results in a comprehensive and strategic document that drives utility investments, programs, and activities.
Internal combustion engine vehicle	Vehicles that are powered by burning a liquid, such as gasoline, diesel, biofuels, or a gaseous fuel, such as compressed natural gas.
Investor-owned utility (IOU)	A for-profit corporation that provides a utility service like electricity or natural gas and which is overseen by Oregon's Public Utility Commission.
Low-carbon fuels	Fuels that when combusted provide thermal energy with fewer greenhouse gas emissions than petroleum based or traditional fuels. These fuels are used to heat buildings, cook, generate electricity, and power industrial processes. Examples include gaseous fuels like hydrogen, ammonia, or renewable natural gas or liquid fuels like biodiesel, renewable diesel, or ethanol.
Managed charging	Adapting the charging cycle of electric vehicles or other battery-powered devices to both the conditions of the power system and the needs of users.
Meaningful involvement	An element of environmental justice in policymaking where (a) members of vulnerable populations have appropriate opportunities to participate in decisions about a proposed activity that will affect their environment or health; (b) public involvement can influence a decision maker's decision; (c) the concerns of all participants involved are considered in the decision-making process; and (d) decision makers seek out and facilitate the involvement of members of vulnerable populations.
Microgrid	A group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that functions as a single controllable system, irrespective of whether the microgrid is operating independently of or in conjunction with an electric grid.
Multimodal transportation	Multiple modes of transportation, including but not limited to pedestrians, bicyclists, transit, personal vehicles, freight, and

No Comments.

	micromobility, such as scooters, skateboards, or services that enable sharing and rental of these devices.
Oregon's Energy Security Plan	An ODOE report developed in collaboration with the Oregon Public Utility Commission, stakeholders, and Tribal Nations that provides an overview of the state's energy infrastructure, quantifies the threats and hazards that could cause energy insecurity, and proposes mitigation measures that the state and its partners can implement to reduce risk.
Pathways	High-level means towards decarbonization and the energy transition; together, the pathways provide the direction Oregon needs to pursue to meet our energy policy objectives. The pathways are meant to inform and align policies and actions to meet our energy policy objectives of clean, reliable, and affordable energy. Pathways are meant to be long-lived and represent a stable framework for action over time. Energy Strategy policies are organized under and in furtherance of the pathways.
Peak loads	The maximum demand for electricity during a given time period (for example, a day, season, or year).
Phase 1	The period of Oregon Energy Strategy development focused on technical analyses and fact-finding to support and inform exploration of pathways to achieving the state's energy policy objectives.
Phase 2	The period of Oregon Energy Strategy development focused on discussing policy gaps and opportunities to inform policy recommendations.
Policies	More detailed directives that advance the high-level pathways and provide a long-term framework for the development of more specific, near-term actions.
Policy Working Group	A topic-focused group convened by ODOE in Phase 2 to discuss policy gaps and opportunities to inform Oregon Energy Strategy policy recommendations.
Ratepayer-funding	Collections added to utility bills—often labeled as system benefits charges, public purpose charges, or similar—that go directly into energy programs and may be used to support low-income energy assistance, energy efficiency upgrades, renewable energy projects, utility bill discounts, weatherization efforts, or other initiatives.
Reference Scenario	The core set of assumptions and data that the energy pathways modeling uses to inform and constrain the model's selection of a least-cost pathway to achieving Oregon energy policy objectives. This pathway has been selected to strike a balance of "aggressive but achievable" assumptions that, based on numerous sources, are likely to yield the lowest-cost pathway to meet our objectives. However, many risks and uncertainties remain, and there is no one "correct" solution for the full combination of technologies and measures needed to meet our goals. To more fully inform the evaluation of pathways and policies, the Reference Scenario is compared to several Alternative Scenarios.
Regional transmission organization	An RTO is an independent, nonprofit organization that operates and ensures reliability of the bulk power system and optimizes supply and demand for wholesale electricity. One of the primary functions of an RTO

No Comments.

	is operation of the electric transmission grid across a large, multi-state geographic region.
Resource adequacy	The ability of the electricity system to meet demand for electricity under a broad range of conditions, subject to an acceptable standard of reliability, as well as plan to meet future demand with sufficient supply-side and demand side resources.
Targeted universalism	An approach to policymaking that establishes a common goal for all groups concerned and then tailors solutions and approaches to achieve those goals based on different groups' structure, culture, and geographies. Targeted universalism recognizes that while policy goals may be shared universally, achieving those goals requires approaches tailored to the specific needs and circumstances of different communities. The approach incorporates the idea that conversations, policies, and programs must be informed by the needs of different communities, and that decisionmakers must engage with communities to understand and co-create solutions. With this approach, we can better understand burdens, benefits, and barriers for communities across the state to help ensure an equitable energy transition.
Transmission lines	Conductors, insulators, supporting structures, and associated equipment used by electrical power systems to transfer electric power at voltages at or above 38,000 volts from one point to another.
Transportation electrification plans	Investor-owned utilities are required to submit transportation electrification plans for PUC approval covering the electric company's portfolio of near term, long-term, future, and other transportation electrification actions. Transportation electrification plans should seek to address areas most affected by market barriers in the electric company's service territory and to provide benefits for traditionally underserved communities.
Variable energy resource	A electric generating resource that is non-dispatchable due to the fluctuating nature of its energy production. For example, wind and solar PV.
Virtual power plant	Grid-integrated aggregations of distributed energy resources such as batteries, electric vehicles, smart thermostats, water heater, and other connected devices.
Western Resource Adequacy Program	A Western regional reliability planning and compliance program to deliver a region-wide approach for assessing and addressing resource adequacy. The WRAP coordinates participating utilities to set a regional reliability metric and use a consistent approach for counting resources WRAP also allows participants to pool and share resources during tight grid operating conditions. The WRAP is composed of voluntary participating utilities and is governed by a fully independent board of directors at the Western Power Pool. The Southwest Power Pool serves as the Program Operator for the WRAP.
Western Transmission Expansion Coalition (WestTEC)	An industry-led, West-wide effort to develop an actionable, West-wide transmission needs study looking out over 10- and 20-year periods to support the needs of the future energy grid.

No Comments.

Zero-emission vehicle (ZEV)	Any vehicle with zero tailpipe emissions, including electric vehicles and fuel-cell vehicles.

No Comments.



September 22, 2025

Submitted via Public Comment Portal

Oregon Department of Energy
550 Capital St. NE
Salem, OR 97301

Re: Comments on the Oregon Energy Strategy Draft Policy Recommendations

The Northwest & Intermountain Power Producers Coalition ("NIPPC") appreciates the opportunity to submit these comments to the Oregon Department of Energy ("ODOE") regarding the draft policy recommendations for its draft Oregon Energy Strategy, published on August 14, 2025.[1] As a regional membership organization representing competitive power participants in the electricity sector throughout the Pacific Northwest and Intermountain regions,[2] NIPPC appreciates ODOE's thorough vetting of potential pathways and policy recommendations with stakeholders before recommending any legislative changes. These comments provide feedback based on NIPPC's participation in the Developing Clean Electricity Generation and Transmission Policy Working Group—one of the five Policy Working Groups curated by ODOE to review the results of the technical modeling and scrutinize potential policy alternatives.

NIPPC generally supports the draft policy recommendations, and applauds ODOE for laying out an ambitious roadmap, but suggests ODOE consider highlighting for the Legislature some of the more recent transmission developments that impact and underscore the need for legislative action to address insufficient access to both transmission and generation capacity. While the key inputs relied upon for the transmission and distribution modeling to support the technical analysis most likely remain relevant, the analysis may have been overtaken by recent events and at a minimum no longer tell the full story. While additional inputs or analysis may not be needed, ODOE's policy recommendations must reflect the tremendous uncertainty facing new transmission development in the region.

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[1] Draft Oregon Energy Strategy, Oregon Department of Energy (Aug. 14, 2025), *available at* https://www.oregon.gov/energy/Data-and-Reports/Pages/Energy-Strategy.aspx.

[2] NIPPC members include owners, operators, and developers of independent power generation and storage, power marketers, and affiliated companies. Additional information is available at Northwest & Intermountain Power Producers Coalition, https://nippc.org/members.

In particular, NIPPC highlights PacifiCorp's recent published statements regarding its proposed Boardman to Hemingway ("B2H") transmission project, the Portland General Electric ("PGE") filing indicating that company is planning to establish a separate transmission company to transfer its existing transmission assets and future transmission development to, and the Bonneville Power Administration ("Bonneville") recent updates regarding its Transmission Service Request ("TSR") processing and transmission expansion, along with the latest delay processing the agency's large Generator Interconnection ("GI") requests. Given the dramatic impact these changes in circumstances could have on the region's ability to expand transmission capacity and procure new generation resources, NIPPC respectfully request ODOE consider how these changes might impact a new state transmission authority.

I. BACKGROUND

Consistent with the directives in HB 3630,[3] ODOE has published a draft Energy Strategy identifying actions needed to assist the state in achieving its energy policy objectives. The draft strategy sets out different pathways to achieve the state's goals, evaluates benefits and challenges associated with the different pathways, and presents policy recommendations—all of which reflect input from the stakeholders supporting the effort. The final Oregon Energy Strategy report must account for the state's energy policy objectives, including reliability, affordability, and greenhouse gas emission targets.[4] To develop the current draft recommendations, ODOE designed a three-phase approach beginning with a technical analysis to identify potential pathways (in late 2024), followed by policy discussions with regional stakeholders to consider recommendations (in early 2025), and concluding by producing a report that will ultimately be submitted to Governor Kotek and the Oregon Legislature by November 1, 2025.

ODOE's draft recommendations outline five major pathways for Oregon to meet its goals focusing on: 1) Energy Efficiency; 2) Electrification; 3) New Clean Energy Development; 4) Low-Carbon Fuels; and 5) Resilience. ODOE identified near-term actions to support the policy recommendations with tradeoffs for each pathway focusing on equity and affordability.[5] Building upon the New Clean Energy Development pathway, ODOE recommends policies like investing in clean energy infrastructure to maintain reliability and promote load flexibility to reduce overall system costs.[6] To facilitate these policies, ODOE recommends—among other things—establishing a state transmission entity with the statutory authority to: 1) identify and designate transmission corridors; 2) assist with the siting and permitting approval needed for

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[3] H.B. 3630, 82nd Leg. Assemb., Reg. Sess. (Or. 2023).

[4] *E.g.,* Executive Order 20-04 (80% reduction in economy-wide greenhouse gas emissions by 2050), HB 2021 (80% reduction in clean energy by 2030, 90% by 2035 and 100% by 2040), and Climate Protection Program (90% reduction in greenhouse gas emissions by 2050).

[5] Draft Oregon Energy Strategy at 8.

[6] *Id.* at 17.

projects in these corridors; and 3) provide direct financial support through bonding for any such projects.[7]

II. COMMENTS

As briefly noted above, NIPPC generally supports the analysis and conclusions that culminated from ODOE's Developing Clean Electricity Generation and Transmission Policy Working Group. However, a number of public announcements were made while Phase 1 of ODOE's process (i.e., the technical analysis) was concluding and during Phase 2 (i.e., the policy discussions), which were not included in the modeling, and thus in turn, not vetted by stakeholders in the policy discussions. The potential impact of these events warrant consideration in the final Oregon Energy Strategy.

A. NIPPC Supports ODOE's Key Finding That Oregon Does Not Currently Have Sufficient Transmission Capacity Available to Meet Oregon's Energy Objectives

ODOE determined that meeting Oregon's current and growing needs requires a pace and scale of construction of new electricity infrastructure that is not being met today. The technical analysis and modeling performed in consultation with stakeholders during Phase 1 of ODOE's process indicated that Oregon does not have enough physical transmission capacity to deliver modeled electricity flows.[8] All scenarios showed a need to expand inter-zonal transmission, i.e., transmission between zones and regions. ODOE described this as a challenge that utilities should not face on their own. NIPPC agrees that the status quo for transmission expansion in the region is insufficient to meet the growing demand for transmission capacity.

B. Changes in Regional Transmission Planning May Impact the Technical Analysis Supporting the Draft Recommendations to Meet Oregon's Energy Objectives

When considering access to transmission in Oregon, including the availability of the modest transmission expansion assumed in the modeling, it is also important to consider the larger regional context. Changes in policy and/or outlook from the entities that have historically managed transmission expansion for Oregonians threaten the ability to even maintain the status quo for transmission expansion deemed to be insufficient. This section highlights recent developments at Bonneville, PacifiCorp and PGE that underscore the significance of allowing new entities to move forward with transmission development opportunities in Oregon.

1. Bonneville Transmission Expansion Uncertainty

In February 2025, the largest transmission provider and developer in the region, Bonneville, announced the agency paused its Transmission Service Request ("TSR") Study and

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[7] *Id.* at 70.

[8] *Id*. at 26.

Expansion Process ("TSEP")—the mechanism it uses to study clusters of long-term firm service requests and identify required transmission expansion—and launched a TSEP reform effort now termed Grid Access Transformation ("GAT) Project. This delay hampers access to federal transmission that will delay new generation and transmission development opportunities in Oregon for developers that are dependent upon Bonneville's high voltage transmission system.

The agency's current reform effort is poised to mirror the largely successful reform of Bonneville's large generator interconnection queue in the TC-25 tariff proceeding, which introduced clustering and other process improvements. The TC-25 reform process began in early 2023 to implement the FERC Order No. 2023 framework, was formally adopted by the agency on January 26, 2024, and was expected to provide its first cluster study report last August, but has been delayed due to the volume of interconnection requests being studied and is currently expected to be released January 30, 2026.

If the agency needs a commensurate amount of time to reform the TSEP, transmission development that is an outgrowth of this new process may begin again early 2027. There are reasons to think Bonneville may need longer, i.e., the TC-25 reform followed an established FERC model and occurred before the agency lost significant staff due to federal policy changes whereas the TSEP reform is being developed by the agency ad-hoc under tremendous staffing strain. Conversely there are reasons to believe Bonneville may be able to move more quickly, i.e., in the past 18 months the agency has announced two separate major transmission expansion efforts under its Evolving Grid program. From BPA's perspective, the Evolving Grid commitments give it breathing room with regard to regional transmission needs that would otherwise be met through the TSEP process. BPA intends the GAT Project to create a more durable, transparent way to replicate Evolving Grid-type commitments going forward, i.e., proactive, portfolio-based expansions of transmission capacity.

2. PacifiCorp Transmission Expansion Uncertainty

In a series of filings following PacifiCorp's wildfire litigation, PacifiCorp signaled a departure from its longstanding transmission planning efforts by announcing that the B2H transmission line was no longer included in its 2025 Integrated Resource Plan ("IRP") preferred portfolio because the company no longer intended to seek rate recovery from its customers for the project, which suggests PacifiCorp is no longer planning to use B2H to serve its customers in western Oregon. This may reveal that PacifiCorp is either pausing B2H development to focus on wildfire liability issues or is planning to sidestep Bonneville and recover its transmission upgrade costs directly from a data center, like Amazon, located closer to Boardman.[9] The dramatic pivot on B2H, after steady planning and work partnering with Idaho Power and Bonneville since 2007, also raised new questions about the Oregon Public Utility Commission's ("OPUC") authority, including whether the Certificate of Convenience and Necessity ("CPCN") granted for B2H should be revoked. In June, a complaint filed by opponents of B2H asked the

[9] *See e.g.*, PacifiCorp Notice of RFP Termination, OPUC Docket NO. UM 2193 (April 3, 2024).

OPUC to rescind PacifiCorp's CPCN, now that the revised purpose for the line no longer appears aligned with a public use.[10]

3. PGE Transmission Expansion Uncertainty

In May 2025, PGE notified the OPUC that it is updating its corporate structure to establish an Oregon-based holding company, Portland General Holdings Company. The new holding company would become the publicly traded parent of PGE and its affiliates. As part of the reorganization, PGE also proposed creating a transmission subsidiary, Portland General Transmission, to which all existing and future transmission assets would be transferred.[11] According to PGE's filing, the restructuring is intended to accelerate investment in transmission infrastructure and allow new investors to participate directly in that segment of the business. Under Oregon law, however, PGE must demonstrate that the reorganization is in the public interest before going forward. The OPUC has opened a new proceeding to consider and rule on the request and set a procedural schedule envisioned through March 2026.

4. The Impact of the Recent Changes Is Uncertain

While additional technical analysis and modeling may not be necessary, NIPPC respectfully recommends ODOE consider whether the recent circumstances discussed in this section may have an impact on the policy proposals necessary to achieve Oregon's goals. For example, in response to public comments on ODOE's technical analysis (Phase 1), ODOE confirmed that Bonneville's transmission planning work informed the modeling and specifically clarified that PacifiCorp's B2H transmission project was assumed to come online in 2030.[12] Shortly after ODOE's responses where published, however, Bonneville and PacifiCorp announced dramatic changes to their transmission planning that could render the policy recommendations discussed during Phase 2 insufficient to meet Oregon's policy objectives. Simply put, if more aggressive policy recommendations may be needed than those evaluated by stakeholders, NIPPC recommends that ODOE expressly address this gap in its recommendations and opine as to whether further study is needed to accomplish HB 3630's goal.

C. NIPPC Supports ODOE's Key Finding That Oregon Does Not Currently Have Sufficient Generation Capacity to Meet Demand or Reliability Goals Given the State's Decarbonization Plans

The modeling performed in consultation with stakeholders during Phase 1 of ODOE's process also consistently selected new, clean electricity generation and storage capacity to

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[10] Request to Rescind or Amend Order No. 23-225, OPUC Docket No. UM 2394 (June 24, 2025).

[11] PGE Application of Corporate Reorganization to Create a Holding Company, OPUC Docket No. UM 2385, Memorandum Revising Procedural Schedule (Sept. 10, 2025).

[12] ODOE, Oregon Energy Strategy Phase 1 Comment Response Document at 53 (Feb. 2025), *available at* https://www.oregon.gov/energy/Data-and-Reports/Documents/OES-Phase1-Comment-Response-Document.pdf.

meet growing demand and maintain system reliability with assumed decarbonization. ODOE points out that transmission constraints across the region hinder access to least-cost generation, and that Oregon imports most of the low-carbon fuel that is consumed in state.[13] Additional in-state generation could therefore deliver significant benefits. ODOE also notes that new large loads may come to the region, which will need to be served by clean energy. This dynamic may exacerbate resource adequacy concerns understood and discussed during Phase 2 of ODOE's process and threaten our utilities' ability to rely on the wholesale market to meet the future power needs of existing retail customers in Oregon. NIPPC agrees that the status quo for new generation procurement in Oregon is insufficient to meet the growing demand for new generation capacity.

D. ODOE Should Discuss How Recent Changes in Regional Transmission Planning May Impact the Recommendation to Establish a State Transmission Authority

NIPPC respectfully recommends ODOE consider whether the recent policy changes discussed above may have an impact on the draft policy recommendations. For example, in response to public comments on ODOE's technical analysis (Phase 1), ODOE confirmed that Bonneville's transmission planning work informed the modeling and specifically clarified that PacifiCorp's B2H transmission project was assumed to come online in 2030.[14] Shortly after ODOE's responses where published, however, Bonneville and PacifiCorp announced dramatic changes to their transmission planning that could render the policy recommendations discussed during Phase 2 insufficient to meet Oregon's policy objectives. Simply put, if more aggressive policy recommendations may be needed than those evaluated by stakeholders, NIPPC recommends that ODOE expressly address this gap in its recommendations and opine as to whether further study is needed to accomplish HB 3630's directive.

Of note, NIPPC supported House Bill 3628 ("HB 3628") during the 2025 legislative session, which proposed to create the Oregon Electric Transmission Authority ("OETA") as an independent public corporation charged with accelerating the development of transmission capacity to support renewable and economic goals specific to Oregon.[15] Had HB 3628 been enacted, OETA's core functions would have been to identify and designate corridors of statewide significance, and coordinate and/or streamline existing permitting and transmission planning efforts. The legislation also proposed to grant OETA various financing and ownership tools, including independent eminent domain and bonding authority. Based on NIPPC's familiarity with HB 3628, and similarity between that concept and ODOE's propose action, NIPPC is inclined to agree with ODOE's assessment that Oregon should consider establishing a

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[13] Draft Oregon Energy Strategy at 20-1.

[14] ODOE, Oregon Energy Strategy Phase 1 Comment Response Document at 53 (Feb. 2025), *available at* https://www.oregon.gov/energy/Data-and-Reports/Documents/OES-Phase1-Comment-Response-Document.pdf.

[15] Or. H.B. 3628, 83d Legis., Reg. Sess. (Or. 2025), *available at* https://olis.oregonlegislature.gov/liz/2025R1/Measures/Overview/HB3628#:~:text=Score%3A%2065.7),Establishes%20the%20Oregon%20Electric%20Transmission%20Authority%20as%20an%20independent%20public,and%20operating%20electric%20transmission%20infrastructure.

state transmission authority. Given the changing regional landscape, however, NIPPC is concerned that ODOE's recommendation may not adequately describe to the Legislature the dire outlook for future transmission expansion and potential impacts on any new generation procurement.

III. CONCLUSION

NIPPC acknowledges the energy sector, like many others, is evolving at an unprecedented pace and that ODOE is facing a statutory deadline to develop a new Energy Strategy for the state. For any policy recommendation to be based on analysis, it is axiomatic that the analysis must end to permit the recommendation. To be clear, NIPPC is not asking ODOE to hold off making any recommendations, or to delay its policy recommendations based on changing circumstances. But to the extent ODOE believes a proverbial asterisk is warranted next to the final Energy Strategy recommendations, NIPPC is asking that ODOE acknowledge the unfortunate timing and capture its views on the changes along with their likely impacts.

NIPPC looks forward to continued discussions on these issues with stakeholders and reviewing the comments filed during the public comment period in advance of ODOE's final report to the Governor and Legislature in November.

Thank you for your consideration of these comments.

Sincerely,



Sidney Villanueva

Senior Policy Advisor

September 22, 2025

Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301

RE: Comments on Oregon Department of Energy Draft Oregon Energy Strategy

Dear Oregon Department of Energy,

NewSun Energy ("NewSun") submits these comments on the Oregon Department of Energy ("ODOE" or "Department") Draft Oregon Energy Strategy ("Strategy"). NewSun is a utility-scale renewable energy developer with extensive experience in siting, permitting, interconnecting, constructing, and operating clean energy projects in Oregon. These comments focus on revisions to achieve fulfillment of the intent of House Bill 3630 ("HB 3630") and alignment with the State's broader clean energy commitments established in House Bill 2021 ("HB 2021").

House Bill 3630 directs ODOE to develop a state energy strategy that "identifies optimized pathways to achieving the state's energy policy objectives."[1] In particular, this mandate seeks to facilitate achievement of the clean energy targets in House Bill 2021, requiring retail electricity providers to reduce greenhouse gas emissions by 80% by 2030, 90% by 2035, and 100% by 2040 – targets which the State of Oregon appears to be far from achieving.[2]

The Strategy does not yet satisfy the HB 3630 mandate. Overall, it places too much emphasis on conducting additional studies, reports, investigations, and speculative technologies, under-evaluates increased load demand, downplays statutory requirements such as affordability and reliable transmission, and is silent on necessary changes like permitting reform. To meet statutory obligations and Oregon's clean energy needs, ODOE should:

- Establish concrete legislative or agency action items to achieve energy policy objectives on near-term timelines.
- Propose permitting reforms, such as declaring an emergency to allow near-term permitting of clean energy facilities without a goal exception for certain projects (which will assist with obtaining as much investment tax credit as possible).
- Analyze recommendations in the context of a new energy landscape, especially increasing load demand, ramping down of investment tax credits, increasing procurement costs due to tariffs, and uncertain energy markets and financing.
- Tie recommendations to ratepayer affordability and equity outcomes.
- Strengthen utility accountability through Oregon Public Utility Commission reforms.

[1] Or. HB 3630, 82nd Leg. Assemb., Reg Sess., § 2 (2023).
[2] Or. HB 2021, 81st Leg. Assemb., Reg. Sess. (2021) (codified at ORS 469A, 757).

I. General Comments

A. No More Studies; Action Needed: The Strategy frequently proposes additional studies in response to known barriers, which is undesirable. Industry, ODOE, and stakeholders already know the bottlenecks, such as delayed or costly interconnection, difficult and slow facility permitting, long interconnection and transmission study timelines, moving targets on tax credits under new federal laws, among others. Additional studies will not bring projects online; only statutory and regulatory reform will. The Strategy should identify direct actions that can be taken by Oregon State government to help achieve the "energy policy objectives" as required under HB 3630, including the 80% Clean Energy Target in just 5 years.

B. Energy Facility Permitting. Utility-scale energy facility permitting remains a primary barrier to achieving state energy policy objectives. While state government has facilitated extensive stakeholder discussion, action planning, and even some rulemaking, it has not resulted in the level of meaningful change necessary to achieve these objectives. And while certain restrictions (like viticultural areas) and opportunities (like agrivoltaics or community solar) deserve facilitation, a broader approach to streamlining energy facility siting is necessary. Without further statutory or regulatory reforms to siting, HB 2021's clean electricity targets will not be met. The Strategy does not appear to even address this barrier directly.

C. Grid Reliability and Electrification: The Strategy risks pushing increased electrification without ensuring that adequate generation resources will be built to accommodate the increase in load related to those actions. Projections also fail to analyze or account for new loads from data centers, artificial intelligence, and building and transportation electrification. If these growth factors are not integrated, the Strategy underestimates demand and jeopardizes reliability.

D. Affordability and Procurement: More attention must be given to a strategy that ensures electric affordability and responsible clean energy procurement. Oregon has suffered from a history of suppressed competition and under-procurement of local resources, delaying billions of dollars of investment in Oregon which would reduce electricity rates and, conversely, has exposed ratepayers to massive rate increases. The Strategy should recommend tangible modifications to drive local procurement and rate affordability such as, for example, compliance penalties for failure to achieve HB 2021 targets.

E. Investment Tax Credits: The Strategy does not appear to account for changes in energy regulation and financing under the One Big Beautiful Bill, which imposes a phase out of 30% investment tax credits. There are billions of dollars of energy infrastructure development at stake, the vast majority of which depend upon achieving facility energization before the end of the decade. The Strategy should be responsive to, and at minimum be informed by, these types of changes in federal policy and energy financing. HB 3630 directs ODOE to consider affordability and incentives, making clear that quantifying ITC impacts is essential.

II. Clean Electricity Strategy Comments

As a utility scale clean energy developer, these comments focus on the "Clean Electricity" section of the Strategy.

A. Clean Electricity Action 1 – Transmission Authority.

Transmission planning is essential but requires significant additional analysis. The transmission authority proposal is problematic as proposed as it may result in more pronounced anti-competitive standards of regulation, delayed agency work, and fails to analyze the relationship with Oregon's largest power provider, the Bonneville Power Administration (BPA). Rather, the Strategy should recommend direct statutory authority that accelerates transmission permitting timelines, aligns state and federal processes, and holds utilities accountable for timely interconnection and procurement decisions.

B. Clean Electricity Action 2 – Construction and Interconnection Study

Action 2 seems to skim over the primary barrier to bringing utility scale clean energy projects online, which is slow permitting and insufficient legislative and state agency action to revise Oregon's land use system for these types of facilities. Projects that have already obtained permits are better positioned to achieve interconnection, construction, and tax credits than projects without permits. While understanding construction and interconnection barriers for permitted facilities may be valuable, the Strategy must also include recommendations for permitting reform as well.

C. Clean Electricity Action 3 – Emerging Technologies

The Strategy should emphasize proven, commercially available resources. Solar, wind, and storage must form the core of Oregon's near-term buildout. A report on emerging technologies should be used to guide the timeline and availability of proven resources, and emerging technologies should not delay deployment of proven technologies. Near-term, proven clean resources can mitigate rising costs, while speculative or prohibited technologies may increase them.

D. Clean Electricity Action 5 – ORESA

NewSun supports continued funding for ORESA. In addition, we recommend that ODOE update its mapping programs to more accurately represent project footprints, such as modifying wind energy facility footprints to identify turbine locations rather than underlying parcels, which presents an inflated visual representation of impact.

E. Clean Electricity Action 6 – OPUC

Oregonians face rising utility rates. HB 3630 requires consideration of affordability, yet the Strategy does not quantify rate impacts as part of its recommendations. The Public Utility Commission and Investor-Owned Utility actions, or inactions, in the energy regulatory space (such as the utility self-build bias in the request for proposal process and undue restrictions on programs that promote competition like PURPA, Community Solar, and Direct Access) are of grave concern and may drive up the price of electricity including to low income ratepayers. HB 2021 requires utilities to demonstrate continual progress toward emissions reductions while maintaining

affordability.[3] The Strategy should include rate impact analysis, require OPUC reforms to curb anticompetitive practices, and fix under-procurement (and out-of-state procurement) that deprives the state of resources and threatens electricity affordability. It should also direct the OPUC to adopt procurement and planning practices that reduce costs, ensure accountability, and support timely deployment of clean generating sources.

III. Cross-Cutting Actions

A. Cross Cutting Action 7 – Human Resources

NewSun supports this action but recommends that ODOE expand this beyond study to include concrete training programs aligned with local and community colleges and add state staffing capacity to avoid permitting bottlenecks.

B. Cross Cutting Action 8 – Federal Policy

ODOE should coordinate with Oregon's delegation to secure ITC continuity, protect transferability/direct pay, mitigate tariff risk, and align state federal permitting and funding timelines.

IV. Conclusion

While the Draft Oregon Energy Strategy outlines an ambitious vision, it does not yet fulfill HB 3630's mandate. We appreciate your consideration of this feedback and stand ready to contribute further as ODOE finalizes the Strategy for submission to the Governor and Legislature.

Sincerely,



Max Yoklic
In-House Counsel
NEWSUN ENERGY

[3] H.B. 2021, 81st Leg. Assemb., Reg. Sess. § 4 (Or. 2021).

Oregon Energy Strategy

Public Comment

NW Alliance for Clean Transportation, 9.16.2025

At the NW Alliance for Clean Transportation, we believe that Oregon should pursue an “All-of-the-Above” strategy to successfully decarbonize our transportation sector. For example, passenger cars and light-duty utility and delivery vehicles may be able to successfully deploy Zero Emission Vehicle (ZEV) engine technologies. Heavier vehicles that must travel longer distances, however, may not be able to successfully use ZEV technology. These heavier-duty fleets (e.g.: Concrete / Aggregate / Ready Mix, Construction, Food & Agriculture, Logging & Forest Products, Refuse & Recycling, as well as many Transit applications) will need a technology that can do the work and go the distance. For now, this means using Renewable Natural Gas (RNG). Once Cummins Engines releases its 15 Liter Hydrogen Internal Combustion Engine, Hydrogen may become a viable alternative for decarbonizing heavy-duty transportation. If interested, the NW Alliance for Clean Transportation can walk fleet managers through our fleet-conversion calculator and help them quickly estimate net cash savings and GHG reductions that follow conversion from Diesel to RNG or Hydrogen. Because we receive regular dues from members, we can do this work for fleets, free of charge.

INEXPENSIVE, ABUNDANT NATURAL GAS GETS THE JOB DONE!

Written By:
Alex Schay – Alliance for Clean Transportation
Justin Loyear – Cummins Inc.

Where transportation fuel is concerned, natural gas is cheap; natural gas is clean, and natural gas can do the work + go the distance.

First, Compressed fossil Natural Gas (CNG) and Renewable Natural Gas (RNG) is extremely inexpensive. Given the cost of the gas molecules themselves, as well as the value from sale of tax and environmental credits that accrue when CNG and RNG are used as transportation fuel, CNG and RNG can cost as little as $0.50 - $1.00 per Diesel Gallon Equivalent (DGE) when a fleet finances, builds, and maintains its own natural gas-fueling station. When fleets retain a 3rd party to finance, build, and maintain a natural gas-fueling station for them, then the cost of fuel climbs to $2.00 - $3.00 per gallon. Fleets see a similar price point when they purchase CNG or RNG from a public-access natural gas-fueling station. As such, fleets can accrue meaningful cash savings by switching from Diesel to natural gas.

Natural gas is clean. For example, Cummins' current line of 9 and 15 Liter engines release 90% fewer particulate and Nitrogen Oxide emissions as compared with the cleanest-burning Diesel engines without need for expensive pollution-control equipment. This has a direct benefit on human health, especially in disadvantaged communities that are close to freeways, ports, and industrial facilities. Combustion of CNG and RNG also releases fewer Greenhouse Gas (GHG) emissions than fossil Diesel or Renewable Diesel. For example, fossil Diesel has a Carbon Intensity (CI) Score of approximately 100, and Renewable Diesel has a CI Score of roughly 40. In contrast, fossil-derived CNG has a CI Score of roughly 80; RNG that comes from a landfill has a CI Score of about 50; RNG that is produced at wastewater treatment plants lowers the CI Score to between 10 and 40, and RNG that comes from a dairy or a confined animal feeding operation (CAFO) will have a CI Score significantly less than zero. Collecting methane and producing RNG at dairies and CAFOs prevents methane from going into the atmosphere, which is far more harmful. In this way, using CNG and RNG as transportation fuel offers meaningful opportunities to improve human health and mitigate the effects of climate change.

Natural gas can do the work. Prior to the introduction of Cummins' X15N natural gas engine, CNG- and RNG-powered trucks could not operate well at weights greater than 82,000 lbs. Following the US commercial introduction of Cummins' X15N engine in 2024, natural gas-powered trucks are operating successfully at 105,000 – 115,000 pounds – even on grades of 6% - 7%! To that end, Alliance Members can point to multiple fleets that are successfully "running heavy" on natural gas.

Natural gas can go the distance. With a 175 DGE

fuel tank, natural gas-fueled trucks have a range that is only slightly less than their Diesel counterparts. For example, if a Diesel-powered tractor has a maximum range of 1,200 miles, its natural gas-fueled counterpart would likely have a range of approximately 900 miles. Also, fueling a natural gas-powered truck at a Fast-fill natural gas-fueling station takes no more time than fueling a Diesel truck.

In this way, CNG and RNG offer the only technologically-viable way to decarbonize heavy-duty transportation.

To be clear, there is nothing wrong with pursuing Zero Emission Vehicle technology where appropriate. For lighter vehicles with less demanding routes, it may make sense to convert to Battery Electric or Hydrogen Fuel Cell technology. When fleets need to move heavier material over greater distances (e.g.: Concrete, agricultural products, logs, or construction materials), natural gas engine technology offers the only way to decarbonize in a manner that makes technological and financial sense.

To learn whether using CNG and RNG could make sense for you, please reach out to Alex Schay from the Alliance for Clean Transportation at aschay@nwalliance.net. Because the Alliance for Clean Transportation receives regular dues from members, including engine manufacturers, fuel providers, gas utilities, and RNG producers, the Alliance can help your fleet estimate net cash savings over time, fleet-conversion payback periods, and GHG reductions, free of charge.

If interested, the Alliance for Clean Transportation, Cummins Engines, Freedom-CNG, and Hexagon Agility Fuel Solutions, will present at Utah Trucking Association Safety Luncheons on March 4th & 5th, 2026. To learn more, please reach out to Jon Boyer from the Utah Trucking Association on: jon@utahtrucking.com.

NW ALLIANCE
FOR CLEAN TRANSPORTATION

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Oregon Department of Energy
Comments Addressing August 14, 2025 Oregon Energy Strategy Draft
energy.strategy@energy.oregon.gov

Director Benner, Edith Beyer and Oregon Energy Department Staff,

NW Natural appreciates the opportunity to comment on the draft Oregon Energy Strategy ("Strategy"). We value ODOE's efforts to develop a framework for Oregon's energy future. However, NW Natural has significant concerns with each of the five pathways that ODOE has identified. If the Strategy is pursued as written, we fear that Oregon's energy system will become less affordable, less reliable, and less resilient while failing to achieve the emissions reduction targets set forth in the Strategy. Most troubling of all, the Strategy appears to partially rest on the assumption that the natural gas distribution system is an obstacle that must be overcome for Oregon to meet its emissions reductions goals. Given the massive increase in electric loads before considering building and vehicle electrification, this approach does not withstand scrutiny and is increasingly out-of-date with the emerging consensus that the electric system simply cannot meet all of these demands with renewable power.

Renewable Northwest, a nonprofit renewable energy advocacy organization, has recently stated that it "support[s] a truly all-of-the-above strategy" and that policymakers should "look away from the zero-sum mindset" where certain types of energy production, such as renewable power, are pursued to the near exclusion of all others.[1] NW Natural agrees with Renewable Northwest that we need "more flexibility and diversity" and that "[w]e need it all and we need it now."[2]

We encourage ODOE to adopt a pragmatic "truly all-of-the-above strategy" that leverages Oregon's existing energy system to the greatest extent possible to achieve affordability, reliability, and resiliency, as well as emissions reductions.

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[1] Executive Director of Renewable Northwest Calls for 'All-of-the-Above' Energy Mix, Warns Against Forcing Out Natural Gas," Clearing Up, (Sept. 2, 2025) (available at: https://www.newsdata.com/clearing_up/clearing_it_up/executive-director-of-renewable-northwest-calls-for-all-of-the-above-energy-mix-warns-against/article_ad75e8fc-0b3a-4fd0-8b11-2e8f08c76cd1.html).
[2] *Id.*

Our comments reflect serious concerns that we have with each of the five pathways that ODOE has identified. Although NW Natural believes these concerns, if left unaddressed, will lead to a Strategy that is ultimately unworkable and counterproductive, we remain hopeful that our feedback can be incorporated into establishing a durable roadmap to how Oregon can meet its energy needs in the future.

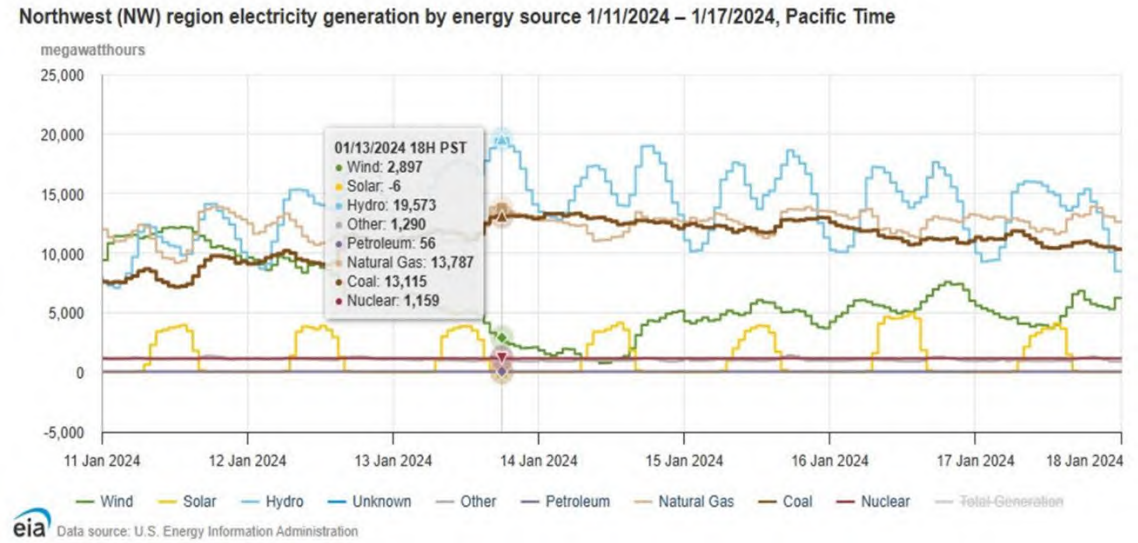
The Energy Efficiency Pathway Should Prioritize Opportunities for the Greatest Energy and Cost Savings

While combined in prior drafts, NW Natural appreciates that ODOE has now separated Electrification and Building Efficiency into separate pathways, recognizing that they are not one and the same. NW Natural agrees with the high degree of value placed on building energy efficiency. The combined benefits in both affordability and emissions reductions make energy efficiency investments a key component of the state's energy future that NW Natural fully supports.

Further, NW Natural agrees that transitioning the large volume of homes in Oregon currently heated by electric baseboard heating to more efficient options will make energy more affordable and reduce emissions. Electric resistance heating is energy intensive and costly to operate. The Northwest Energy Efficiency Alliance's Residential Building Stock Assessment shows that 82% of multi-family housing units in the region use inefficient and expensive baseboard/wall or unit resistance heaters as their primary heating source[3]. As the state considers pathways for reducing greenhouse gas emissions in the buildings sector, we urge ODOE to prioritize replacing electric resistance heating systems in its Strategy.

Additionally, NW Natural would appreciate clarification regarding the Strategy's statement that "energy efficiency policy should prioritize electrification and shifting electricity use to off-peak times and hours of high renewable capacity to ensure alignment."[4] Regarding space heating, NW Natural believes that ODOE should prioritize hybrid (or dual-fuel) heating systems where a heat pump is paired with a natural gas furnace. The natural gas furnace would run during periods of colder weather and peak demand in the winter when there is significant space heating loads on the system, and renewable capacity is very limited. For instance, the following chart shows the electric grid mix during the recent 2024 cold snap that lasted for several days:

[3] 2022-Residential-Building-Stock-Assessment.pdf
[4] Draft Strategy at 20.



As shown above, there is a large amount of coal and natural gas generation used to meet the region's demand during this time. Moreover, the load that NW Natural serves cannot be met by somehow shifting it into an "off-peak" time, if that was even technically feasible. On the coldest day of a recent storm, January 13, 2024, *NW Natural delivered 55% more energy to its Oregon customers than PGE and PacifiCorp combined.* In fact, during that peak hour, NW Natural's system delivered more energy than Bonneville Power Administration's system.

Note that these conditions are not solely confined to the coldest days of the year. In its 2023 Clean Energy Plan ("CEP")/Integrated Resource Plan Update, PGE states that "[t]hermal generation is concentrated in the winter when non-emitting energy is scarce" and in describing how it plans to meet load in December 2030, PGE explains that "thermal generation is deployed as PGE non-emitting generation is volatile and scarce while market premiums for clean energy are high."[5] Utilizing natural gas furnaces during this time mitigates the stress on the electric system to serve space heating load.

Hybrid systems also address measurable, known performance challenges associated with how heat pumps operate, including installation complexities, consumer temperature preferences and less efficient operation overall during colder weather.[6] The majority of air source heat pumps default to resistance electric heat when temperatures exceed a set point. This results in increased demand and pull on the electric grid at its most vulnerable peak time. This energy system challenge is exacerbated when equipment does not operate perfectly, something that is

[5] 2023 CEP/IRP Update, PGE, at 145 and 151 (available at: https://assets.ctfassets.net/416ywc1laqmd/qCD1yfUnImoTSTZ3b7zQX/2082c14f426c1d8d3e91605f8690c391/Chapter_6._Resource_plan.pdf).

[6] Regional Technical Forum, Air Source Heat Pump Measures, March 2025, available at: https://nwcouncil.app.box.com/v/Mar2025RTF-ASHPReviewPPT

known and documented concern by regional energy system experts.[7][8] Hybrid systems address these challenges by leveraging the use of the existing natural gas system. To make this solution accessible to all Oregonians, rather than a privilege of the affluent, supportive policy and real valuation of the benefit to the electric system is essential. A great example of the success of such a policy and its implementation can be found in the model partnership where Quebec's major electric utility (Hydro Quebec) and the major natural gas utility (Energir) collaborated on hybrid heating systems that leveraged the existing energy system, mitigating the need for additional infrastructure.[9] Fortis, a gas and electric utility in Canada, is also implementing a successful hybrid program.

***Recommendation*:**

1. Revise the energy efficiency pathway to explicitly make the replacement of electric resistance heating a top priority. By taking this step, Oregon can improve the energy efficiency of its existing building stock relatively quickly, while lowering energy bills to lower income or disadvantaged ratepayers typically served by electric resistance heat.
2. Further clarify and define the value of hybrid systems and recommend supportive policy that recognizes the capacity benefits that the existing natural gas distribution system can provide to the electric system, looking to the successful example of policy design and implementation in the examples of Hydro Quebec or Fortis.

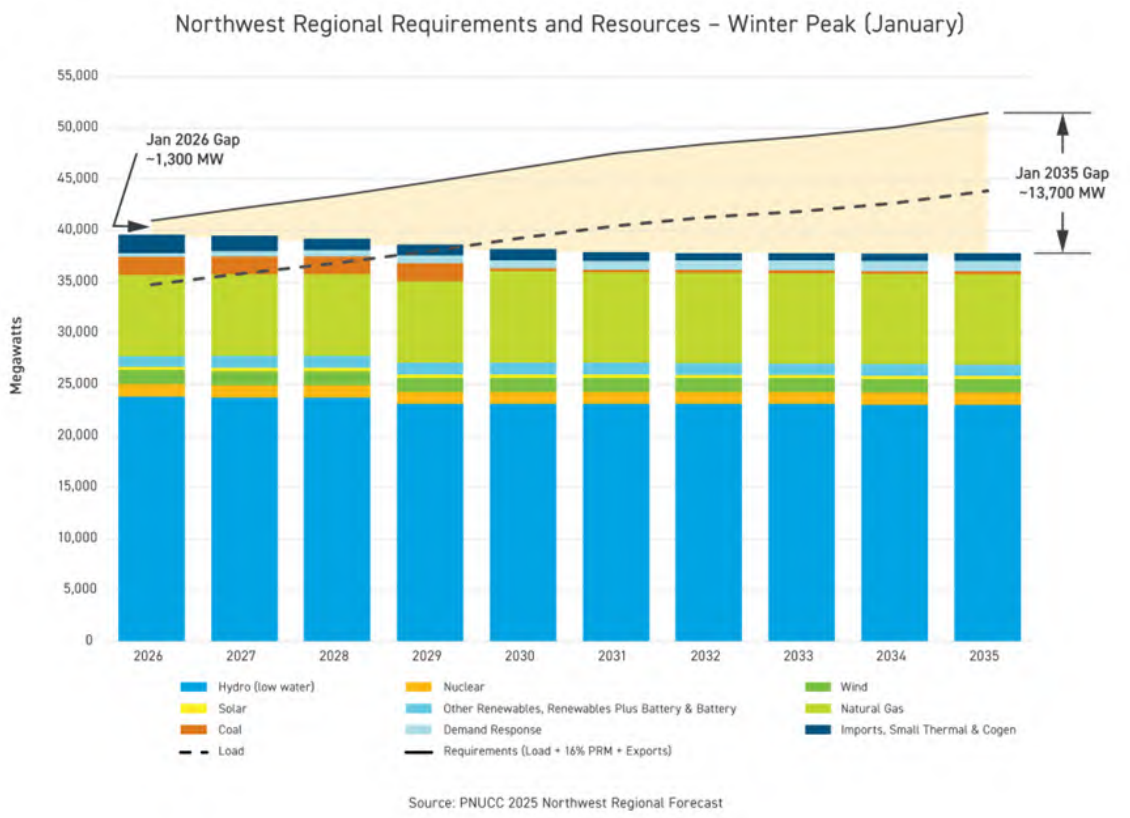
The Electrification Pathway Ignores the Regional Adequacy Crisis

Resource adequacy is a growing concern for the regional power system. According to the Pacific Northwest Utilities Conference Committee ("PNUCC") annual power loads and resource study, the Pacific Northwest is facing winter peak power deficits throughout the next decade that increase to approximately 13,700 MW in 2035, as shown below:

[7] Bonneville Power Administration Heat Pump Field Study- https://www.bpa.gov/-/media/Aep/energy-efficiency/momentum-savings/2019-bpa-heat-pump-field-study-final-report.pdf

[8] Regional Technical Forum HVAC sub Committee - https://rtf.nwcouncil.org/subcommittee/residential-hvac/

[9] Energir - Hydro Quebec partnership- https://energir.com/en/about/media/news/partenariat-inedit-hydro-quebec-et-energir



NW Natural's system meets 90% of the energy needs for its residential space and water heat customers. To investigate this issue further, NW Natural formed an advisory group as part of its Integrated Resource Plan. The advisory group consisted of a former Bonneville Power Administration administrator, the former CEO of Seattle City Light, the former CEO of Pacific Power, and a former chair of the Public Utility Commission of Oregon. Cumulatively, the advisory group had over 100 years of combined energy experience in the Pacific Northwest. They evaluated several electric supply scenarios, including where the system evolves consistent with "current trends" and permitting timelines to an "aggressive improvement" scenario where the electric system quickly develops new resources due to technological advances leading to declining costs, as well as accelerated permitting timelines.

The advisory group found each scenario "to be overly optimistic by assuming base assumptions that would result in electrification of current gas loads being easier, faster and cheaper than [their] own experience and judgment."[10] They concluded that the "electric future transition will be harder, slower and more expensive than the scenarios we were presented even without

[10] Statement of the Independent Advisory Group Regarding NW Natural's Integrated Resource Plan and Evaluation of Electrification of Current Gas Loads (IRP), 2025 NW Natural Appendices, at L.2 (available at: https://www.nwnatural.com/about-us/rates-and-regulations/integrated-resource-plan Statement of the Advisory Group).

electrifying current natural gas use."[11] It also is the advisory group's "view that the electric system will be greatly challenged to meet the existing policy prescriptions and planned load growth even without taking into account electrification of the natural gas system."[12]

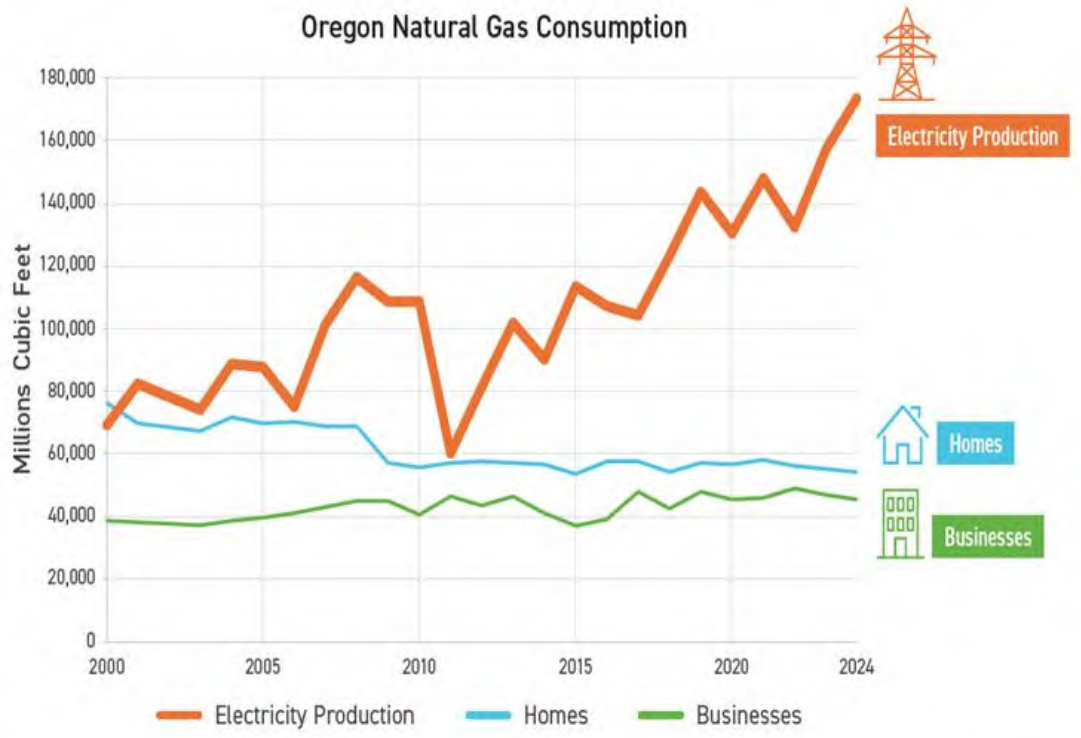
These vulnerabilities are becoming commonly known. A recent Oregon Public Broadcasting article succinctly described the conditions on the power grid during the January 2024 cold snap:

> During a winter storm in January 2024, for example, the Northwest barely had enough power to meet demand as homeowners cranked up electric heaters and energy prices surged to more than $1,000 per megawatt-hour, or 18 times higher than the usual price. Power lines were so congested that owners of the transmission network made an extra $100 million selling access to the highest bidder. Multiple utilities were operating in states of emergency during the storm, preparing for rotating power outages.[13]

We cannot stress enough that these were the conditions that existed on the power grid during a time where NW Natural delivered 55% more energy than Oregon's two largest electric utilities combined, or the equivalent energy of 11 nuclear power plants.

Importantly, this resource adequacy problem exists even though the dependence on natural gas for power generation as a source of firm, dispatchable power has grown significantly. The following chart shows the increase in Oregon's natural gas use for power generation since 2000, whereas direct gas use for homes and businesses has remained relatively flat, despite continued customer growth:

[11] *Id.*
[12] *Id.*
[13] Tony Schnick and Monica Samayoa, Higher prices, rolling blackouts: The Northwest is bracing for the effects of a lagging green energy push, Oregon Public Broadcasting, May 13, 2025 (available at: https://www.opb.org/article/2025/05/13/rolling-blackouts-oregon-washington-power-grid/).



Energy Information Administration 2024 natural gas consumption for electric and natural gas utilities in Oregon.

Therefore, electrification is not a cure-all that is certain to reduce natural gas use as the Strategy suggests; rather, in many instances, especially in winter where non-emitting generation is scarce, it would only shift the use of natural gas to less efficient power production. Consequently, the Strategy must better recognize: 1) the capacity value of the existing natural gas distribution system that cannot be replaced with electricity, and 2) the risk that electrification only shifts use and emissions from the natural gas system to the electric system and does not reduce them. In fact, moving from a gas furnace to an underperforming heat pump that relies on electric resistance would require more fossil fuel use for the electric system in winter, not less.

Recommendation:

1. Assess policy recommendations through lens of regional system adequacy, considering the peak needs of the region and adjusting recommendations to reflect regional grid limitations.
2. Better incorporate hybrid heating solutions that recognize the value of the existing natural gas distribution system and gas heating and long-duration storage to supply energy when the electric system is constrained.

The Electrification and Clean Electricity Pathways Should be Re-evaluated

In developing its Strategy, ODOE must first consider what the state can realistically and safely achieve. In other words, ODOE should first evaluate the costs and benefits of achieving different energy policy outcomes before deciding on the ones that it believes makes sense for Oregon. Importantly, HB 3630 does not define Oregon's "energy policy objectives," and as such ODOE cannot simply insert its own policy objectives, at least without conducting an analysis that reasonably supports what these objectives should be. Without this foundational analysis, the Strategy risks becoming an irrelevant exercise if the energy policy objectives cannot be achieved without sacrificing affordability, resiliency, or reliability.

Instead of conducting this analysis, however, ODOE's strategy approach assumes that Oregon will achieve an 80% reduction in greenhouse gas emissions by 2050, including 100% zero emission retail electricity by 2040. This approach is fundamentally flawed because it eliminates the important opportunity to evaluate whether the goals themselves are practical or feasible, especially given affordability, resiliency, and reliability concerns, as well as known challenges to infrastructure siting and build-out.

This foundational analysis is even more important now that there have been significant policy changes at both the federal and state level. Many of the Strategy's recommendations rely on increasing funding for various initiatives that ODOE believes would achieve certain energy policy outcomes, yet these funding recommendations appear to ignore the portion of the Strategy that states "rapid and aggressive federal policy shifts have reduced federal support, " "state budget constraints . . . have reduced state resources available," and "[m]any programs that support achieving the presumed state's energy goals are on pause or have an uncertain funding future."[14]

In the face of these known funding constraints, we don't believe the answer is o recommend even more programs to fund, as the Strategy currently does. Rather, the answer is to calibrate the Strategy to fit this reality by first conducting an analysis of what is realistically achievable given these limitations. As part of this analysis, ODOE must also consider the cost of additional regulations it would impose on Oregonians. At the very least, the Strategy should explain how these federal and state funding constraints were incorporated into its modeling, including how they impact affordability, reliability, and emissions reductions. Ignoring these policy changes, and what they actually mean to meeting the state's energy policy objectives renders the Strategy, at best, an incomplete document for policymakers to implement and, at worst, a completely irrelevant one.

[14] Draft Strategy at 4.

Recommendation: In addition to conducting new pathways modeling that incorporates federal changes and state economic and affordability challenges, we recommend evaluating state energy policy objectives current and anticipated load demands, funding sources, and electricity supply outlook. NW Natural suggests using this review to inform prioritization and timing of pathway recommendations.[15]

The Low Carbon Fuels Pathway Must Have a Greater Role for Alternative Fuels

The Low Carbon Fuels Pathway is overly conservative in assessing the near-term value of low carbon gaseous fuel alternatives. Hydrogen and RNG are treated as niche or long-term solutions, not as primary decarbonization pathways in the next decade. The lack of supportive policies for gaseous renewables is the primary impediment to their greater dispatch. The Strategy should set performance targets for fuels that facilitate the most cost-effective and innovative path forward to meet Oregon's energy needs.

For its 2025 Integrated Resource Plan, NW Natural contracted with ICF, a global advisory and technology services firm, to evaluate low carbon alternative fuels. ICF concluded that the findings in the report "support the Utilities' efforts to integrate these technologies into their IRP filings and advance their clean energy goals," noting that "RNG shows significant potential due to its compatibility with existing natural gas infrastructure."[16] ICF also states that "hydrogen emerges as a promising clean fuel, especially with advancements in electrolysis," and that "synthetic methane offers a sustainable energy solution," although "[t]echnological advancements and policy support are crucial for its future viability."[17]

Relying on this analysis, NW Natural's IRP found that a strategy that primarily relies on alternative fuels and energy efficiency has a far lower overall cost to Oregonians than a strategy that relies on building electrification. In fact, the cost of building electrification is twice as much compared to NW Natural's preferred resource strategy that relies on energy efficiency and alternative fuels in large part.[18] On a net present value basis, this difference amounts to approximately $12 billion and results in the state still achieving its CPP and HB 2021 emissions reductions goals.

NW Natural's IRP results, including the ICF study, shows the potential of low carbon alternative fuels to offer meaningful emissions reductions outside of what the Strategy refers to as "hard-

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[15] Technical Report for the Oregon Energy Strategy July 2025

[16] ICF Alternative Fuels Analysis, 2025 NW Natural Appendices, at E2 (available at: https://www.nwnatural.com/about-us/rates-and-regulations/integrated-resource-plan).

[17] *Id.*

[18] Figure 1.17: Net Present Value of Annualized Costs for Direct Customer Equipment Costs and Utility Costs by Scenario, 2025 NW Natural IRP, (available at: https://www.nwnatural.com/about-us/rates-and-regulations/integrated-resource-plan).

to-electrify sectors" (heavy industry, aviation, maritime, and heavy-duty transport). These alternative fuels can also help address the resource adequacy crisis that, as explained above, is forecasted to only get worse in the coming years. However, the development of these alternative fuels would benefit from policy support to better realize the potential of low carbon fuel pathways as a critical emissions reduction resource.

Recommendation: Revisit hydrogen and RNG as near-term solutions for meeting Oregon energy needs as storable and dispatchable decarbonized resources. Specifically, the Strategy should recognize opportunities for near-term development for regional clean fuels, inclusive of transition resources, including an established cost recovery framework for investor-owned utilities that use such fuels to reduce emissions. This could provide greater support to regional utility procurement of low and no carbon fuels.

The Resiliency Pathway is Insufficient and Places Oregon at Risk

We appreciate the recognition of the importance of energy resilience in the Oregon Energy Strategy. However, focusing solely on electrification for space heating, with a very limited role for the natural gas system, decreases resiliency and makes the energy system more vulnerable to disruptions by almost entirely relying on a single, mostly above-ground system that is prone to outages during times of peak demand. During the January 2024 cold snap, for example, approximately 700,000 Oregonians lost power, whereas just 266 of NW Natural's customers lost natural gas service, demonstrating the resiliency of NW Natural's system.

Therefore, having the electric system meet nearly all of Oregon's space heating and transportation needs threatens our region's resiliency. The natural gas distribution system provides safe, affordable, and reliable capacity directly to the homes of Oregonians during all times of year and is essential to Oregon's overall energy system. Short-term battery storage is in now realistic way a substitute for this capacity, especially during multi-day cold snaps.

Recommendation: Broaden the field of recognized resiliency assets to include gas appliances, like water heaters, cooktops and fireplaces, that can provide energy during outages, as well as natural gas generators that can reliably deliver electricity for household and business needs during short and long term outages, where battery and other electricity grid dependent solutions fail.

The Resiliency Pathway Must Support Affordability

The Strategy, especially the Resiliency Pathway, does not fully incorporate affordability. The Energy Wallet analysis, for instance, is already out of date. Recent changes to federal law have eliminated a number of subsidies related to renewable energy production and heat pump installation. Failing to incorporate these changes results in an affordability analysis that is simply not realistic. NW Natural understands that at some point modeling must stop. But for the Strategy to have any relevance, it must incorporate these important changes to federal law. Otherwise, policymakers will not have an accurate understanding of what the Strategy will cost, likely leading to decisions that increase costs to Oregonians more than the Strategy anticipates, resulting in critical investments not being made and leading to a less resilient energy system.

In addition to incorporating these changes, a more robust economic analysis is essential to assess viability of the Strategy, prioritize the recommended actions, and understand potential cost impacts on households and businesses. For example, an important limitation of the Energy Wallet analysis is the accuracy and reliability of the data used, as it can be influenced by various external factors and assumptions. Additionally, the modeling approach does not fully capture the complexities and interdependencies of the energy system. There is a risk of underestimating the impact of emerging technologies and market dynamics. Finally, the Strategy may face challenges in balancing short-term goals with long-term sustainability objectives. For example, costs associated with building and transportation electrification assume public subsidies and incentives that either do not have reliable funding or, in the case of federal subsidies, have been eliminated.

Recommendation: The Energy Wallet analysis could be valuable for assessing household energy costs and savings under different policy scenarios. To enhance its accuracy and policy relevance, the following improvements are recommended:

1. Incorporate Granular Household Data: Use region-specific and demographic-specific energy consumption data (urban vs. rural, income tiers, housing types) to better reflect real-world variations. Current assessment already highlights that, for some households, heat pump technology is not the least cost solution.
2. Account for Behavioral and Adoption Patterns: Model consumer adoption rates for EVs, heat pumps, and rooftop solar, including rebound effects from efficiency upgrades.
3. Include Lifecycle and Maintenance Costs: Expand beyond upfront costs to include maintenance, replacement cycles, and financing terms for a full cost-of-ownership perspective.

4. Integrate Climate and Weather Sensitivity: Factor in climate projections and extreme weather scenarios to estimate changes in heating/cooling demand and resilience-related costs.
5. Add access metrics to assess access to incentives to ensure the analysis reflects impacts on low-income and historically underserved communities.
6. Validate with Real-World Data: Calibrate assumptions using actual utility billing data and pilot program results for greater accuracy.

Implementing these enhancements to the Energy Wallet analysis will improve the precision of household cost projections and strengthen policy decisions by reflecting real-world conditions.

In closing, after participating in this effort for over a year through work groups, we remain appreciative of the efforts that ODOE undertook to amplify a diverse set of voices and to integrate many perspectives. However NW Natural cannot endorse the draft in its current state. While the draft Strategy is well-intentioned, it lacks important analysis and actionable guidance needed to support Oregon's energy future.

As detailed above, NW Natural has specific recommendations and has included additional resources in the Appendix. We respectfully request that ODOE supplement the modeling work, recognize limitations of relying on one system or one technology, strengthen critical resilience planning, revisit cost impacts and ensure that technical expertise is meaningfully integrated into future iterations.

Thank you for considering these comments.

Sincerely,



Kim Rush

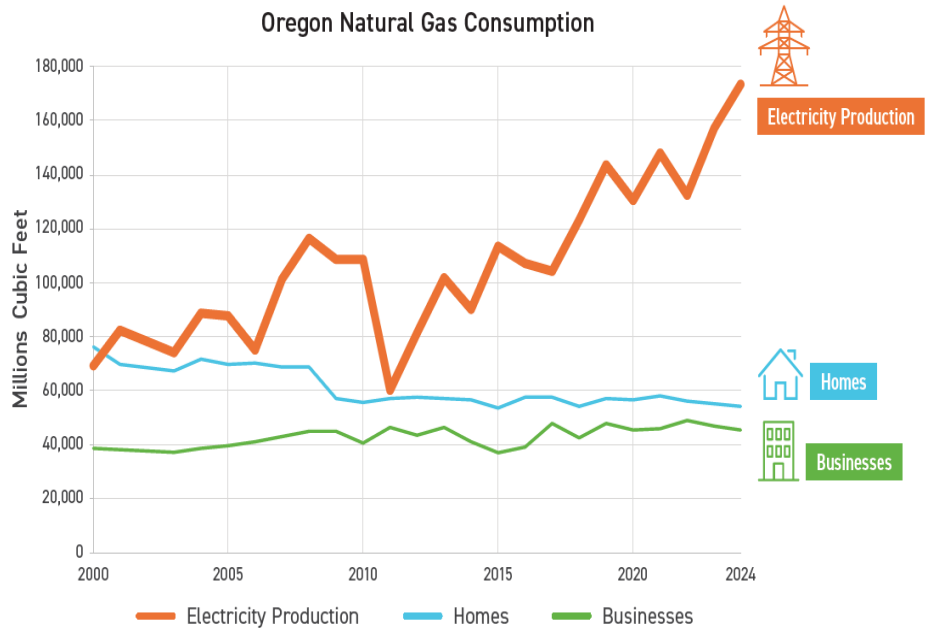
President, NW Natural

Appendix

NW Natural System Context Relevant to Electrification Pathways

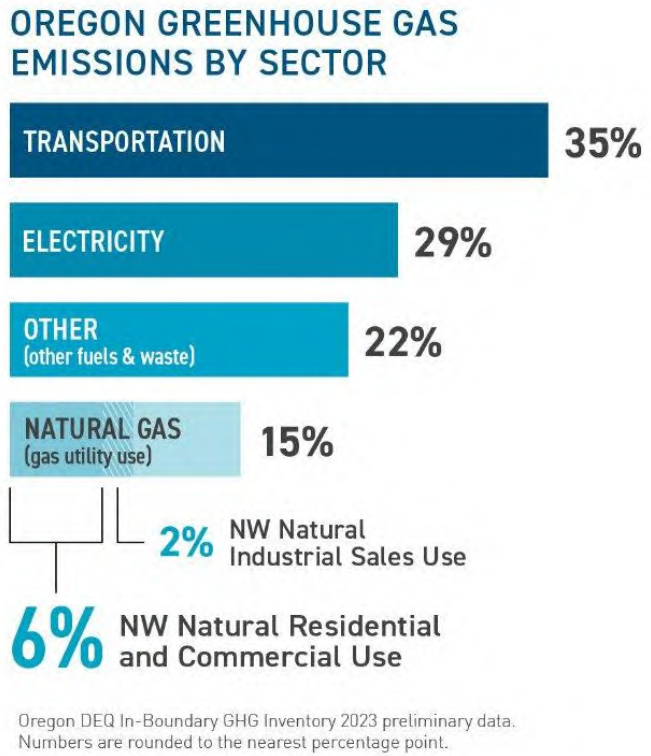
Sept. 2025

NW Natural's System



Energy Information Administration 2024 natural gas consumption for electric and natural gas utilities in Oregon.

- NW Natural's system delivers **50% more energy** than any other utility in Oregon over the course of a year
- Despite 100% clean electricity mandates passed in 2021, Oregon's **electric system relies on more natural gas** than all the state's gas utilities deliver to their customers in aggregate
- Policies that push gas use in homes and businesses to electric heating would **increase electric fossil fuel use in winter**



Oregon DEQ In-Boundary GHG Inventory 2023 preliminary data. Numbers are rounded to the nearest percentage point.

Gas Storage: Reliability & Cost Advantage

NW Natural®

U.S. Energy Storage Capacity and Daily Deliverability by Resource

Based on Maximum Nameplate and Monthly Capacity Factor through January 2025

Resource	Nameplate Capacity (GW)	Avg Hours/Day	GWh/Day
Pumped Hydro	23	4	93.1
Battery	27	2	53.4
Total	50		146.5

Natural Gas Storage	Bcf/Day	GWh/Day
Peak* Day Output on 1/21/2025	69.4	21,087.70

** Peak day output on January 21, 2025, is the second highest storage withdrawal reported by S&P Global. Subject to revision.*

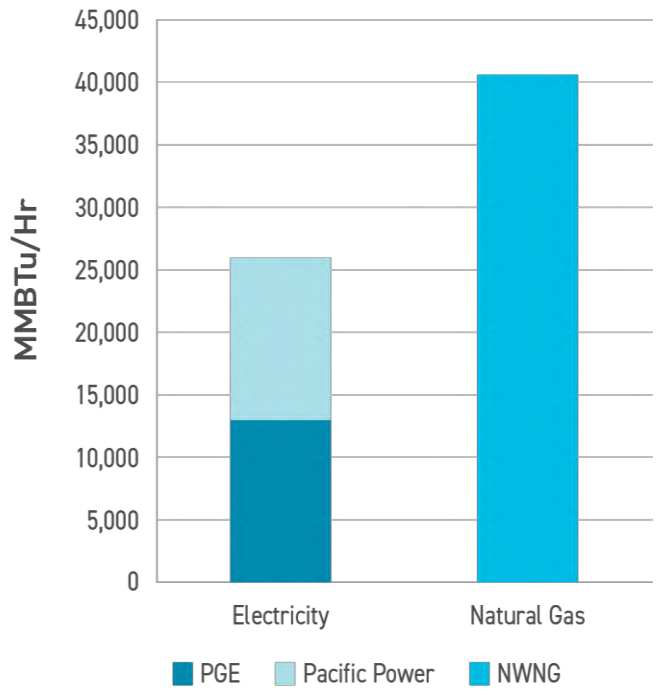
Table: American Gas Association • Source: Energy Information Administration, S&P Global Commodity Insights © 2025 by S&P Global, Inc. • Created with Datawrapper

- U.S. natural gas storage output on Jan. 21, 2025, equated to nearly 21,100 GWh per day
- To put gas storage into perspective, it's **144 times** combined output from all existing battery and pumped hydro facilities nationwide
- **NW Natural Storage: 21 billion cubic feet**
- On a peak day, NWN system gets about **half its gas** from storage
- **Storage has helped affordability** – buy when prices are lower to use when prices are higher
- NW Natural customers have received **$280M in bill credits** over the last two decades due to storage optimization

Our System on Peak

Peak Performance

NWN delivered 55% more energy than PGE and Pacific Power combined.[1]

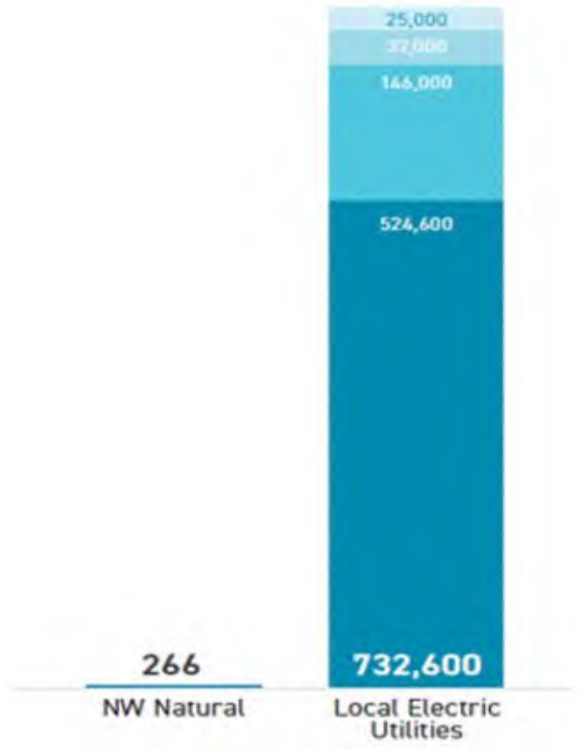


Mitigating Risks

- NWN system delivered the equivalent energy of 11 nuclear power plants (12 GW) on that coldest winter storm hour.
- Two energy systems help communities hedge against risks. One above ground and one below ground - offering heating options that can be leaned on in a power outage.
- "Rolling blackouts narrowly avoided in Jan 2024 when winter storm caused widespread outages in the Willamette Valley which dramatically reduced regional load."[2]

Diversification is Critical

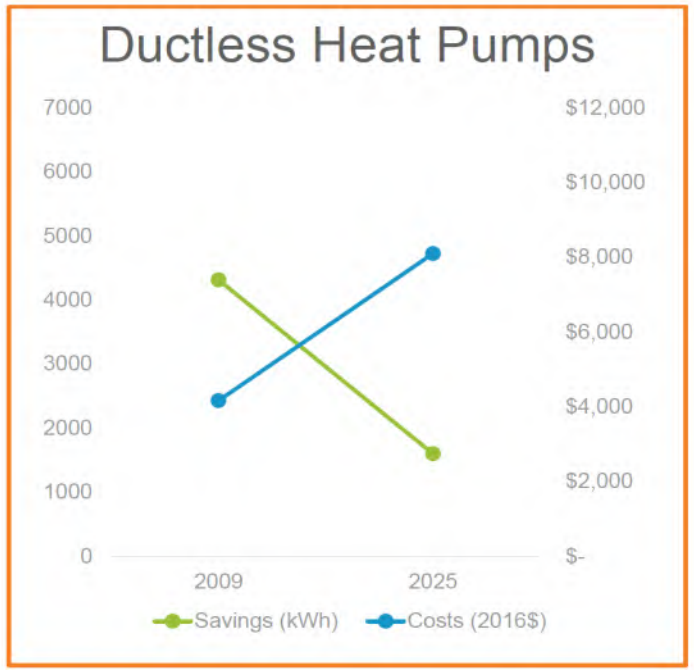
Jan. 2024 Storm Outages

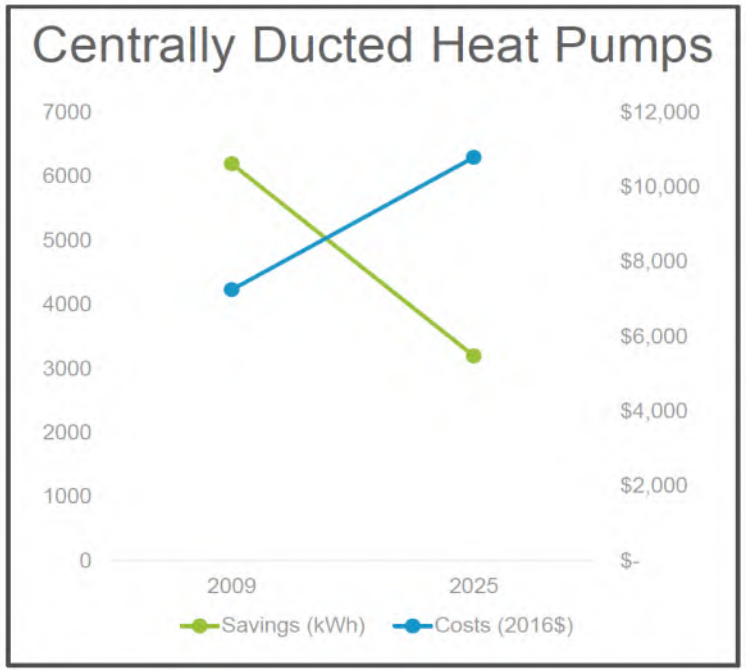


[1] Source: ICF using U.S. Energy Information Administration real time operating grid data from January 13, 2024.
[2] Source: Washington State Environment, Energy and Technology Committee Schedules, Agendas, and Documents, Clark PUD: Supply, Peak Load and Resource Adequacy Snapshot.

Heat Pump Underperformance

- A common misperception is that heat pumps perform efficiently except in colder climates.
- However, underperformance is occurring in Pacific NW temperatures for a variety of reasons, including weather, installation complexities, and consumer temperature preferences.
- Underperformance creates greater reliance on electric resistance, increasing serious electric capacity constraints and consumer costs.
- Hybrid systems eliminate the negative impacts of greater electric resistance use (lowering costs, reliability risks and gas consumption).





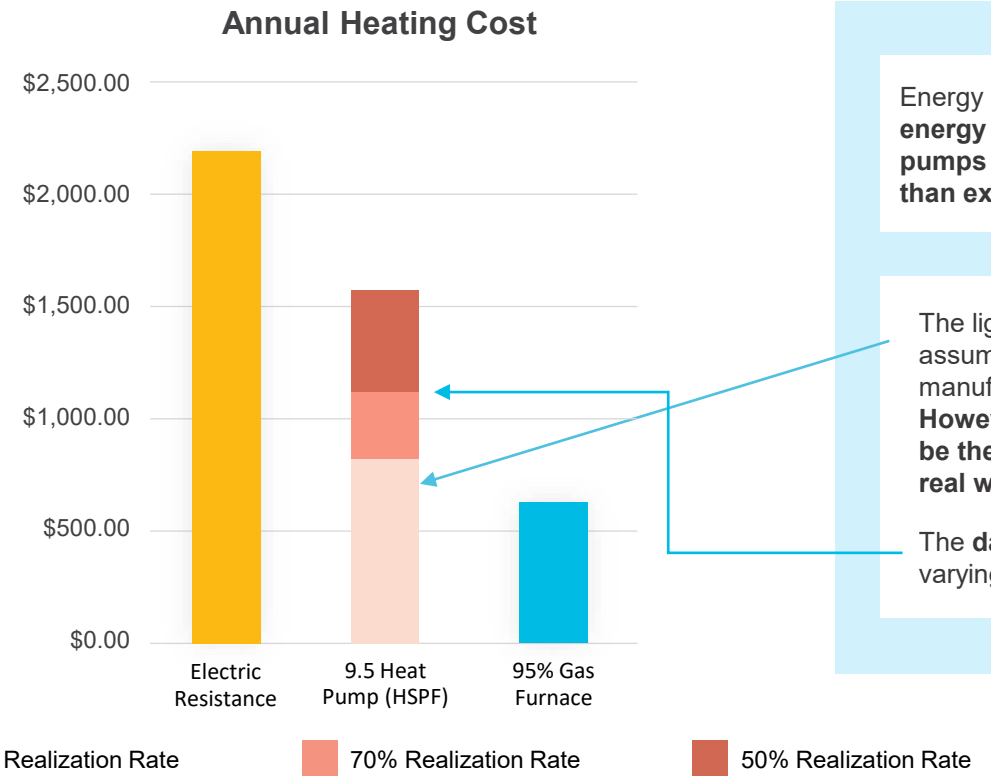
Source: NEEA 2025 Efficiency Exchange, "Shaping Future Home HVAC Efficiency and DR Potential with Today's Heat Pump Installations," May 2025

HP Underperformance Implications

New construction residential cost comparison

PERCEPTION:
It's cheaper to heat your home with an electric pump.

CORRECTION:
Under a variety of operating assumptions, for most of Oregon customers, gas heating is less expensive than a high efficiency heat pump, even under perfect heat pump performance assumptions.



Energy Trust results show that **energy savings achieved from heat pumps can be 30% to 50% lower than expectations.**

The light red bar show costs assuming a heat pump achieves its manufacturer "perfect" efficiency. **However, this has shown to not be the case for heat pumps in real world conditions.**[1]

The **darker red bars** show costs at varying levels of realized savings.

Sources: Energy Trust and NWPPC data. Blended PGE, PacifiCorp rates, 88% customer overlap in Oregon.

Our average residential customer is still paying about the same amount for gas service today as 20 years ago

Single Family New Construction Home Compare - Data/Sources

https://nwncompare.com/ (Cost Calculator using NEEA Regional Building Stock data and recent utility rates.)

Variable	Input
Zip code	97204
Fuel Type	Electric (HP)
Energy Provider	PGE/PacifiCorp
Home Size (SF)	* 2,138
Year Built (New Construction)	2024
Home Type	Single Family
Primary Foundation	* Crawlspace
Equipment Type	Central HP
Ductless HP efficiency	* 10.8 (from RBSA)

Table: NEEA 2022 Regional Building Stock Assessment averages for the NWN territory.

Oregon	2025 Rates
NW Natural	$1.33/therm
Portland General	$0.1865/kWh
Pacific Power	$0.14190/kWh

Definitions:
- HSPF: Heating Seasonal Performance Factor
- Realization Rate: Achieved Savings / Predicted Savings

Energy Trust of Oregon's Heat Pump Realization Rate Analysis:
- "Summary of Recurve Analysis of Ducted Heat Pump Conversion Impacts," March 2020
- "Billing Analysis of Residential Ductless Heat Pump Installations," August 2024

Additional Data on Heat Pump Performance Issues: "Air Source Heat Pump Measures, RTF, NWPPC, March 2025

NWGA
Northwest Gas Association

1914 Willamette Falls Drive, Suite 260
West Linn, Oregon 97068
t:503.344.6637 • www.nwga.org

DATE: September 22, 2025

TO: Oregon Department of Energy
Janine Benner janine.benner@energy.oregon.gov

FROM: Northwest Gas Association

RE: Final Comments on Oregon Energy Strategy

Dear Director Benner:

The Northwest Gas Association (NWGA) represents natural gas utilities and transmission pipelines serving warmth and comfort to over 800,000 households and productive energy to 86,000 businesses, institutions, and industries in Oregon. We respectfully submit the following feedback regarding the Oregon Energy Strategy (OES). Our comments are intended to enhance the OES and to contribute to a comprehensive, responsible, and sustainable energy strategy for Oregon's future.

As the Oregon Department of Energy (ODOE) prepares to bring recommendations to the Oregon State Legislature, NWGA submits the following feedback on the OES:

1. **Energy decarbonization must be balanced with energy availability and energy affordability.** Unreliable, unaffordable energy risks public support for decarbonized energy.
2. **A successful strategy must incorporate a clear-eyed view of what is doable, of the current realities of the energy delivery system.** Despite the thoroughly inclusive process, we believe the OES fails to address critical elements of responsible energy system planning, which include cost, reliability, and safety impacts.
3. **Assumptions that electrification of natural gas heating loads (along with existing and projected increases in electric demand) can be reliably met in a fast, affordable, and decarbonized manner should be viewed with skepticism.** Please see the four-member independent Advisory Group (AG) analysis on the elements of NW Natural's IRP (IRP) attached along with our comments. The IRP examined different scenarios related to electrification of natural gas loads currently served by NW Natural. The AG's charge was to focus on key assumptions that would affect cost, reliability and carbon emissions on the electric system in the Pacific Northwest (PNW) and particularly those electric systems that overlap with NW Natural's service territory.
4. **Assumptions regarding the growth, cost, and incentives for renewable energy should be reevaluated, and the OES should incorporate the impacts of recently passed Oregon policy regarding energy affordability.** The OES assumptions regarding renewable energy sources are already outdated as the OES planning began prior to the changes in Federal renewable energy incentives. The Legislature should be fully informed of the most recent federal policy changes as it makes decisions regarding energy that impact the public health, safety, and affordability of Oregonians, and how the body's recently passed policy regarding energy affordability impacts investments in the energy system. According to the OES, ODOE

recommends updating the plan every four years, meaning the Legislature and the public won't see an updated draft until such time.

In May of this year, we submitted to ODOE that NWGA has been engaged in an executive-led, regional gas-electric coordination initiative (Initiative) with the Pacific Northwest Utilities Conference Committee (PNUCC) over the past year. One of the work streams of the Initiative was a 3rd Party review conducted by Guidehouse of nineteen different regional energy retrospective reports, forecasts and decarbonization studies.[1] The Guidehouse report is the analytical foundation for the following observations relating to regional energy adequacy.

The region is *currently* dangerously close to experiencing significant energy supply disruptions, which could lead to blackouts during peak demand events.

- Energy emergencies during extreme weather events are increasing in frequency and threatening reliability. The multi-day cold snap in January 2024 is the most recent in a string of examples.
- Meeting peak demand for energy during the multi-day cold snap in January 2024 required execution of emergency operations and procedures, careful coordination between natural gas and electricity providers, customer response to energy conservation requests, and electricity imported from the Desert Southwest and the Rockies.
- The Western Power Pool (WPP) found peak load in many Balancing Authority Areas (BAA) during January 12-14, 2024 was consistently over historical peaks or at or near peak load for an extended period. The Pacific Northwest relied on nearly 5,000 MWs on average of electricity imports to maintain system reliability during the cold snap.[2]
- The region's electric and natural gas delivery systems operate at their limits during severe weather, with no excess capacity to serve increasing peak loads. When combined with unplanned infrastructure curtailments and depleted underground storage inventories, prolonged events test the system. While the Pacific Northwest has endured cold weather events by rapid emergency response coordination, these situations demonstrate how close the region is to exceeding deliverability capacity.[3]

Demand for energy in the Pacific Northwest is projected to surge.

- The Pacific Northwest Utilities Conference Committee (PNUCC) projected demand for electricity in the Pacific Northwest could grow by over 30% in the next decade. This surge of about 7,800 average megawatts equates to enough electricity to power seven cities the size of Seattle. The increase in demand is attributed to the rapid expansion of data centers, high-tech manufacturing, and the trend toward electrification.
- PNUCC's 2025 Northwest Regional Forecast shows the region's utilities may need as much as 30 GW nameplate capacity of new resources in the next 10 years to meet this surge in demand.[4]
- The Western Electricity Coordinating Council's Assessment shows current resource plans across the entire Western Interconnection includes 172 gigawatts of new generation capacity in the next ten years—more than double the generation capacity added in the

[1] PNUCC/NWGA, 2025 Guidehouse Literature Review
[2] Western Power Pool, Assessment of January 2024 Cold Weather Event
[3] NWGA, 2024 Northwest Gas Market Outlook
[4] PNUCC, 2025 Regional Forecast

last decade. Never has generation been built in the West at the rate called for in many current resource plans.[5]

- Overall demand for natural gas in the Pacific Northwest is forecasted to grow, as demand for electricity grows. However, existing pipeline capacity utilization is already maxed during peak events. Meeting this new energy demand can't be accomplished without adding new delivery capacity including natural gas pipelines, electric transmission and storage in both systems.
- Resource adequacy remains a critical risk—planned resources may be insufficient to meet future demand.

Regional assessments rely on capacity additions at risk of not being deployed.

- Siloed planning in gas and electric systems has a detrimental effect on overall energy reliability.[6]
- Energy system failures are a public health issue. They also result in higher costs for consumers stemming from high market prices and the acquisition of emergency or unplanned capacity.[7] These unnecessary cost increases make investment in the energy transition even more expensive for ratepayers.
- According to WECC, between 2018 and 2023, approximately 76% of the proposed resource additions came online in the year scheduled. In 2023, only 53% of the new generation resources scheduled to come online that year actually came online; the rest were delayed or cancelled.
- Risks to planned resource additions include supply chain disruptions, uncertainty in the interconnection process, siting delays and increased costs. Each of those barriers introduces significant risks to reliability.
- Finally, in 2027 the Woodfibre LNG export facility in BC will come online and will require a significant amount of gas capacity, which will further strain the region's energy system capacity until any new contemplated capacity becomes available.[8]

The natural gas system delivers more than twice as much of the energy consumed as the grid during the coldest days of the year, as well as fueling a significant share of electricity generation at the same time. Because natural gas is the region's second-largest power source after hydro[9], its role will persist as electricity demand rises, and new generating resources are developed.

While dependence on natural gas for power generation has never been higher[10], we are concerned that the OES undervalues the contributions of the gas system to energy adequacy during severe weather events. The OES must consider and embrace the value of the heating loads the gas system serves that the grid doesn't have to.

Our region is demanding more from the existing constrained pipeline capacity network for direct heat as well as fuel to generate electricity. Increasing interdependence between natural gas and electricity providers demands greater awareness and enhanced coordination to mitigate risks to the region's energy system.[11] As demonstrated by the Gas-Electric Coordination

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[5] Western Electricity Coordinating Council, 2024 Western Assessment of Resource Adequacy
[6] PNUCC/NWGA, 2025 Guidehouse Literature Review, Page 8
[7] Joint Utility Comment Letter – Resource Adequacy, October 2024
[8] NWGA, 2024 Pacific Northwest Gas Market Outlook
[9] Northwest Power & Conservation Council, Power Supply
[10] U.S. Energy Information Administration, Oregon Natural Gas Consumption by End Use
[11] PNUCC/NWGA, 2025 Guidehouse Literature Review, Page 8

Initiative, industry leaders recognize the need for enhanced coordination that emphasizes the importance of a shared understanding of regional energy planning and risk assessment.

To ensure a resilient and sustainable energy future for the Pacific Northwest, stakeholders – including policymakers, utilities and customers – must collaborate on actionable solutions. This includes supporting clean energy projects at a realistic pace to balance affordability while also investing in the natural gas system.

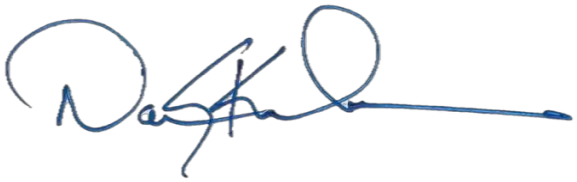
Here are a few specific suggestions to consider including in the OES:

- **Consider the peak –** The energy system serving the Northwest is by and large adequate on an average day; even an average winter day. How to adequately and affordably serve loads during the coldest hours of the coldest days of the year is of paramount importance.
- **Promote more coordinated planning between the two systems** – Identify actions that move us toward more integrated energy system planning.
- **Emphasize affordability through policies that optimize existing energy delivery systems –** The emphasis in the OES on energy efficiency is laudable and appropriate. The strategy should also encourage approaches that take advantage of the best attributes of both systems like dual fuel or hybrid heating systems.
- **Accelerate energy infrastructure development** – Expand the transmission, pipeline and energy storage (including natural gas) capacity needed to adequately serve the region. Identify administrative and policy barriers that prevent or impede addressing energy system constraints.

Energy policy decisions must be made with great care. They shape not only the state's environmental future but also its economic health and the everyday lives of our residents. Fostering an equitable, reliable, and sustainable energy transition for Oregon will require balancing energy affordability, energy availability and energy decarbonization while adopting a sober-minded view of the capabilities of our energy delivery system.

Thank you for considering our comments and suggestions. We are committed to collaborating and contributing constructively to this important work.

Sincerely,



DAN S. KIRSCHNER
Chief Executive Officer

Statement of the Independent Advisory Group Regarding NW Natural's Integrated Resource Plan and Evaluation of Electrification of Current Gas Loads (IRP)

Independent Advisory Group Members:

Mr. Lee Beyer (1)

Mr. Stefan Bird (2)

Ms. Debra Smith (3)

Mr. Stephen Wright (4)

February 2025

Executive Summary:

The four-member independent Advisory Group (AG) provides this statement on the elements of NW Natural's IRP (IRP) we were asked to review. This IRP examines different scenarios related to electrification of natural gas loads currently served by the local distribution company, NW Natural. Our engagement was to focus on key assumptions that would affect cost, reliability and carbon emissions on the electric system of the Pacific Northwest (PNW) and particularly those electric systems that overlap with NW Natural's service territory.

The AG was presented an initial set of three supply-side scenarios and four demand-side scenarios. The AG focused on the supply-side scenarios. These initial scenarios had different assumptions about the future development costs, location, timing and availability of different supply-side generation resources and transmission expansion throughout the PNW region. These kinds of resources would be needed for normal electric load growth and these three supply-side resource scenarios also are used in the IRP to meet the varying degrees of load growth assumed in the four demand-side scenarios. We understand that these four demand-side scenarios are driven by different assumptions about electrification of loads currently served by natural gas and not fundamental differences in "base load" electric demand growth. Although we did not review the demand-side scenarios in detail, this statement does express a concern about the "base load" forecast possibly underrepresenting electric load growth based on current trends.

We found the initial three supply-side scenarios presented to the AG to be overly optimistic by assuming base assumptions that would result in electrification of current gas loads being easier, faster and cheaper than our own experience and judgment. Even the least optimistic scenario was not consistent with our view of current reality facing the PNW energy system. Our collective feedback was that the electric future transition will be harder, slower and more expensive than the scenarios we were presented even without electrifying current natural gas use.

NW Natural then developed a revised set of supply-side scenarios with one scenario called "Current Trends" that reflected the most change from the original three scenarios. The other two scenarios moved somewhat, but our judgment is they remain too reliant on overly favorable

assumptions. It is the AG's view that the electric system will be greatly challenged to meet the existing policy prescriptions and planned load growth even without taking into account electrification of the natural gas system.

As an overall observation, we think the electric systems are already being pressed against the edges of their capabilities and electric systems are experiencing more "close call" events such as in January 2024 in the PNW. The electric systems of the region are also relying heavily on the gas systems for electric generation for peak load service. For example, the PNW electric system was in severe emergency conditions last January. Without record electric imports from the Southwest and Rocky Mountain states, the Pacific Northwest could have experienced rolling blackouts of a magnitude that would be unprecedented in our region.

The AG expressed views about future supply side additions, load forecasts, and electric system planning for uncertainty. The AG also added thoughts about the need for better gas-electric integrated system planning in the future although not achievable in this study.

The AG noted the following about future supply side additions:

1. The biggest unknown about the cost of future supply is estimating the availability and cost of zero emission load following resources. There are substantial federal research and development dollars currently authorized, but it is unknown how effectively these will be deployed. The current very high cost of maintaining reliability under stress conditions without carbon-emitting load following resources (the status quo) should be a scenario that is analyzed. The AG recommends maintaining the availability of natural gas-fueled generation capability, which will increasingly operate at lower dispatch factors as more zero fuel cost renewable energy becomes available, until cost-effective, longer duration, zero emitting load following resources can make more advances.
2. Battery costs have been decreasing and are increasingly being adopted in the market. Currently cost-effective batteries, however, are limited to four hour duration. Longer duration batteries such as 100 hour iron-air batteries are on the horizon, but it is unclear how long they will take before they achieve widespread commercialization. Other proven technologies such as pumped hydro storage may be available in limited geographical locations but are historically higher cost and face more challenging permitting timelines. Longer term storage is necessary to maintain reliability in a system with increased reliance on variable resources and even more so without carbon-emitting dispatchable generation.
3. New standardized modular nuclear reactors are an option for both energy and peaking capability, but the technology currently carries an extraordinary array of risk in terms of cost and timeframe to be in place.
4. Demand side options hold tremendous potential but there are limits to the amounts of firm energy and capacity that can be assumed to be available in the most difficult circumstances due to consumers willingness to sustain demand reductions under stress temperature conditions.
5. The transmission assumptions we were presented are based on current planned schedules. For transmission upgrades that do not require new right of way the assumptions are likely reasonable. The increasing resistance to new transmission nationwide suggests caution with respect to schedules for new transmission that requires new right-of-way. The ability to

meet Western states' emission reduction targets with current load forecasts, let alone under more aggressive data center expansion and or more aggressive natural gas-based electrification assumptions, will require expansion of the transmission grid to access and deliver energy reliably from new remote renewable resources and new load following resources. Historically long timelines to permit new transmission lines, particularly across federal lands, as well as concerns about customer rate pressure, suggest caution with respect to the assumed speed of development of new transmission lines.

6. The accredited capacity for wind appears high relative to the capacity attributed to wind in regions using an established ELCC methodology. Offshore wind, which has received opposition by the new federal administration, is also limited by available transmission on the coast, which is generally weak due to small coastal loads. More sizable offshore wind resources will require new network transmission to be permitted and constructed to intertie to bulk transmission that can access large load centers, which adds to the timing risk and uncertainty.
7. There has also been a trend across the country to derate accredited capacity for thermal resources due to operational challenges occurring during extreme temperature conditions. There are a variety of reasons including inadequate weatherization of equipment and fuel supply disruptions. We recommend consideration as to whether the capacity factors for thermal units should be modified. The Western Power Pool may be able to help with this assessment.
8. There is substantial evidence that the cost of the clean electricity transition increases steadily over time, with rapid increases after 80% renewables is achieved, if there are not adequate cost-effective zero-emitting load following resources available.[1] Today, we are likely still on the upward slope prior to achieving 80%. This projected increase in costs translates into rate impacts. Utilities are increasingly seeing push back from customers on rate increases, mostly related to new resource capital expense. Oregon's House Bill 2021 – 100% Clean Energy for All - that was passed into law includes consumer protections for both affordability and reliability in the form of regulatory off-ramps. In addition, the physical siting of these resources is experiencing strong opposition from many customers. This raises concerns about the industry's ability to bring new resources online in a timely manner. A feedback loop is needed to recognize that if rates increase dramatically and quickly, or if permitting processes do not evolve to address siting concerns, there will be consequences for the rate at which the clean electricity transition can occur.

It is also important to understand that current and long-term concerns about product affordability are based on resource adequacy, as well as a myriad of other factors also putting pressure on forward rate trajectories. Although this work only deals with the rate impacts of acquiring sufficient resources within the regulatory framework established by each state, rate impacts are cumulative and customers generally do not look at individual drivers such as wildfire mitigation, system resiliency, grid modernization or general capital investment. Instead, rate actions associated with resource adequacy must be examined in the context of all other rate pressures.

[1] 2019 Resource Adequacy Study in the Pacific Northwest on the Public Generating Pool website.

As a result, we have concerns about the achievability of the supply side assumptions even in the "Current Trends" scenario.

For the demand side, the "base load" demand forecast was standardized across the demand scenarios using current load forecasts. Like locking down other variables so that the policies and rates of electrification could be examined as the changing variable, we understand the purpose of a single "base load" forecast. However, we remain concerned that this forecast likely underrepresents the potential electric load increases being driven by factors other than electrification of gas load. Regional electric load forecasts have increased in an unprecedented fashion in the last two years, and we expect the forecasts to continue to increase. Specifically, data centers and AI have become large swing short-term variables and vehicle electrification is a long-term driver.

Planning Reserve Margin (PRM) is a key assumption in this analysis that addresses uncertainty in electric utility planning. We have already seen upward pressure on PRMs around the country due to the increased use of energy and dispatchability limited resources, load growth uncertainty and the capability of resources to deliver capacity during temperature related stress events, a challenge which has been exacerbated by extreme weather events. We also expect there will be an increasing effort to address the duration and magnitude of reliability risk (through tools like expected unserved energy or EUE) in addition to the standard probabilistic assessment of the frequency of electric outages. The emerging long duration, high magnitude outages during extreme weather events, as experienced in Texas and California, present high level human health and safety issues. In addition, the PNW is in the midst of a transition from being an energy constrained to a capacity constrained system and systems need to evolve as well. Electrification of natural gas uses will have the biggest impact at the times which are becoming the most challenging for the electric system. All these factors point toward the use of higher than historical levels of planning reserve margin to maintain the level of reliability PNW consumers have come to expect from their electric power system.

Moreover, the AG thinks the study should also consider the reality of periodic severe ice or windstorm events as we have experienced in recent years. Such events have resulted in multi-day electric distribution grid outages disrupting electricity supply to thousands of customers until electric distribution grid damage is repaired and power is restored. If natural gas winter heating capability is fully displaced by electric heating without auxiliary/hybrid natural gas heat pump capability, or without extraordinary levels of storage at the local retail user level, there will be substantial public safety and economic impacts. It is possible to underground electric distribution but only at significant expense, over a lengthy time period and requiring increased maintenance. The AG encourages that this risk receive attention in discussion of electrification.

Finally, we note that the AG believes there is potential for consumer value to be generated through increasing coordinated/joint planning and/or coordinated operations between gas and electric systems where there are overlapping service territories. Building on recent efforts to build collaboration in the PNW, it is recommended that synergies be unlocked that can reduce cost, improve reliability and decrease carbon emissions through consideration of coordinated and/or joint integrated resource planning, investment and operations for options from supply source to consumer use of the gas and electric systems.

Our specific recommendations regarding assumptions are included in the "Detailed Recommendations" section that follows below.

Detailed Recommendations:

The AG recognizes there is never a perfectly accurate single point forecast for the future. The IRP's goal of evaluating the impacts of possible future scenarios to help inform policy and strategy is reasonable, as long as the probability is not evenly weighted between the various scenarios currently being utilized. Our collective view is that, of the scenarios NW Natural is studying, the "Current Trends" supply side scenario most accurately reflects current reality now and for the foreseeable future. However, we continue to have residual concerns that the reasonable risk to electric system reliability is outside the range of the scenarios to be studied. This is due to supply, demand and uncertainty assumptions embedded in the study. We recommend addressing these concerns through sensitivity analysis to better understand load and resource uncertainty.

- The Current Trends scenario includes near-term increase in costs for wind, solar and batteries that best reflects current reality for the supply side in electricity markets. The causes for these increases would best be described as driven by high demand, supply chain challenges, import tariffs and permitting issues, driving costs up in the near term while technological improvements are driving costs down over the longer term. The other two scenarios follow more traditional NREL cost forecasting. The AG also noted there is an interaction between load and costs for supply. Higher loads lead to more stress on generation and transmission supply chains lead to higher costs. A scenario that assumes costs of all resources are higher when load growth is high is within the realm of reason and should be considered for scenario analysis purposes.
- The AG has suggested use of a sensitivity analysis approach that would vary the base load forecast using a higher growth rate. Although we do not have a specific numerical recommendation, we have suggested using the trends from the last two years as a basis for assuming a corresponding increase for at least one additional year at the beginning of the forecast period.
- The single planning reserve margin (PRM) that is based on PNUCC's short-term PRM of 16% is reasonable in the short term. However, consistent with comments above, the AG believes this PRM is likely understated in long-term studies that assume increasingly higher percentages of variable generation resources over time. Electric system planning in this new long-term environment will require more sophisticated modeling techniques to ensure reliable service in all 8,760 hours of the year and not just the peak hour. In-lieu of deployment of these more sophisticated modeling techniques, the AG recommends consideration of an approach that would increase the PRM in relationship to increasingly higher percentage reliance on zero-emitting variable generation resources that is supported by review of other expert sources, or alternatively consider a sensitivity scenario with a gradually increasing PRM to provide an indicator of potential cost and risk impact. Potential sources of this PRM insight are information emerging in the work performed by the Electric Systems Integration Group (ESIG), Pacific Power's current 2025 IRP process, and PRM analysis performed by RTO/ISOs across the nation. In the future, the AG's recommendation

to pursue coordinated joint planning between the electric and gas utilities would support a more informed set of assumptions including PRM and improved quality of analysis.

- There has been a trend across the country to derate accredited capacity for thermal resources due to operational challenges occurring during extreme temperature conditions. There are a variety of reasons including inadequate weatherization of equipment and fuel supply disruptions. We recommend consideration as to whether the capacity factors for thermal units should be modified. The Western Power Pool may be able to help with this assessment.
- With respect to reliability and the issues of moving from a "dual fuel" (electric and gas) system to a "single fuel" (electric system) we have raised numerous concerns about assuring that the IRP analysis carefully assess issues around resulting system reliability and the potentially profound public health and safety issues of relying on a single fuel (electric) system. NW Natural's IRP process examines its own gas system but is also attempting to evaluate the electric systems of the PNW which is a reason we were asked to serve on the AG. What is lacking, not just in this study but in all current integrated resource plans across the country, is an integrated systems perspective incorporating the gas and electric systems. The risk of reliance on one fuel is increased due to the exposure of the electric distribution system to ice and wind events. Recent storms in Oregon have displayed that multi-day electric outages while distribution systems are repaired would create a substantially greater human health and safety risk following electrification of the natural gas system. While this risk is difficult to address in this study, we recommend at least addressing qualitatively. Ultimately, these critical issues should be addressed through regional joint system planning (gas and electric).

Independent Advisory Group Members Bios:

(1) **Lee Beyer:** Lee Beyer was a member of the Oregon Legislature for 22 years serving in both the House and State Senate. From 2001 until 2010 he served as a member and Chair of the Oregon Public Utility Commission. He also served for many years as a board member of the Western Electric Coordinating Council, as a member of the EPRI Advisory Council and member and Vice-Chair of the NARUC Electricity Committee. During his time in the Legislature, Beyer chaired the committees with oversight of energy policy and was directly involved in the drafting and sponsorship of much of Oregon's recent energy legislation.

(2) Stefan Bird: Stefan Bird previously served as CEO of Pacific Power, a division of PacifiCorp, senior vice president, commercial and trading, PacifiCorp Energy, CEO of CalEnergy, an independent power producer, and vice president of acquisitions and project development for Berkshire Hathaway Energy. During his 17-year tenure at PacifiCorp, among other activities, Bird led the dramatic expansion of PacifiCorp's renewable energy portfolio and interstate transmission grid, western electricity market transformation and engagement in Oregon energy legislation.

(3) **Debra Smith:** Deborah (Debra) Smith served as CEO of Seattle City Light, General Manager of Central Lincoln PUD (serving the Oregon coast), and various roles at the Eugene Water & Electric Board. During her 30 years in the electric utility industry, Deborah prioritized customer responsiveness, collaboration across the region, and electrification/decarbonization. Deborah also served as the first female chair of the Public Power Council, as well as on the boards of the Smart Energy Provider's Alliance, the Electric Power Research Institute EPRI, and the American Public Power Association. She remains active on the Pacific Northwest National Lab advisory committee, as well as the Western Transmission Consortium.

(4) Stephen Wright: Steve Wright began his career developing energy efficiency supply curves and integrated resource plans. He served as Administrator/CEO of the Bonneville Power Administration from 2000-2013, CEO of Chelan Public Utility District from 2013-2021 and is now a member of the Southwest Power Pool Board of Directors as well as the Interim Markets+ Independent Panel. He has served on the boards of the Alliance to Save Energy, Electric Power Research Institute and American Public Power Association.

Oregon Association of Conservation Districts

September 10, 2025

To: Oregon Department of Energy
Re: Draft Energy Strategy

I am writing on behalf of the Oregon Association of Conservation Districts (OACD) as its Executive Director and as a member of the Energy Strategy Advisory Committee. OACD represents the 45 Soil and Water Conservation Districts statewide, local governments and special districts with elected boards. The Districts protect and enhance soil and water quality and habitat through voluntary conservation in partnership with rural and urban landowners and managers.

For ease of your use, I will structure these comments in alignment with the questions you asked.

> **Pathways**. Do the five pathways adequately reflect the direction needed to advance Oregon's energy policy objectives? If not, why not? Is anything missing?

As high level pathways, these five make sense.

> **Policies**. Do the policies provide sufficient direction to inform near- and long-term decisions, and to balance the many considerations involved in advancing clean, reliable, and affordable energy? If not, why not? Is anything missing?

The policies provide no direction for resolving conflicts between this policy and Oregon's Land Use Goals 3, 4 and 5. While **3a. Facilitate energy infrastructure enhancement and expansion while avoiding, minimizing, and mitigating negative impacts on natural and working lands,** speaks to minimizing and mitgating impacts to natrual and working lands, there is no procss for conflict resolution.

Further, in the Actions section, Policy 3a is simply written as Tribal and Regional Engagement, which ignores the actual issue for the engagement and does not speak to necessary coordination with the relevant sister agencies (ODFW, DLCD, ODA, OWEB, ODF).

Clean Electricity Action 2, in looking at barriers to permitting, also need to be inclusive of Policy 3a, as shown through the recent Eastern Oregon Solar Siting Regulatory Advisory Committee Process and resultant regulations.

P. O. Box 10527, Portland, OR 97296

> **Feedback and Themes – Nine Federally Recognized Tribes**. please consider and provide comment on whether you think there are opportunities to apply these themes in other parts of the energy strategy.

As noted above, the consideration of Natural Resource Values is not adequately address in in the policies, nor considered in the actions. At a minimum, this lens should be taken to the Clean Electricity Actions.

> **Equity and Justice Framework.**

No comments.

> **Actions.** Do the actions address a critical near-term barrier to achieving one of the five pathways and related policies?

There should be a clearer explanation or way for the reader (ie Legislator) to identify which actions will have the greatest impact. For example, if they need to make funding choices, which actions will provide the greastest results, whether that be carbon reductions, households impacted positively, etc. The metrics for evaluating between the actions are missing.

> Does the draft capture the benefits and risks of the action, accounting for both energy and non-energy considerations? If not, what would you add?

Not sufficiently, as discussed above, Clean Electricity Action 1 does not address the potential impacts on natural and working lands or wildlife. And Clean Energy Action 2 ignores the issue that these items are relevant in permitting and siting.

> Do the draft actions provide clear guidance for decision makers to advance clean, reliable, and affordable energy? If not, why not? Is anything missing?

See comments above regarding prioritization and metrics.

In addition, many of the Actions that call for a “Study” of the current situation basically kick the can down the road (e.g. Clean Electricity Action 4). The focus of these Actions needs to be “identify and implement” rather than simply study.

> Based on the questions and considerations above, should any actions be prioritized for earlier implementation? If so, which ones and why?

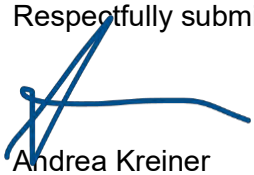
Here I will add an action that was not included, but should be. Incentivizing solar on large commercial/industrial rooftops. During the Advisory or Work Group meetings, this issue came up and I forget the exact number, but it was estimated by the consultants that a significant amount of electricity (somewhere between 20 – 30% of the Portland region’s electricity needs) could be met through intense utilization of large rooftops. This is important since it would reduce the burden on natural and working lands to support all of the large-scale solar needs. The omission of this action is an example of the need for more consideration of the impacts of the policies and actions on other Oregon Goals and more coordination/collaboration with sister agencies.

> **Overall Draft.** How well does the draft reflect the input from engagement throughout the project? Do you have any final suggestions, questions, or feedback you’d like to share?

I think the tone of the report reflects that these are the ODOE staff recommended policies and actions, which fairly represents the fact tht the Advisory Committee was suspended at the point at which it would have been discussing the actions, so these cannot be represented as being actions that were supported by the Advisory Committee.

That said, there is a lot that is very important in this draft strategy. I would like to see more specificity on impacts (positive and negative) given to the actions that will enable policy-makers to make informed decisions and choices, when necessary. Some of the far reaching recommendations, such as Clean Electricity Action 1, will be controversial beyond just the natural and working lands conflicts. It would be good to convey the level of importance and impact the Action could have.

Respectfully submitted,



Andrea Kreiner
Executive Director

The Oregon Conservancy Foundation

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Monday, September 22, 2025

The following comments are submitted by the Oregon Conservancy Foundation in response to the Oregon Deparment of Energy's '"Oregon Energy Strategy - Draft for Public Comment:

Clean Electricity Action 3: Report on developments in emerging technologies, including long-duration storage, enhanced geothermal, floating offshore wind, and small modular nuclear reactors, to identify the role they can play in meeting the state's electricity needs; also explore opportunities for pilot programs in the near-term.

Re: Small Modular Nuclear Reactors (SMNR's)

The draft notes that "Oregon law does not practicably allow siting nuclear facilities in Oregon." It references NuScale, the Oregon based company that has a vested interest in seeing Oregon open the door to siting nuclear power plants. NuScale has lobbied the legislature for years to change the current law that keeps Oregon nuclear free and protected from the costs and risks of new nuclear power plants. NuScale's proposed reactors in the Utah Associated Municipal Ppwer System (UAMPS) project were cancelled in 2023 because of delays and rising costs at that time, a pattern that is seen over and over again in proposed new nuclear projects throughout the country. Georgia's Vogtle Units 3 and 4, the first plants to come online in the United States in three decades, cost twice the original estimate and seven years delayed after original planning.

Now big tech (Amazon) has joined NuScale in lobbying to bring nuclear plants to Oregon. The 2025 Oregon legislative session saw 13 bills introduced (but not passed) that would have bypassed or repealed the current law regulating nuclear plants in Oregon.

Amazon has an interest in multiple data centers in Eastern Oregon, and is currently engaged in partially funding proposed nuclear reactors to be built at Hanford, a proposal the Oregon Conservancy Foundation continues to oppose. The electricity generated from those reactors is directed to serve Amazon's Oregon data centers. Opening the door to siting nuclear power plants in Oregon before there is a federally licensed permanent repository for high level nuclear waste as well as a statewide vote of all the voters in Oregon would put the health, safety and economic well being of Oregon residents at risk.

There is no business case currently that supports nuclear power in Oregon, given the industry's clear pattern of years of delay and excessive costs, as illustrated by the rising price tag (now $6+B) and estimated timeline for Amazon's investment in proposed reactors at Hanford. According to information that appeared in the Draft of the WA Comprehensive Climate Action Plan, these SMNR's are now targeted to come online in 2040, with any additional reactors built there (if ever) targeted for 2050. The current cost of those reactors exceeds what NuScale's UAMPS proposal was estimated to cost when that project was cancelled back in 2023.

The Draft states: "This study, led by the Oregon Department of Energy, will evaluate emerging technologies in Oregon, regionally, and in light of shifting federal incentives to ensure state policymakers have up-to-date information as these processes advance and requests for state support arise. ODOE will also look for opportunities to access federal funding and resources for the evaluation and potential demonstration projects."

The Oregon Conservancy Foundation (OCF) supports Oregon's nuclear free status as the terms

of the 1980 ballot measure law have not yet been met. After 45 years there is still no permanent federally licensed repository for all the high level nuclear waste created by the commercial nuclear industry, including all that produced by Portland General Electric's Trojan Nuclear Plant. We also support the provision in this law calling for a statewide vote, not a vote of one county as proposed in HB 2410 in the 2025 legislative session. OCF opposes a "pilot program in the near term" as an "opportunity" since it is inconsistent with current law.

Any ODOE study must not rely solely on industry and nuclear advocacy sources, which make claims that are based on hypothetical SMNR designs that have not been approved nor have any operating history to support those claims. There are currently electricity load forecasts that may turn out to be inaccurate and overblown, and we are reminded of the Washington Public Power Supply System (WPPSS) history that this region witnessed in the 1980's with four of five costly nuclear plants cancelled due to construction cost overruns, inaccurate load forecasts and load met by energy conservation and alternative means (without nuclear). We encourage Oregon to remain skeptical about claims being made by industry advocates, particularly in light of evidence that there are continuing alternative means to meet electricity needs without resorting to nuclear power that will not likely become cost effective in the future.

Oregon Conservancy Foundation recommends that any study thoroughly examine the "opportunity cost" of pursuing investment in nuclear power, when existing and viable energy alternatives can be developed and deployed that are more cost-effective, less risky, and environmentally just pathways to meeting Oregon's energy needs, in both the short and long term. This recommendation is supported by Amory Lovins, Adjunct Professor of Civil and Environmental Engineering at Stanford University:

> ***Nuclear is empirically slower, less certain of getting built, less certain of working properly, there are a lot of lemons, Trojan was one, and also more expensive. And therefore just do the math: If something costs more per kilowatt hour, that means you get fewer kilowatt hours per dollar, therefore it will replace less fossil fuel generation per dollar, therefore it makes the problem worse. This is really simple logic, and claiming we need everything because the problem is urgent is exactly backwards, because the more climate change is an urgent problem, the more we need to invest judicially, not indiscriminately to get the most climate solution per dollar per year.*** ("Should Nuclear Be Part of the New Energy Future," the Eugene City Club, 2/4/22)

The Draft mentions "requests for state support" at a time when Oregon is facing daunting budget challenges that will only get worse given the current federal cutbacks in funds Oregon has relied on for Medicaid and SNAP benefits. Pursuing federal funding and resources is simply another way that taxpayers will ultimately foot an inexcusable bill that could also lead to higher electricity costs as a result of pursuing the most expensive way to deliver electricity, which remains nuclear. Emerging technologies in the form of speculative SMNR's are not going to change this.

ODOE must factor in the impact of the federal administration's workforce reduction that has negatively impacted the Nuclear Regulatory Commission (NRC) and the gutting of regulatory oversight in licensing and enforcing regulations as contained in the 2024 ADVANCE Act and recent Presidential Executive Orders. We can only expect to see an increase in the risks of harm to citizens from speculative nuclear technology enjoying the limited liability of the Price-Anderson Act, leaving our communities at risk for environmental and economic harm. This too has been addressed by Amory Lovins in a recent Utility Dive article, "**Nuclear power is failing, and AI can't rescue it**", Sept. 5, 2025:

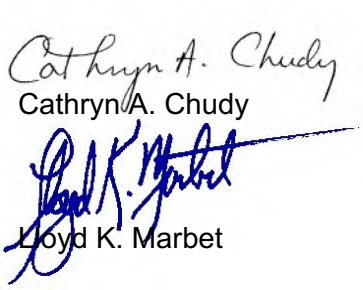
> ***Claims that past*** **failures won't recur have convinced many politicians that socializing nuclear investments rejected by private capital markets,**

weakening or bypassing rigorous safety regulation, suppressing market competition, and commanding military reactor and data-center projects as a national-security imperative will restore nuclear expansion and transform the economy. This illusion neatly fits the industry's business-model shift from selling products to harvesting subsidies.

The Draft references "strategic electrification" as a "least-risk, least-cost pathway to meeting our state's climate goals." It points out that "facilitating new development should not undermine past and current efforts to minimize the effects of development on our natural and working lands and waters, to engage environmental justice communities, and to mitigate energy burden." Proposed SMNR's carry significant cost and environmental risks most likely to affect environmental justice communities, while all signs point to increasing, not mitigating, energy burden for those least able to shoulder that burden.

The Oregon Conservancy Foundation recommends that ODOE remove SMNR's from the list of "emerging technologies" in Oregon's Energy Strategy.

Respectfully Submitted,



Cathryn A. Chudy

Lloyd K. Marbet



September 22, 2025

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

RE: Comments on Draft Oregon Energy Strategy

Thank you for the opportunity to provide comments on the draft Oregon State Energy Strategy. The Oregon Clean Grid Collaborative (OCGC) represents environmental justice, ratepayer, conservation, labor, and clean energy advocates from across Oregon who are committed to ensuring that Oregon transitions quickly, efficiently, and equitably to clean energy. Specifically, we seek to ensure that grid planning, governance, markets, and investments are aligned to maximize the power of the grid and prioritize reliability; accelerate grid decarbonization; equitably, affordably, and reliably deliver clean energy resources to end users and prioritize community benefits; support meaningful economic development in the region that prioritizes family-wage job creation in Oregon; and minimize impacts to environmental and cultural resources.

Background

As demonstrated through the draft Oregon Energy Strategy modeling, Oregon needs to rapidly expand and modernize its electrical transmission capacity to meet the demands the grid is experiencing from rapid load growth, increase resilience to severe weather events, and deliver the benefits of new renewable generation sources to ratepayers. Additional transmission capacity will allow generation to be sited in-state and increase Oregon's ability to access resources from other markets and locations - enhancing affordability and reliability of the Oregon electricity grid. Improving existing lines and developing new transmission must occur in parallel with conversations on regional markets and Oregon's siting and permitting processes. We need comprehensive solutions that protect ratepayers and keep Oregon's electricity system resilient and reliable.

Oregon is not alone when it comes to a lack of transmission capacity and infrastructure to power a growing electricity system. Across the U.S., utilities and customers are feeling the pain of delayed investment in transmission. Studies have demonstrated a need across the West to build

approximately 16,000 miles of new transmission over the next 20 years. These investments are needed to maintain grid reliability, support decarbonization, and address extreme weather risks. In Oregon, a lack of investment in transmission is challenging our utilities' ability to meet HB 2021 standards and support planned economic growth. Oregon's utilities are not only dealing with difficulties in upgrading their own transmission, but also rely on Bonneville Power Administration's system, which is falling short in addressing the impacts of load growth and supporting clean energy policies.

There are historic and ongoing challenges to transmission capacity development in Oregon, including but not limited to (a) differences between public power and investor-owned utility service territories and regulatory frameworks; (b) a mix of Balancing Authority areas - with no single transmission owner and operator - leading to a complicated operating environment that makes comprehensive, proactive planning difficult; (c) challenges with project siting; (d) escalating material costs and supply chain delays; and (e) a lack of coordinated regional planning.

Oregon needs new tools to develop and implement proactive policy actions that can overcome barriers to expanding transmission capacity. A significant tool is the Energy Strategy's first Clean Electricity Policy Action– to establish a state transmission entity to identify transmission corridors, streamline permitting approvals for projects, and provide state financial support for projects that benefit Oregonians.[1] We strongly support this Policy Action. Oregon currently has several agencies responsible for regulating the siting, construction, and cost recovery of transmission; however, there is no entity or office dedicated to ensuring that new infrastructure is developed to meet a wide range of customer needs and benefits in the state. A new state transmission entity can provide a coordinated pathway to develop critical infrastructure that will support Oregon's economic goals, ensure system reliability, and meet our clean energy goals.

Seven states across the U.S. have established transmission authorities; in the West, states with existing transmission authorities include Wyoming, Idaho, New Mexico, and Colorado. This year, Oregon explored legislatively establishing a transmission authority (HB 3628), which OCGC supported. Two other states - Washington and Montana - considered similar transmission authorities. We would like to see this Policy Action moved from concept to implementation in Oregon. To that end, we have several recommendations for what the state should consider when developing a transmission entity.

<u>Authority and Process to Identify Significant Transmission Corridors</u>

Utilities currently plan and invest in transmission with a narrow view of 1) what the needs of their own customers are and 2) what investments they can justify to their regulatory bodies to obtain a rate of return. Transmission lines that cross multiple utility balancing areas or serve purposes beyond one specific utility's needs are difficult to justify under the current regulatory structure. Moreover, Oregon has several agencies responsible for regulating the siting, construction, and

[1] Oregon Energy Strategy Draft for Public Comment, Pg. 73

cost recovery of transmission, which can lead to project delays or cancellation. Simply put, the current process for transmission development can be compared to a sports team playing without a coach: players make individual decisions and coordinate with those closest to them, but no one is directing the team's overall game plan.

Oregon needs an entity responsible for evaluating the broader infrastructure needs of the state as a whole based on clear criteria. This entity should be dedicated to ensuring that new infrastructure is developed to meet a wide range of customer needs and benefits, and prioritize accordingly. With thoughtful planning and coordination, a transmission entity can support Oregon's economic and environmental goals, ensure system reliability, and streamline processes with similar agencies and entities in nearby states.

Prioritize Existing Right-of-Ways and Upgrades to Transmission Infrastructure

This Policy Action discusses identifying state transmission corridors for the siting of lines and for streamlined permitting. ODOE should consider how this does or does not include existing lines and rights-of-way that could be upgraded to meet transmission needs. As part of its analysis, consideration of existing infrastructure supports both building the infrastructure Oregon needs and limits pressures on various land uses (agriculture, wildlife, communities, etc.) by avoiding overbuilds of "greenfield" transmission lines.

OCGC recommends ODOE identify existing corridors and lines as a first step to designating potential "statewide significant corridors". This action could be taken before or as part of the creation of a new state transmission entity – and it is possible that ODOE or another state agency has the authority to do this work. We also recommend that ODOE identify local jurisdictional planning and permitting challenges to upgrading existing lines and expanding existing corridors, and work with local jurisdictions (counties, cities, park districts, sovereign tribes, etc.) to develop streamlined processes.

Prioritize Projects for Statewide Benefits

The regional nature of transmission makes project prioritization for statewide benefit an important area to explore. Although the transmission system (or the electrical grid) is bigger than Oregon, Oregon needs to apply a state-specific lens to the system within its borders on a holistic basis. There is a significant body of study and analysis on transmission planning, but there is no entity or existing analysis that looks at this planning question at the state level. This would be an essential role of a state transmission authority – and one that could begin quickly if there were funds and staffing sufficient to support this work at ODOE.

Promote Responsible Development and Conflict Resolution

It should be a proactive state policy to resource public agencies and diverse stakeholders with the ability to pursue conflict resolution and mediation for high-priority projects that offer statewide benefits. Additionally, the state should provide resources for diverse communities and

stakeholders to pursue responsible development through tools such as community benefit agreements, tribal benefit agreements, and/or project labor agreements.

Build with Urgency and Budget Constraints

OCGC understands the difficulty of standing up a new government entity - even modest staffing that limits the fiscal need is still a stretch in the current budget environment. As such, and given the urgency of finding solutions to make progress on the grid infrastructure Oregon needs, OCGC encourages ODOE to consider if it has the capacity and ability to start the work of a transmission entity while a more robust entity is being established. In other words, ODOE should identify near-term actions that it can act on to propel the underlying goal of establishing a transmission entity, moving Oregon on a path to building the infrastructure it needs.

Conclusion

We appreciate the opportunity to apply our expertise on transmission policy as it relates to the Oregon Energy Strategy. The Policy Action to establish a transmission entity is a low-risk investment by the state, which will likely have significant beneficial returns over time in customer savings, economic growth, and support for clean energy policies. We are in an era of risk and strain on our electricity grid that we have never faced before. While traditional methods of infrastructure investment—primarily based on utility rate of return—have their place, they may not fully address state interests, broader policy goals, and reliability needs. We appreciate the Department of Energy's interest in following the solution identified by neighboring states and recommending a proactive approach to this growing challenge. We look forward to staying engaged as partners in this effort.

Thank you for the opportunity to provide this feedback.

Diane Brandt
Policy & Legislative Affairs Director
Renewable Northwest



Ben Brint
Senior Climate Program Director
Oregon Environmental Council



Eliza Walton
Coalition Director
Oregon League of Conservation Voters

Carra Sahler
Director and Staff Attorney
Green Energy Institute at Lewis & Clark Law School

Lauren Link
Oregon State Policy Advisor
The Nature Conservancy

Siraat Younas
Climate Justice Associate
Community Energy Project

Nora Apter
Oregon Director
Climate Solutions

Tim Miller
Director
Oregon Business for Climate

Ranfis Giannettino Villatoro
Senior Policy Manager
BlueGreen Alliance



Comments of the Oregon Fuels Association (OFA)
Oregon Department of Energy's Draft State Energy Strategy

The Oregon Fuels Association (OFA) appreciates the opportunity to comment on the Department of Energy's Draft State Energy Strategy. Our members are on the front lines of Oregon's clean energy transition, investing in infrastructure, innovation, and operations to deliver lower-carbon fuels to communities across the state. While we support Oregon's climate goals, we believe it is essential that state energy policy also prioritize affordability, reliability, and consumer protection.

The OFA has long supported Oregon's Clean Fuels Program and has invested heavily in delivering lower-carbon fuels, including renewable diesel, biodiesel, and ethanol blends. These investments have helped position Oregon as a leader in the transition to cleaner transportation fuels. But these changes have come at a cost to Oregon's fuel distributors and retailers and their customers.

Energy affordability and consumer impacts must be considered as part of any regulatory requirement on fuels. Transportation fuels are not optional for Oregonians—they are essential for families commuting to work, small businesses making deliveries, and farmers moving goods to market. Regulatory, tax, and policy choices that drive up the cost of fuel directly harm consumers and disproportionately affect working families, rural communities, and low-income households. Today, CFP credits are trading for approximately $145 per credit. This equates to about $0.19-0.21 cents per gallon depending on whether its gasoline or diesel. At the same time, the Oregon Legislature is debating a very controversial tax increase that would raise taxes by 1/3 that amount. That's because Oregonians, who already pay the 2nd highest fuel prices in the country, cannot afford to pay more. Increasing the stringency on the CFP will only increase the burden on consumers.

For this reason, OFA is deeply concerned with the DRAFT Energy Strategy's proposal to increase the stringency of the Low Carbon Fuel Standard (LCFS). While the program has successfully encouraged cleaner fuels, higher targets will likely significantly increase costs at the pump. If Oregon is going to both meet its climate reduction goals and avoid significant costs to consumers, we need MORE renewable fuels. Simply relying on regulations to help Oregon compete for a limited supply of renewable fuels only hurts consumers without helping the overall goal of reducing GHG emissions. Moreover, tightening standards without ensuring a predictable supply availability risks creating fuel shortages and sharp price

spikes. This is neither sustainable for consumers nor fair to Oregonians who already face some of the highest transportation costs in the country.

In short, clean fuels only succeed if they are affordable and available. Oregon should avoid policies that make everyday life more expensive for consumers without delivering measurable carbon benefits.

1. **Permitting and Siting of Fuel Production Facilities**
   One of the most effective ways to expand access to clean fuels while protecting consumers from price increases is to streamline permitting and siting for clean fuel production and storage facilities. Current processes are too often delayed by unnecessary red tape, local opposition, or overlapping requirements. Oregon should reform these processes to help producers expand capacity quickly and cost-effectively, ensuring more affordable and reliable supply.

2. **Role of ODEQ in Clean Fuels Policy Development**
   OFA commends the Oregon Department of Environmental Quality (ODEQ) for its strong administration of the Clean Fuels Program. DEQ's Clean Fuels Program staff are highly knowledgeable, closely engaged with industry stakeholders, and consistently attuned to market innovations. They should remain the lead agency for any new policy development related to clean fuels. However, we encourage better alignment between ODEQ's program administration, and the permitting processes overseen by other agencies so that regulatory requirements do not unintentionally block the very fuels the state is working to promote.

3. **Avoiding Redundant Agency Actions and Promoting the Need for More Fuel**
   Oregon already has the expertise and programs in place to promote low-carbon fuels. We do not need additional agency oversight or duplicative policy proposals from ODOE. Instead, ODOE should focus on coordinating across agencies and ensuring policies remain grounded in affordability, supply realities, and consumer impacts. For example, it is well established that Oregon needs to produce clean fuels and store clean fuels. With only days of fuel supply, ODOE should be recommending ways Oregon could expand fuel storage capabilities in Oregon and recognize the risks of losing

limited available storage in the CEI Hub where renewable fuels can get to Oregonians via boat, rail, or pipeline. Without adequate storage and domestic renewable fuel production, Oregonians are at risk of losing access to affordable fuels, including renewable fuels.

Conclusion

Oregon's Draft State Energy Strategy should reflect a balanced approach that values both environmental progress and consumer protection. OFA urges ODOE to:

- Place affordability and reliability at the center of energy policy,
- Avoid LCFS increases that risk spiking prices or straining supply,
- Reform permitting to make it easier and faster to bring clean fuel projects online,
- Keep DEQ in the lead on Clean Fuels Program policy,
- Prevent duplicative or conflicting research mandates, and
- Promote the need to maintain existing storage infrastructure, expand renewable fuels infrastructure, and renewable fuel production.

Oregonians expect an energy strategy that delivers cleaner fuels **without sacrificing affordability or fuel availability**. With these adjustments, Oregon can continue to lead in the clean energy transition while protecting families, businesses, and communities from unnecessary cost burdens.

Respectfully submitted,

-Mike Freese & Danelle Romain, Representing the Oregon Fuels Association (OFA)

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OREGON HUNTERS ASSOCIATION
Protecting Oregon's Wildlife, Habitat and Hunting Heritage
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September 15, 2025

RE: Oregon Hunters Association Comments on the Draft Oregon Energy Strategy

The Oregon Hunters Association (OHA) has been tracking renewable energy and its continuing development in Oregon. It is primarily from this perspective that we offer these comments on the draft energy strategy. OHA was given the opportunity to be an active participant in the strategy development process with a seat on the Natural Resources Working Group.

OHA supports the use and development of clean renewable energy; however, we also see real and potential negative impacts to wildlife and habitat if not developed correctly. OHA saw the creation of an energy strategy as an opportunity to address this, and several other factors, on how Oregon will meet its aggressive clean energy and emissions goals. The current scope and overarching purpose of this strategy falls short of addressing this key issue: how will Oregon meet our ambitious and vital clean energy goals in an informed and proactive manner without making drastic compromises to habitat and working lands.

The Draft Oregon Energy Strategy appears to do a good job of forecasting how much energy will be needed but falls short on determining what type of energy development we want, and most importantly where this energy infrastructure development would be best located so that we can protect and conserve vital wildlife habitat in Oregon. OHA also recently participated in a "Rule Advisory Committee" (RAC) for the Department of Land Conservation and Development (DLCD) for solar siting in eastern Oregon. During the work on the RAC, it became abundantly clear that determining scope and scale of solar development in Oregon can be difficult enough. Including other sources of clean renewable energy generation will only add to these complexities.

OHA was hopeful that the scope of this strategy would not be limited to the question of "how much" energy do we need, but also include a robust strategy on the types and sources of energy and how wildlife and their habitats will be impacted by where the energy will sited to help all Oregonians understand some of the potential tradeoffs. OHA's biggest concerns are still around potential compromises and tradeoffs with energy development in Oregon. In particular, the potential to negatively impact limited and vital habitat types such as winter range, sage-grouse habitat and migration corridors. These habitats are vital to many of Oregon's most prized wildlife species and continue to trend toward fragmentation, degradation, and a loss of abundance.

It is our hope that these vital questions will be the focus of continued work on Oregon's Energy Strategy in the near future. Thank you for offering the opportunity to review and provide our perspectives.

Mike Totey
Conservation Director
Oregon Hunters Association

OREGON PEOPLE'S UTILITY DISTRICT ASSOCIATION

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OPUDA Comments on the DRAFT State Energy Strategy

Oregon People's Utility Districts Association (OPUDA) represents six electric not-for-profit PUDs serving Oregonians with predominantly carbon-free power. OPUDA supports a balanced energy strategy that ensures reliable, affordable electricity for all Oregonians while maintaining environmental stewardship. ODOE misses the mark with a so-called energy strategy that fails to both solve the well documented challenges in the energy sector and affordably meet the needs of Oregonians today and in the future. Instead, the Strategy relies on more money from Oregonians through utility rate hikes or from tax dollars.

The Draft State Energy Strategy concludes with 42 "Legislative and Policy Actions." These actions call for more funding and more regulations. Relying on tight family budgets and shrinking State resources is not a plan at all. As explained below, the Strategy is fundamentally flawed because it fails to address actual challenges for the electric sector and asks Oregonians to pay more for less.

The Problem

As a threshold matter, it is important that the State understands that the problem is clear – we do not have enough electricity to meet exponentially growing demand. We need more electricity generation to meet our household and economic needs.

Compounding this issue, the State continues to pursue litigation to remove clean, renewable, and affordable hydroelectric power generation. The Governor has again announced plans to litigate Columbia River hydroelectric dam operations advocating for removing critical clean electricity production.

At the same time, Oregon is facing reliability challenges with growing electricity demand. The State cannot both further electrifying our economy, while at the same time removing key energy sources from our supply, including hydropower, and the ability to use natural gas as a transition fuel.

The Strategy does not address the actual need for more electric generation from baseload (not unpredictable/variable) resources, including significant transmission expansion, while keeping the cost of electricity affordable for all Oregonians.

The State Budget and Oregon Utility Customers Cannot Afford This Plan

The State of Oregon is facing significant budget challenges. According to the Legislative Policy and Research Office (LPRO), Oregon is expecting nearly $900 million in reduced revenue in this biennium (nearly $500 million less in the next biennium).[1] In addition, the Governor announced that the State may lose more than $15 billion in federal funding over the next two biennia (including over $1 billion this biennium).[2] Oregon cannot add new programs, must cut programs, and our State budget cannot sustain additional funding requests.

On top of that, Oregon is facing recessionary headwinds. According to the latest Economic and Revenue Forecast, in the last four reported quarters, Oregon GDP growth has fallen below the US average and unemployment is rising significantly compared to national trends. In total, nearly 25,000 jobs were lost in the last quarter and job growth was -1.2%. Because of the poor economic conditions in the State, we do not expect the State's budget conditions to improve in the next five years, and we will struggle to meet our community economic development goals without a realistic and affordable energy strategy.

For reference, we cite the joint comments from consumer-owned utilities submitted to ODOE that highlight the various policy proposals that the State budget simply cannot support today and in the foreseeable future.

If the State is unable to pay for new programs, then ODOE is asking utility customers to pay, and they also cannot afford to do so. Today, Oregon is one of the most expensive places to live.[3] Oregonians pay the 4th highest gas prices in the country and nearly one-third of household income goes to housing. With rising unemployment and five years of inflation, Oregonians simply cannot afford to pay more for electricity, a necessity to live.

According to media reports, utility rate increases have been on the rise for the past five years, with some utilities charging 50% more than what customers were paying in 2020.[4] Fortunately, PUDs have not had to raise rates on their customers at the same level. Because

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[1] https://olis.oregonlegislature.gov/liz/2025I1/Downloads/CommitteeMeetingDocument/309846
[2] https://www.opb.org/article/2025/08/11/oregon-braces-impacts-trump-budget-cuts-billions-federal-money/
[3] https://www.koin.com/news/oregon/cnbc-ranks-oregon-among-most-expensive-states-heres-why/
[4] https://www.opb.org/article/2025/06/25/oregon-electricity-power-utilities-gas-electric-price-rates-fairness-affordability-energy-house-bill-3179/

revenues benefit customers and not private stockholders, electric rates of consumer owned utilities are lower on average than those of private, investor-owned utilities. However, the State's attacks on the federal hydro system create more uncertainty and cost increases for existing, carbon free electricity.

A State Energy Strategy That Would Work

Oregon urgently needs more energy generation from ALL sources, including existing hydropower, advancement of renewable energy, natural gas and nuclear power. Without more generation, we cannot meet our state and community economic development goals and keep energy rates affordable. Energy efficiency and variable wind and solar power alone CANNOT meet Oregon's growing demand, especially without significant capital improvements that our utilities and our customers cannot afford, especially under existing legal and regulatory constraints (which are not adequately addressed).

The State has put in place multiple policy barriers compromising existing no-or-low-carbon energy resources and precluding progress in adding new generation, including:

- State litigation pursuing federal dam removal on the Columbia River hydro system.
- Climate policies that effectively prohibit the creation of new, efficient natural gas plants that can generate electricity during peak hours or when the environment conditions will not produce adequate solar or wind energy.
- State laws that severely restrict the deployment of carbon-free nuclear power in Oregon.
- Land use and environmental regulations that prohibit the timely development of necessary transmission infrastructure.
- Utility wildfire liability that creates a significant disincentive to invest in electric utility infrastructure that connects our rural communities.

The Draft Energy Strategy fails to responsibly set a path forward for the State and instead focuses on more expensive studies, additional spending, and new regulations that will not help the State meet its energy needs in a timely manner.

Conclusion

Oregon is conducting energy policy in isolation and failing to balance the factors that will make or break our energy future. We need an achievable energy strategy that collectively addresses affordability, reliability, and additional electricity resources. The State Energy Strategy should include the following:

- Oregon's energy demand is outpacing our energy supply. We will soon hit a cliff.

Oregon will not be able to add new electricity generation without addressing the harder issues of siting, land use, and permitting barriers preventing new energy supply. Those issues are not adequately addressed in the report.

- Adding a quasi-state agency (Oregon Transmission Authority) without addressing regulatory barriers to adding transmission infrastructure will simply add cost and will not lead to new transmission.

- Oregon should not pick winners and losers in electricity generation. We need everything, and a balanced combination of hydropower, natural gas, nuclear energy, wind, solar and other innovative technologies is the only way to achieve a reliable and affordable clean energy future. The draft strategy only focuses on "clean" energy, but fails to adequately address the need for reliable, baseload resources that are without question necessary. It is intellectually dishonest to suggest otherwise.

- Oregon does not have financial resources in our budget, from taxpayers, or from ratepayers/electricity customers for new energy programs or subsidies. A State Energy Strategy should not add new programs that cannot be paid for and will only add to the larger problem of inaction.

The State Energy Strategy should make recommendations to consolidate and eliminate wasteful administrative programs and barriers, and focus efforts on the tenets of addressing energy demand without resource bias, with a focus on reliability, environmental sustainability, all while keeping energy affordable for Oregonians.

-Danelle Romain & Mike Freese, OPUDA Executive Directors

OREGON PSR
PHYSICIANS FOR SOCIAL RESPONSIBILITY

Monday, September 22, 2025

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

RE: Oregon Energy Strategy Public Comment

Oregon Physicians for Social Responsibility (Oregon PSR) is an organization of health professionals and public health advocates working with allied organizations and frontline communities. Oregon PSR uses science and evidence-based expertise to build movements that drive systemic change to protect human health and social justice at the local, state, national, and international level. Thank you for the opportunity to provide comments on the draft Oregon Energy Strategy.

The Oregon Department of Energy's (ODOE) efforts to outline a pathway towards electrification are needed now more than ever as the state continues to endure the climate crisis. Fossil fuels are damaging our climate and health, outside and inside our homes. For example, gas appliances pose serious risks to human health. Gas appliances generate several harmful air pollutants, including nitrogen dioxide, carbon monoxide, and formaldehyde. Epidemiological studies have shown that homes with gas stoves are associated with an increased risk of asthma in children as well as more severe asthma symptoms.[1] Stanford researchers found that gas stoves leak toxic cancer-causing chemicals like benzene even when the stove is off.[2] Outdoor fossil fuel pollution from homes and businesses in Oregon contributes to health impacts estimated at nearly $88 million annually.[3] When climate change damages to health, property, agriculture,

[1] Lin, W., Brunekreef, B., & Gehring, U. (2013). Meta-analysis of the effects of indoor nitrogen dioxide and gas cooking on asthma and wheeze in children. *International journal of epidemiology*, *42*(6), 1724–1737. https://doi.org/10.1093/ije/dyt150
[2] Kashtan, Y. S., Nicholson, M., Finnegan, C., Ouyang, Z., Lebel, E. D., Michanowicz, D. R., Shonkoff, S. B. C., & Jackson, R. B. (2023). Gas and Propane Combustion from Stoves Emits Benzene and Increases Indoor Air Pollution. *Environmental Science & Technology*, *57*(26), 9653–9663. https://doi.org/10.1021/acs.est.2c09289
[3] *Oregon's Hidden Air Pollution Problem*. (2024). https://assets.nationbuilder.com/oregonpsrorg/pages/1979/attachments/original/1710366315/OR_NOx_Report_reduced.pdf?1710366315

infrastructure, and social stability are considered, the societal costs of this pollution from buildings can reach a staggering $1.1 billion.[4]

There are numerous studies now revealing the health benefits of electrification. According to Rewiring America, electrifying America's households would lead to 3,400 fewer premature deaths per year, 1,200 fewer hospital admissions and ER visits per year, 220,000 fewer asthma attacks per year, and 670,000 fewer days of reduced activity or missed work per year.[5]

On top of better health outcomes, electrification also benefits the wallets of Oregonians. An analysis by the Rocky Mountain Institute found that a switch to heat pumps could cut climate pollution from the average Oregon home **by 41% in the first year** and **a stunning 84% over the lifetime** of the equipment. An analysis from Synapse Energy Economics calculated that a rapid transition to electric heat pumps in Oregon's homes and businesses could unlock more than **$1 billion in system-wide savings** by 2050.[6] Moreover, the analysis concluded that building with electric equipment both **saves money on long-term utility bills** and **reduces upfront construction costs**. The installation of heat pumps has also been demonstrated to **increase home values by up to 7%**.[7] Electrification will result in **health cost savings** because homes, businesses, and buildings will not be combusting fossil fuels, thus avoiding the negative health impacts associated with fossil fuel appliances.

Oregon PSR would like to uplift the policy recommendations listed in the environmental organizational sign-on letter of which we are a signatory, especially the direction to invest in and more clearly articulate the goals necessary to achieve strategic electrification. Protecting and prioritizing low-income households, both homeowners and renters, from the risk of rapidly increasing gas bills will be essential for an equitable clean energy transition. We strongly

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[4] *Oregon's Hidden Air Pollution Problem*
[5] Kanj, W., Gruenwald, T., & Herr, A. (2024, December). *Breathe Easy: Household electrification as a public health intervention to improve outdoor air quality*. Rewiring America. https://a-us.storyblok.com/f/1021068/x/3c121cf7ec/breathe-easy-health-benefits-from-electrification.pdf
[6] Takahashi, K., Kwok, S., Tabernero, J., & Frost, J. (2022, June 23). *Toward Net Zero Emissions from Oregon Buildings Emissions and Cost Analysis of Efficient Electrification Scenarios*. Sierra Club. https://www.synapse-energy.com/sites/default/files/Net-Zero-Emissions-from-Oregon-Buildings-21-127.pdf
[7] Shen, X., Liu, P., Qiu, Y. (Lucy), Patwardhan, A., & Vaishnav, P. (2021). Estimation of change in house sales prices in the United States after heat pump adoption. *Nature Energy*, *6*(1), 30–37. https://doi.org/10.1038/s41560-020-00706-4

encourage ODOE to revisit and include the Energy Trust of Oregon's (ETO) fuel switching policy and pursue innovative policy ideas that remove obstacles to electrification.

Nuclear power is not a clean source of energy.

In Clean Electricity Action 3 of the draft OES, ODOE mentions small modular nuclear reactors (SMNRs) as an emerging technology that could play a role in meeting the state's energy needs. First and foremost, SMNRs are an unproven technology. None have been built in the United States, and the only three operating worldwide are underperforming. Most importantly, nuclear power is not a clean source of energy. From uranium mining and milling that **decimates Indigenous land and health outcomes** to nuclear waste that has no safe, permanent repository, nuclear power is a **polluting and outdated technology** that has no place in a transition to a renewable and safe energy future. Nuclear power is not cheap and is considered "the most expensive way to boil water." Studies show it is **at least five times the cost of renewable energy**. The draft OES cautions against over-investment in projects that do not align with demand projections and cites a historically significant example. In the 1950s, the Washington Public Power Supply System was investing in large nuclear projects that ultimately led to the largest municipal bond default in the history of the United States.[8]

ODOE needs to invest in emerging technologies that are able to meet rising demand and the state's clean electricity goal on a speedy timeline and scale that do not result in burdening ratepayers with stranded costs. This is simply not feasible with SMNRs. New SMNRs would not come online for at least 10 to 15 years. Building nuclear reactors is notorious for astronomical cost overruns and delays. Unfortunately, ratepayers typically bear the costs. In a time of rising inflation, Oregonians cannot afford this economic risk. ODOE must prioritize investing in technologies that are truly energy efficient, affordable, clean, and faster to deploy.

Sincerely,

Samantha Hernandez

Healthy Climate Program Director

[8] Wilma, D. (2003, July 10). *Washington Public Power Supply System (WPPSS)*. https://www.historylink.org/File/5482

OREGON SOLAR + STORAGE INDUSTRIES ASSOCIATION

Oregon Department of Energy
Director Janine Benner
550 Capitol St NE, Salem, OR 97301

September 22, 2025

Director Benner,

OSSIA appreciates the opportunity to review and comment on the Draft Oregon Energy Strategy ("Draft Strategy"). The solar and storage industry strongly supports Oregon's goals of clean, reliable, and affordable energy, equity and justice, and pathways that accelerate deployment of renewable generation, grid modernization, and clean electricity.

The next two years are critical ones for improving the regulatory and siting environment for renewables in Oregon. Recent federal changes in HR 1 mean new deadlines that are quickly approaching. If improvements are not made soon, that will mean renewable energy and energy storage projects are not built in Oregon, that our communities and rate payers lose out on opportunities to invest in our own energy security and grid resilience and the compounding of increased electricity rates across the state. We urge swift action from state agencies.

Below are our comments: what we support; areas where we believe the draft can be strengthened; and specific recommendations of things missing or under-emphasized from the perspective of solar + storage deployment in Oregon.

What we support

- The inclusion of clean electricity as one of the five core pathways. The Draft recognizes that to meet growing demand, Oregon must invest in generation, transmission, distribution, storage, and demand flexibility.
- The equity, environmental justice, and resilience framework, which is critical to ensuring that communities historically burdened by fossil-fuel infrastructure are not further harmed and can benefit from the energy transition.
- Directing the OPUC to investigate opportunities to modify utility business models and ratemaking practices to enhance marketplace competition and thereby lower costs in utility planning and resource procurements. This is a high priority as there is a need to address utility bias in electricity procurement for the benefit of ratepayers. There are multiple programs and dockets to increase competition including PURPA, Community Solar, Distribution System Plans, Clean Energy Plan updates, Performance Based Ratemaking and Microgrid implementation. OSSIA encourages a thoughtful approach to directing this investigation so that it provides for a holistic investigation of these multiple threads and prioritizes transparency overall.

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- Expanding the Oregon Department of Energy's statewide energy infrastructure resilience programs, including increasing funding for and amending the Community Renewable Energy Grant Program to support projects that improve energy resilience.
- Hosting capacity analysis is critical to deploy clean energy technologies around the state. The Public Utility Commission has failed to deliver a promised analysis and we support ODOE's recommendation for comprehensive hosting capacity analysis to be done, directed by ODOE.

Areas for improvement / missing elements from the solar + storage perspective

While OSSIA sees many positive steps, there are several places where stronger policy would make the Strategy more robust and more likely to succeed in meeting Oregon's clean energy goals.

Key Recommendations

1. **Incentives for the Solar + Storage Rebate program**
   Especially in light of the elimination of the federal solar residential tax credit and federal Solar for All funding, the energy strategy should include a recommendation for renewed funding for the Solar + Storage rebate program, which has a special emphasis on serving low- and moderate-income customers.
2. **Streamlining utility-scale solar permitting / reducing siting barriers**
   Solar Permitting in Oregon is more difficult than in most other states. Oregon's land-use rules have not been updated for clean energy and permitting is more expensive and takes longer than other states. While the Energy Strategy acknowledges challenges, there are no recommendations for improvement. Oregon could revisit outdated DLCD rules regarding solar and streamline EFSC permitting in order to have common sense solar siting in Oregon. In addition, Oregon should revisit areas designated for viticulture, as many of those areas have no water to support agriculture. In general, the state should take a look at the goal exception process and how it is not serving Oregon's carbon reduction laws. Moving forward, any new agency rules should be focused on streamlining permitting, not adding new barriers, and being open to land characteristics other than soil quality that impact whether or not that land is actually suited for agriculture.
3. **Focus on transmission goals instead of authority.**
   While OSSIA supports the idea of transmission corridors with expanded renewables siting and the possibility of state financial support, it is not clear that a new transmission authority would be the best way to accomplish these goals. We are concerned about adding additional or duplicative siting or review processes that might slow things down. The draft should focus on the goals of increasing transmission and creating transmission corridors with streamlined permitting for renewables in those corridors.

4. **Improving interconnection.** OSSIA agrees that serious improvement to the interconnection processes in Oregon is urgently needed. However, we disagree that another study is the correct next step. The PUC is in the middle of UM 2111 to address interconnection. That docket should be prioritized and have additional staff resources added so that it can move quicker and bring projects online faster.
5. **Improved "solar-ready" building codes**. Add a policy action to strengthen existing solar-ready code in all new residential, multi-family, and commercial buildings. Current Solar Ready code has not worked effectively.
6. **Support for floating solar, solar covered irrigation canals and agrivoltaics** These emerging solar deployment models have large potential in Oregon. Agrivolatics already exist in Oregon but current land use regulations limit their viability. DLCD should revise existing rules in order to promote agrivoltaics. Floating solar in reservoirs and canals has the potential to both conserve water and produce clean electricity. The draft should include recommendations to promote both new technologies and allow for categorical exclusions from state driven permitting siting requirements. WA ESSB 5445 was passed last session in WA and provides a starting point for OR legislative consideration
7. **Support for Community Solar**
   Community Solar makes 100% clean energy an option for renters, public agencies, homeowners and businesses that are unable to have rooftop solar. Oregon's program provide for discounts for low-income ratepayers. The program should be expanded in order to provide more ratepayers with a clean energy option that has no additional cost to the customer. The Draft should include expanding the program.
8. **Support for updating the Oregon Renewable Energy Siting Assessment Tool**
   OSSIA supports making incremental improvements to the ORESA tool and particularly encourage the addition of distribution level electrical infrastructure to facilitate transparency and expand free market solutions for the timely siting of distributed resources including demand response and solar plus storage.
9. **Exploration of virtual net-metering and retention of existing net-metering programs.**
   Solar for multi-family housing residents is difficult, with the stalled community solar program being the only option. Oregon should explore virtual net metering programs like other states have, in order to make it easier for landlords and tenants to participate and further facilitate solar, battery storage and electrification in multifamily housing. On the other hand, the current net-metering program for customers of Portland General Electric and Pacificorp is working well and should remain in place until both utilities have 100% clean electricity.

Conclusion

OSSIA believes that with the additions and clarifications above, the final Oregon Energy Strategy can support the potential of solar + storage in Oregon—distributed, community,

OREGON SOLAR + STORAGE INDUSTRIES ASSOCIATION

rooftop, floating, agrivoltaic, and utility-scale—to deliver clean, affordable, resilient energy, support rural and other under-served communities, meet state climate and resilience laws and goals, and contribute economic and environmental benefits.

We look forward to working with ODOE, local governments, utilities, tribes, and others to refine and implement policies to remove barriers and accelerate solar + storage deployment in Oregon.

Sincerely,

Angela Crowley-Koch
Executive Director

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PACIFIC POWER
A DIVISION OF PACIFICORP

825 NE Multnomah
Portland, Oregon 97232

September 22, 2025

Oregon Department of Energy
Attn: Edith Bayer
550 Capitol St. NE, 1st Floor
Salem, OR 97301

Re: Oregon Energy Strategy Draft Policy Recommendations Feedback

Pacific Power appreciates the opportunity to submit feedback on the Oregon Department of Energy's (ODOE) Draft Oregon Energy Strategy policy recommendations. The company has engaged in meaningful discussions in numerous Oregon Energy Strategy working groups providing feedback on a variety of issues.

Pacific Power looks forward to learning more about the numerous financial and rulemaking implications of these policy recommendations, as we continue collaborating with ODOE and other stakeholders on the Oregon Energy Strategy.

I. Customer Affordability

- Pacific Power continues to stress that customer affordability needs to remain front-and-center when determining the direction of Oregon's energy policy. In many instances of the draft plan, it is a bit unclear how the recommendation relate to affordable energy options that seem to be considered as a critical element of the plan more generally. As noted in the company's 2025 Clean Energy Plan (CEP), since 2019 the company has brought 6.263 gigawatts of resources online to support the company's greenhouse gas reductions (including the conversion of existing coal-fired facilities to lesser emitting natural gas generation).[1] This includes 4.005 GW of resources since the filing of its 2023 CEP.[2] Despite these significant resource additions, the company forecasts the need for 11.837 GWs of additional renewable energy to comply with Oregon's current energy policies by 2040.[3] With the removal of federal tax credits for renewable and storage technologies, the company estimates that the costs to comply with these requirements could range from $21.76 billion to $65.290 billion over the next two decades.[4] All future Oregon policies need to balance additional compliance obligations, with the impact to customer rates.

II. Energy Efficiency:

- Pacific Power supports energy efficiency as one of the five pathways to guide Oregon's energy strategy. The efforts of the Energy Trust of Oregon (ETO) and their portfolio of energy

[1] *In re Pacific Power's 2025 CEP,* Docket LC 85, at 2 (Jun. 30, 2025) (available here: https://www.pacificpower.net/content/dam/pcorp/documents/en/pacificpower/community/or-cep/2025_Oregon_Clean_Energy_Plan.pdf).
[2] *Id.*
[3] *Id.*
[4] *Id.* at 94.

efficiency programs are seen as the primary means of furthering efficiency and electrification across buildings and industry.
- The company has provided further comments on ETO's multi-year planning process pursuant to affordability transparency concerns.
- The company has also developed a 2026-2028 Transportation Electrification Plan to expand programs for more efficient transportation options.

III. Clean Electricity:

- Pacific Power supports the principles articulated in ODOE's policy recommendation of identifying and designating transmission corridors. Likewise Pacific Power supports pursuing partial siting and permitting approvals for future projects in these corridors. That said, siting and permitting processes are already complicated and any legislation should focus on but cautions reducing operational and judicial barriers.
- Pacific Power also supports the proposal that ODOE conduct a study with recommendations to overcome barriers preventing construction and interconnection of permitted projects.
- Regarding the formation of a state entity whose partial purpose is to fund regional transmission projects, Pacific Power appreciates that ODOE has recognized the risk of "using taxpayer dollars for projects that may not provide direct value statewide." Pacific Power is concerned that adding another layer of cost impacts and adding cost burdens to Oregon customers.
- Pacific Power encourages a strong stakeholder engagement process prior to developing or implementing programs to ensure commensurate benefits to Oregon customers. Opportunities now exist at the Federal level for states to engage in the transmission planning and cost allocation process.[5]

VI. Additional Considerations

- There are multiple ongoing investigations, rulemakings, and contested cases before the Oregon Public Utility Commission that overlap with the ODOE's draft energy strategy. There has also been recent legislation passed by the Oregon Legislature in 2025 that will likely impact some of the Customer Affordability, Energy Efficiency, and Clean Electricity draft strategies. To streamline stakeholder resources and avoid unnecessary overlap, the company respectfully requests the ODOE allow those OPUC processes to conclude before considering additional strategies. This would ensure that any ODOE energy strategy accounts for other agency and legislative actions and maximizes the value of the document for the benefit of the state.

Pacific Power values the opportunity to contribute substantive feedback on the Oregon Energy Strategy draft policy recommendations as it remains committed to ensuring that customer affordability stays central to this policy discussion, particularly as it relates to the significant capital expenditure required to

[5] FERC Order No. 1920, *Building for the Future Through Electric Regional Transmission Planning and Cost Allocation*, Docket No. RM21-17-000 (May 13, 2024), and Order No. 1920-A (Nov. 21, 2024). These describe the role of "Relevant State Entities" (which may include representatives from state energy agencies) in long-term regional transmission planning, including scenario development and cost allocation. The CREPC-TC process is recognized as a key forum for state engagement under these orders.

meet these objectives in the coming years. Pacific Power appreciates the continued emphasis on these proposals, while maintaining careful consideration of the regulatory complexities and cost impacts to the communities we serve.

Finally, the company encourages robust stakeholder engagement, transparency and continued collaboration with ODOE and other stakeholders throughout the implementation process to maximize benefits for Oregon residents in achieving a sustainable and equitable future for all Oregonians.

September 20, 2025

Edith Bayer
Oregon Department of Energy
energy.strategy@energy.Oregon.gov

Subject: Comments on the Oregon Energy Strategy Draft Report

Mobilizing Climate Action Together (MCAT) is a community of volunteers working on advancing a healthy climate and a green economy for future generations. Many in our group have followed this work from its inception and participated in several working groups.

The devastating impacts of unmitigated climate change are already costing Oregonians billions of dollars, which will only get worse, unless we take action. Addressing our share of the climate crisis requires a transition to a clean and efficient energy system, and that explicitly requires change, which can be hard.

We commend the process ODOE used to create this strategy by developing optimized pathways for achieving the state's policy objectives using the best available data and information, and incorporating the perspectives of a broad range of stakeholders. ODOE and its contractors utilized both regional and state-level models to properly reflect Oregon as part of the Northwest power system, and they took the time to thoroughly explain the modelling process, inputs, assumptions and outcomes. In addition, the supplementary modeling of Air Quality, Energy Wallet and Jobs Analyses provided much needed granular insights. Our one suggested improvement is to allow more time for the policy working group process to have focused input and discussion of the policy action to be recommended to the legislature.

Overall, the draft Energy Strategy provides a strong framework for how our state can achieve our climate and clean energy goals. The five pathways represent a least cost, no regrets strategy for advancing towards our climate goals meeting the needs of Oregon communities, including our most vulnerable. However, to advance those five critical pathways, the policy and legislative recommendations included in the report should be strengthened, prioritized and clarified to make them actionable for the legislature, and other policy makers.

Strategic Electrification

Pathway

Strategic Electrification has a prominent role in the draft Energy Strategy, given that:

- Electrification is a powerful energy efficiency and greenhouse gas reduction measure.
- Most fossil fuel consumption will need to be replaced by clean electricity consumption, and rate of electrification is an important factor in both planning for new clean energy needs but also in minimizing costs to ratepayers.
- The goal of strategic electrification is to identify an electrification roadmap that provides both affordability, reliability and resilience.

- However, the process for "strategic electrification," is not defined *at all* in the OES.
- The process for achieving these goals should be an **unbiased** integrated electric and gas system planning process that achieves state goals with the least societal cost while preserving reliability.

Policies

Policy 2c promotes strategic electrification across the residential, commercial, and industrial sectors through aligning policies and investment to deliver affordable, reliable, and clean energy. The policy proposes an outcome without any process to achieve it.

The draft Energy Strategy states that "For electrification to be considered strategic, it must advance one of the following areas without adversely affecting the others: (1) benefits consumers over the long run; (2) enables better grid management; and (3) reduces negative environmental impacts." This definition provides outcomes but does not define a process. Also, these outcomes can be measured according to differing metrics, so defining the process is essential to a clear understanding of how strategic electrification will be implemented.

In footnote 25, the Northeast Energy Efficiency Partnerships (NEEP) defines "Strategic electrification, or smart electrification as it is sometimes called, as powering end uses with electricity instead of fossil fuels in a way that increases energy efficiency and reduces pollution, while lowering costs to customers and society, **as part of an integrated approach to deep decarbonization.**" (Bold added). The OES definition misses the integrated approach portion of their definition, yet an integrated analysis is an essential part of the definition.

The draft Energy Strategy also notes the benefits of applying a strategic electrification lens to inform policies to promote building, commercial, and industrial electrification, but again without any discussion of the process that will be used.

Strategic electrification is also highlighted under Policy 4c with the statement that "Managing this transition requires a recognition of the role of strategic electrification in decarbonizing buildings, industry, and transportation as a *cost containment approach*. The transition will require policy and strategic support from Oregon's Legislature, state agencies, and fuel providers to address the effects of *declining demand on distribution systems over time*." (Italics added.) Here again, the draft Energy Strategy states and outcome for strategic electrification without defining a process for defining an integrated gas-electric planning approach for determining a least-cost pathway to expanding and strengthening our electricity supply system and systematically dismantling the gas system infrastructure that will no longer be needed with the least disruption to the remaining gas customers.

Resilience Policy 5a calls for evaluating cross-fuel interdependencies and vulnerabilities to better ensure long-term reliability of the electric grid by strengthening coordination of electricity and natural gas system planning. The draft Energy Strategy calls for "facilitating multi-fuel conversations to inform and improve energy reliability and resilience, particularly between the electricity and natural gas sectors." Such a weak policy does not direct the need for more coordination of distribution system planning as a

core component of an unbiased strategic electrification process that will be needed to manage when and where customers are incentivized to transition from gas networks to electric grids.

Policy Actions

Building Action 1 directs the Oregon Department of Energy to develop a building decarbonization roadmap with recommendations to advance strategic electrification and other decarbonization measures, and as necessary, to provide data and analysis on building decarbonization to inform policies and programs. This action does not include anything regarding how strategic electrification will be advanced. Again, an unbiased integrated electric and gas system planning process is needed to inform the proposed roadmap on building decarbonization and the resulting policies and programs and achieve the desired rate of building electrification.

The draft Energy Strategy correctly notes that to establish a building decarbonization trajectory and incorporate strategic electrification into policies and programs, the current data on building energy use (gas and electricity) needs to be expanded and to distinguish the needs of different communities across Oregon. This action should be linked to related analyses of the gas and electric distributions systems with a view towards determining where the electricity grid has sufficient capacity to absorb new loads and where new investment is needed to absorb new loads. Similarly, the overlapping gas distribution network should be analyzed for old, underutilized branches that are good candidates for eventual pruning. These data sets provide critical inputs to a strategic electrification analysis.

Cross-Cutting Action 6 directs the Oregon Department of Energy to facilitate the sharing of data and joint planning across electric and gas utilities, fuel providers, and energy stakeholders to enhance energy resilience and reliability. Although resilience is an important objective, it is not the only reason to promote joint planning and data sharing between these energy providers. Strategic electrification requires such a data driven and integrated approach to help guide where and how to most effectively electrify buildings and transportation. However, this integrated planning is most critical for the buildings sector, because electric vehicle charging is inherently flexible, whereas building heating and cooling must be responsive to the full range of weather conditions.

Distributed Energy Resources

Pathway

The Clean Electricity Pathway recognizes the need for planning and investing in resources that can be built quickly, including distributed energy resources, and it also recognizes their benefits regarding household and community resilience, as well as the role of demand flexibility in shifting demand and limiting the need to construct additional power plants. We strongly support the final recommendation is to incentivize utility business models and create market mechanisms that can capture the system benefits and compensate customers for their role in becoming part of “virtual power plants.”

Policies

Policy 3a provides an overall objective for an integrated planning approach for helping to guide the balance of utility-scale and distributed energy resource investments over time. Such an approach is needed because, while distributed energy resources are often more costly to build per kilowatt hour generated, they can be constructed more quickly, provide important resilience benefits (especially when paired with battery storage), typically have fewer effects on natural and cultural resources, and can defer the need to build new transmission and distribution lines when strategically deployed.

Although the policy direction calls for building on existing programs, more innovative business models coupled with revisions to utility regulation are needed to accelerate the deployment of DERs and to jumpstart the potential of consumer decisions to drive the growth of DER projects. The policy identifies the primary risk as not being able to construct new resources quickly enough to accommodate the pace of rising demand and to meet HB 2021 targets, and DERs are a quick and flexible resource that need to be fully utilized to meet the challenges ahead. Given the fact that electricity prices are rising, solar panel and battery costs continue to fall, and more and more customers want resilience in the face of growing outages, the potential consumer demand is there if the appropriate business models are identified and implemented.

Policy 3b calls for enabling consumers to support grid needs by shifting the timing of electricity consumption for flexible loads like water heaters or EVs. This statement leaves out a lot of broader benefits that DERs can provide, including load shifting and ancillary grid services, which also help avoid expensive T&D upgrades and enhances resilience. In general, the OES is silent on the transition of the classic central station utility model to the more network based distributed utility model. The electric utilities are moving in this direction, but also have not championed DERs because of disincentives in the current utility regulatory structure that rewards them for making capital investments in infrastructure but not for power purchase contracts or investments in programs like demand response and virtual power plants.

Policy Actions

Clean Electricity Action 4 calls for a study of policy incentives for local electricity investments and for identifying opportunities for the state where additional incentives or improvements to existing program design would best advance infrastructure needs, economic development and energy justice objectives. Rather than only focusing on existing programs, which face fundamental barriers posed by the regulatory structure disincentives, more innovative approaches are needed and should to be coupled with regulatory reforms. This is touched on in Clean Electricity Action 6, and these activities should be linked.

Low Carbon Fuels

Pathway

One clear Energy Strategy finding is that most fossil fuel consumption will need to be replaced by clean electricity consumption, and that hard-to-electrify sectors, such as aviation, rail, and marine transport, high-heat industrial processes, such as steel, cement, and chemical refining, and peak power reliability, will require the use of low-carbon fuels, based on what's technically possible today and in the near future. What's missing is a recognition that many of these low-carbon fuels will be transitional and are likely to eventually be replaced by electricity.

Policies

Policy 4c supports a managed fuels transition that minimizes stranded assets as end-uses electrify. One simple and effective policy would be to incentivize only the electric option when fossil-based equipment needs to be replaced after failure. Any investment in new fossil fuel equipment becomes a stranded asset.

The statement that "this transition requires a recognition of the role of strategic electrification in decarbonizing buildings, industry, and transportation as a cost containment approach." Is another example of referencing an outcome but not the process for determining the least-cost for growing the electricity system while shrinking the natural gas system.

Policy Actions

Industrial Action 1 calls for a study to identify opportunities for decarbonization, including energy efficiency, demand response, industrial symbiosis, electrification of thermal processes, low-carbon fuels, carbon capture and storage and other opportunities. Included in the other opportunity category should be new electricity-based processes that replace the old thermal processes. For example, new electrolysis-based processes that replace the old thermal processes exist in early commercial forms for both cement and steel.

Transportation

Pathway

The draft Energy Strategy itemizes action items required to modernize our transportation system in ways that will greatly benefit our people, our economy, our workforce, our health and our environment. Continuing current structures is not an option, and funding barriers will remain, for the near future, the primary obstacle to rapid implementation. Therefore, Transportation Action 2, "Establish a Climate-Aligned Transportation Funding Task Force to review Oregon's transportation funding mechanisms…." is essential and should be prioritized.

We are in full agreement with the statement that: “The Energy Strategy modeling found that transportation electrification and reducing vehicle miles traveled offer the greatest cost and energy savings, compared to strategies that rely more heavily on replacing fossil fuels with low-carbon fuels.” (page 53). We are pleased to see that the Strategy makes note of the importance of the State taking vigorous action, considering the retrenchment on the Federal level on movement toward transportation electrification and reducing VMT.

We also agree that: “It is essential to align transportation funding with the state’s climate goals.” Given the constitutional mandate to direct fuel tax revenue to road maintenance and construction and the knowledge that that revenue will continue to decline, it is essential to develop a wider array of funding sources to support the needed changes outlined in the Strategy. Funding streets, roads, highways and bridges will continue to be necessary. However, a sustainable future requires the creation of a multimodal system that facilitates people and freight traveling by other means than cars and trucks. While we develop stable funding for roadways, we must also develop stable funding for transit, rail freight, bikeways, and safe sidewalks.

Policies

In regard to transportation, Policies 2a “Advance and expand efforts to electrify transportation”, 2b “Facilitate and accelerate the interconnection of EV charging infrastructure and related distribution system upgrades”, 4b “Support low-carbon fuel adoption in the hardest-to-electrify sectors including aviation, rail, marine transport, long-haul trucking…” are crucial building blocks toward a modernized transportation system. As stated in the Strategy, for these actions to have maximal economic, health and environmental benefit, they require simultaneously decarbonizing the electrical grid.

Policy Actions

To these ends, we strongly support all of the Transportation Actions, with these caveats.

Given that the state’s current transportation funding mechanisms are a near term obstacle to rapid implementation, we believe Transportation Action 2, “Establish a Climate-Aligned Transportation Funding Task Force to review Oregon’s transportation funding mechanisms….” is essential and should be prioritized.

Transportation Action 3 discusses a Road Usage Charge program to stabilize transportation funding and support accelerated adoption of zero emission vehicles. However, it is silent on ways to remove restrictions on how we spend transportation dollars, such as the Highway Trust Fund.

Transportation Action 3 also states that increasing enrollment in the OReGO program will “support accelerated adoption of zero emission vehicles”. This will only be true if the program is structured so that usage of EVs is incentivized. It is worth noting that HB 3991A that is being considered in the current

Special Session requires that EV owners are the first to be required to enroll in OReGO, acting as a *disincentive* to EV adoption. (It also further increases the surcharge fee for EVs.)

The OReGO program will incentivize reductions in VMT for those enrolled. Once fossil-fuel-powered vehicles are also required to enroll, if those drivers do not have their fuel taxes reimbursed, this would be a strong incentive to reduce VMT and to shift to EVs.

Transportation Action 5 states "Increase statewide support for public and active transportation in Oregon by expanding the statewide payroll tax to fund transit and boosting investments in Safe Routes to School and Great Streets at levels that reflect the scale of community needs." Both portions of this action are important. However, this conflates the payroll tax that funds the STIF to support transit with funding for Great Streets and Safe Routes to School. The Strategy should clarify that Great Streets and Safe Routes to School are *not* funded through the payroll tax, but have been traditionally funded out of the Highway Fund, a dwindling source of funding with multiple competing demands. Great Streets and Safe Routes to School are both significant programs to reduce road deaths and injuries. Again, Oregon must develop alternate stable funding streams for these needed programs.

We support Transportation Action 8, "Develop a strategic roadmap to guide the deployment of medium- and heavy-duty zero emission vehicles…". Electrification of this sector is challenging, as reflected by discussion and testimony in the 2025 legislative hearings for HB 3991A. However, the Transportation Electrification Infrastructure Needs Analysis (TEINA) prepared by ODOT in 2022 has already mapped out much of what is needed in regard to developing the infrastructure to support MHD ZEVs. What we need is funding for vigorous *implementation*, not further study[1].

Other Comments

Clean Electricity Action 2 proposes to conduct a study on barriers preventing construction and interconnection of permitted projects and recommend actions to overcome barriers. However, these barriers are not a new issue. The study should focus most on what market and regulatory reforms are needed.

Clean Electricity Action 3 proposes a report on developments in emerging technologies, including long-duration storage, enhanced geothermal, floating offshore wind, and small modular nuclear reactors. It gives the example of Oregon's current engagement in development of an Offshore Wind Roadmap that will evaluate the steps needed to develop floating offshore wind off the Oregon Coast. These roadmaps should examine the costs, benefits, environmental impacts, economic development and equity benefits for each tech and identify a commercialization strategy appropriate to each tech.

[1] https://www.oregon.gov/odot/Programs/Documents/23021%20T031%20TEINA%20Executive%20Summary%20August%202022.pdf

Fuels Action 2. Direct the Oregon Department of Energy to develop a low-carbon fuels roadmap that evaluates current policy support mechanisms for low-carbon fuels, identifies gaps and opportunities, and recommends additional support mechanisms that align with regional and national frameworks for low-carbon fuels in transportation and in commercial and industrial sectors

There needs to be more understanding that some of these low-carbon fuels are "transition" fuel and therefore temporary. Consideration needs to be given to this aspect of possible roadmaps for specific fuel types.

We are pleased to see Cross-Cutting Action 4, “Develop a state-wide definition of energy burden that combines household and transportation costs to help inform Oregon’s energy transition.” Indeed, such costs are major expenses for many families, so highlighting this aspect is important.

Thank you for providing this opportunity to comment. We look forward to participating in the public workshops to come.

The MCAT Steering Committee:
Brett Baylor, Rick Brown, Pat DeLaquil, Dan Frye, Debby Garman, Josie Koehne, Michael Mitton, Rich Peppers, John Perona, Rand Schenck, Joe Stenger and Catherine Thomasson

Oregon Energy Strategy

Public Comment

Peter Bergel, 9.20.2025

Please be sure, as you are promulgating this draft, that you design an actionable pathway to meet the state’s 100% clean energy goals, keep false solutions - like nuclear power - out of Oregon and defend against harmful federal actions? Rather than more centralized grid, aim for a more decentralized energy supply network depending on locally soujrced renewable energy and battery storage. Check Germany's model.

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Submitted via the Oregon Energy Strategy - Public Comment Portal

September 22, 2025

Oregon Department of Energy
550 Capitol St. NE,
Salem, OR 97301

To the Oregon Energy Strategy Project Team,

PGE values the opportunity to engage deeply in the Oregon Department of Energy's (ODOE) State Energy Strategy development process, including the thoughtful discussions facilitated by your team. Taken holistically, we believe the strategy needs tighter recognition and focus on the most critical near-term challenges to providing reliable, affordable, and increasingly clean power:

- Upward pressure on utility rates;
- The escalating risks associated with wildfires;
- The need to maintain reliability amid increasingly severe weather, capacity shortages as baseload plants retire, and rapidly growing electricity demand;
- The ability to plan, build, and site new transmission infrastructure; and
- The loss of federal policy supports and incentives.

We appreciate the draft strategy's recognition of the need to build transmission infrastructure to support reliability and integrate clean resources, and that the draft strategy emphasizes flexible demand to manage peak load. The draft rightly uplifts meaningful community engagement and holistic workforce development as key components of building energy infrastructure and the clean energy transition, and emphasizes the need to balance the effects of energy policies on natural and working lands, cultural resources and the broader environment. However, ODOE should increase emphasis on maintaining reliability and affordability, addressing wildfire risk, and improving siting and permitting in its recommended legislative and policy actions. This includes recognizing the growing importance of dispatchable and flexible capacity resources and prioritizing any new actions within the context of affordability.

Wildfire risk is the most immediate risk to the electric sector

Wildfire liability risk is the top risk facing the electric sector in Oregon today and is omitted from the recommended legislative and policy actions. To address affordable, reliable, clean energy in Oregon, the State Energy Strategy must recognize the connections between

wildfire risk and other many other energy policies and prioritize addressing wildfire liability risk in the electric sector, as many other western states have.

At PGE, our focus is on prevention and working cooperatively with the state and communities to do everything we can to avoid ignition from utility equipment causing a catastrophic wildfire in the first place. However, Oregon utilities large and small nonetheless face unbounded and destabilizing wildfire risk that impedes grid investments and clean energy. As OPUC Chair Tawney wrote in her August 1 letter to Gov. Kotek: "Unbounded utility wildfire liability will drive up the cost of utility capital, raising the overall cost of every utility investment. It will also continue to require the prioritization of scarce capital towards extensive grid hardening, pressuring customer bills and limiting capacity for goals such as economic development and decarbonization, as we have observed in California."

Transmission and capacity constraints are best addressed by accelerating the siting and permitting process

Transmission is the backbone of Oregon's clean energy transition, and the State Energy Strategy must prioritize a coordinated statewide and regional approach to siting and permitting new infrastructure. Policy should account for the long lead times and bottlenecks in the interconnection queue that affect resource deployment. The strategy must also account for federal initiatives, including U.S. Department of Energy funding programs, Federal Energy Regulatory Commission (FERC) rules, and Bonneville Power Administration's Grid Access Transformation efforts to ensure the state maximizes access to regional markets and federal dollars.

The draft energy strategy specifically proposes establishing a state transmission entity with the authority to identify transmission corridors, pursue partial siting and permitting approvals for projects within those corridors, and provide state bonds for projects in the public interest. We caution that a new state transmission entity will not add value if it layers atop existing planning and approvals, so policy must be designed to avoid duplication with existing processes and planning. Transmission planning is a complex arena that requires substantial coordination with the Bonneville Power Administration (BPA), utilities across the region, and many stakeholders. There are already existing workstreams and regional organizations carrying out complex transmission planning including WestTec, Western Transmission Consortium, Northern Grid, BPA, and utility Integrated Resource Planning. Establishing transmission corridors may prove helpful, but it must be paired with meaningful action on siting and permitting to support the timely development of transmission. Creating more uniformity and consistency across jurisdictions, avoiding duplication around land use applications, and creating pathways for expedited permitting if certain conditions are met up

front are among the types of concrete actions that will remove hurdles for transmission development.

Service of new large loads is already under examination at the OPUC
Utilities and stakeholders are already engaged in robust discussion about the service of new large loads at the OPUC, which is the appropriate venue for these discussions. In UM 2377 – an investigation into the treatment of costs for large customers – PGE speaks to the evolving implications of large load integration on system planning and cost recovery, including implementation of House Bill 3546 (2025). In UM 2024 - an investigation into Oregon's Direct Access Program - PGE has consistently emphasized the need for a clear, durable framework that balances affordability, reliability, and decarbonization ensuring all load serving entities share in resource adequacy responsibility and costs including new large loads.

The draft energy strategy suggests there is a risk that utilities will rely on wholesale market purchases to meet the power needs of new large loads. As discussed above, PGE is very engaged with stakeholders at the OPUC on how to serve large load growth in context of broader system needs. This assumption paints utilities across the state with a broad brush without nuance and we suggest it be refined or deleted.

The draft also proposes directing the Environmental Quality Commission to adopt rules imposing registration and reporting requirements on all new large electric loads to inform greenhouse gas emissions analyses, and to evaluate whether policy changes are needed to bring emissions in line with state policies. If a large load is a retail customer of PGE or an electricity service supplier, the electricity supplied is *already* subject to HB 2021 requirements. Singling out specific customers for clean energy target compliance does not address the barriers to providing reliable, affordable, and increasingly clean power.

Maintaining affordability means prioritizing actions and avoiding duplication
As we work to modernize and strengthen the grid to meet Oregon's rapidly growing demand for electricity, advance the clean energy transition, protect the grid against increasing cybersecurity threats, and prepare and protect against unpredictable and extreme weather – including the risk of catastrophic wildfires from all causes – Portland General Electric is focused on keeping the cost of electricity as low as possible. PGE encourages any new work by state agencies be carefully prioritized given limited state resources, and any additional funding requests must consider the impact on customer affordability.

Given the substantial energy legislation passed in the recent legislative session, it is concerning that ODOE's draft State Energy Strategy includes a variety of proposed actions that are redundant to existing work or law or add to agency workloads. For example, the draft

proposes studies of issues already under deep analysis in dockets at the OPUC (such as interconnection) and suggests new regulatory requirements where newly passed laws address the same issues (such as performance-based utility ratemaking). Any policy or action proposed by ODOE should provide incremental benefit to any existing workstreams.

Additionally, many of the proposed policies and actions add to ODOE's workload in the form of new studies or reports, or to other state agencies' workload. Due to federal funding changes and the impact on state revenue, we do not assume this work will be funded with limited state general funds and we would be concerned about new fees on utility customers or energy supplier assessment increases. The OPUC has also a substantial workload coming out of the last session in addition to existing and on-going regulatory activities, with much of the agency's work funded by an assessment on utilities paid by customers.

Similarly, many of the proposed policies and actions in the "Buildings" category touch on work handled by the Energy Trust of Oregon (ETO), for which PGE's customers already pay for administration, delivery, and incentives. The proposed policies and actions should complement or offset the ETO's existing work, and should include clear outcomes and complement or offset current ETO costs.

Leveraging innovation for economic growth in the clean energy transition.
Innovation must be a central pillar of Oregon's energy strategy. The State Energy Strategy should support the deployment of new technologies including battery storage, hydrogen, demand flexibility, and virtual power plants through regulatory clarity and supportive market structures. Some of the technologies required to reach 100% clean electricity have not reached commercial maturity or are still in development. Their eventual deployment will not only transform our energy system but also unlock significant technical and economic potential for Oregon. This transition presents a unique opportunity to align the state's energy goals with a forward-looking economic development strategy. We encourage ODOE to consider how the energy strategy can serve as a catalyst for innovation-driven growth. Oregon has a strong track record of nurturing advanced sectors such as mass timber and advanced manufacturing – industries that have thrived due to the state's supportive ecosystem and commitment to sustainability. By leveraging this reputation, Oregon can foster clean technological innovation ecosystems that support the energy transition while expanding the state's economic portfolio.

Next Steps
ODOE has crafted a lengthy draft energy strategy detailing 42 proposed policies and actions. While the materials are comprehensive, the breadth and detail can make it challenging to see how these proposals might take shape in the near term and how ODOE will help

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policymakers understand the costs, benefits, and tradeoffs. Providing this context will be important to ensure the State Energy Strategy translates into implementable policies that genuinely support progress toward providing reliable, affordable, and increasingly clean power.

We look forward to continued engagement as the recommended legislative and policy actions are refined, finalized, and prioritized.

Sincerely,

Greg Alderson
Director, Government Affairs

Pacific Marine Energy Center
Oregon State University
338 Owen Hall
Corvallis, Oregon 97331

15 May 2025

Pacific Marine Energy Center: Comments on Oregon Energy Strategy

To whom it may concern,

We are pleased to provide a series of comments on the draft Oregon Energy Strategy. Our comments are organized by the appropriate sections of the draft report.

Pathways Modeling and Technical Analysis:

1. A variety of PMEC, OSU and community stakeholder have noted the interest in additional details (and results) from the analyses completed by Clean Energy Transition Institute and Evolved Energy Research. The current draft report provide some high-level detail but lacks sufficient data and analyses to inform how the draft recommendations were developed. An addendum, or additional, report on this aspect would be welcomed

Clean Energy Action 3:

1. The mention of additional storage, offshore wind, and SMR renewable energy technologies was noteworthy for the lack of mention of marine energy – specifically, wave energy. Given prior, and existing, State support for wave energy, and the leadership role the State plays in the development of the sector, this omission is noteworthy. Inclusion of marine energy will show the State's continued support for renewable energy from the ocean – and all the effort by our Federal representatives, local companies and universities.
2. Given the tumultuous recent history around floating offshore wind in Oregon, a clear differentiation between wave energy and offshore wind will help communities identify the differences and mitigate possible confusion.
3. Understanding that wave energy is still pre-commercial is important, but this tracks the current status enhanced geothermal and SMRs (both mentioned)

Cross-cutting Action #5:

1. In addition to the biannual survey on energy affordability and a report on trends, it would be good to include an update on new and emerging technologies identified in Clean Energy Action #3.

Cross-cutting Action #11 (develop a community benefits framework):

1. Mandatory v. Voluntary Community Benefits. Mandatory community benefits provisions empower communities, while voluntary ones leave the power with developers. A few U.S. states (New York, Maine, Maryland, Delaware) have some type of mandatory provision in place for community benefits. Mandatory schemes can take different shapes – for example, requiring companies to establish and register a community benefits fund, provide a minimum payment amount to communities, and establish a fund for negotiation and administration.
2. Who is "the community"? Defining the specific, geographic "community" that would receive benefits is not always straightforward. There may be several impacted communities,

depending on the type of development, including communities not located directly near the energy extraction site (for example, those located along new transmission lines, substations, or offshore wind cable landings).

3. Communities and developers may have mismatched benefit expectations. Developers may be willing to invest in certain programs (workforce training, environmental restoration, resilience) that may not match community priorities (housing; social services). As such, early community engagement is vital, as is time and space to allow communities to determine and vocalize their priorities. In addition, while developers often defer to elected leaders, community benefits should be brokered beyond these local officials in order to take into account community needs and desires.

4. Provisions for communities to negotiate and enforce benefit agreements. Communities often lack funds and resources for the technical and legal expertise required to negotiate benefit agreements with developers. There is a potential role for third party support or technical assistance. The state could consider setting aside funds for this purpose explicitly, or require developers to provide this. This would help avoid community benefits reinforcing existing inequities, with marginalized communities securing less desirable agreements compared with better resourced ones.

I provide these comments on behalf of members of the Pacific Marine Energy Center at OSU and to help support the incredible work of the team at the Oregon Department of Energy. We would welcome any opportunity to discuss them in more detail.

Sincerely,



Dr. Bryson Robertson
Director, Pacific Marine Energy Center
Professor, Civil and Construction Engineering
Oregon State University

Port of Portland

Monday, September 22, 2025

By ODOE online comment portal

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

RE: Port of Portland comments on Draft Oregon Energy Strategy

Dear Oregon Department of Energy,

The Port of Portland (Port) understands the complexities of different sectors' energy priorities and the need to outline a strategic plan concentrating on near-term efforts to advance the State of Oregon's energy policy objectives. We appreciate the process that the Oregon Department of Energy (ODOE) used to develop this report and the opportunity to comment.

The Port facilitates the movement of goods and provides efficient cargo and air passenger access to national and global markets. Our mission is to build shared prosperity for the region through travel, trade, and economic development – which depend on long-haul, high-energy modes like ships and planes. The Port supports our aviation and marine partners in their own efforts to join regional and international initiatives in reducing climate impacts. Sustainable aviation fuel (SAF) is the only viable energy transition option for long-haul commercial aviation and the Port recently received an EPA's Clean Ports Planning grant to identify emerging low carbon fuels for vessels that call to our terminals. The Port's role in these efforts is to advocate for policies and partnerships that support our airlines' and marine vessel operators' access to low-carbon fuels. Our work has focused on a few priority areas: ensuring local policies enable the use of low carbon fuels in existing fuel delivery infrastructures and development of tax incentives for production and utilization of such fuels in Oregon. While the State of Oregon has developed a clean fuels program that has been impactful for use of low-carbon fuels, work remains to be competitive in the fuel market, specifically SAF. We offer the following comments:

- The transportation sector has several emerging low carbon fuels that are already being produced and delivered to users via existing fuel delivery pathways. Producers of low carbon fuels evaluate potential sites based on multi-faceted sets of criteria that are often specific to their own business models, local permitting requirements, current delivery modes to customers, and access to various energy and feedstock resources. However, producers also face siting and development challenges. Therefore, the Port encourages revising legislative and policy action Low-Carbon Fuel (1) as follows: *Direct the Oregon Department of Energy, Oregon Department of Land Conservation and Development and Business Oregon to identify and establish policies with the greatest opportunity for supporting low-carbon-intensity fuel production development in Oregon.* Though an effort to help identify potential sites may bring some unique understandings, this work may not consider business constraints specific to individual companies. The Port believes this effort is better suited for individual companies to evaluate and

recommends ODOE work to ensure State and local policies are aligned to support low carbon fuel production and utilization of existing fuel delivery infrastructure.

- As the draft report outlines, much of the transportation sector is hard-to-decarbonize due to the lack of alternative technologies that can meet the sector's high energy needs. These hard-to-decarbonize modes are dependent on the expansion and availability of low-carbon fuels across the entire transportation system, including Oregon. The Port supports the legislative and policy action, Low-Carbon Fuel (2), *Direct the Oregon Department of Energy to develop a low-carbon fuels roadmap that evaluates current policy support mechanisms for low-carbon fuels, identified gaps and opportunities, and recommends additional support mechanisms that align with regional and national frameworks for low-carbon fuels in transportation and in commercial and industrial sectors.* We have found that introducing emerging low-carbon fuels has been challenging regarding alignment of needed policies and fuel delivery infrastructure due to lack of understanding specific needs for each fuel. As such, the Port strongly urges ODOE to receive stakeholder input on the development of this roadmap.

Again, the Port appreciates the substantial effort that ODOE has undertaken to prioritize near-term actions to ensure Oregon can support the transition to cleaner and more sustainable sources of energy. Low-carbon fuels are key components of Oregon's climate initiatives, and without the development and utilization of low-carbon fuels for hard-to-decarbonize transportation modes, Oregon risks falling short in meeting its goals. The Port continues to support the development and availability of these fuels in our region to assist in the State's efforts to reduce climate impacts and improve local air quality for surrounding communities. Please contact Cassandra Jackson at 503-415-6813 or cassandra.jackson@portofportland.com if you have any questions.

Sincerely,

Cassandra Jackson

Cassandra Jackson
Manager, Air Quality and Energy
Port of Portland

THE BUREAU OF
PLANNING & SUSTAINABILITY

September 22, 2025

Oregon Department of Energy
550 Capitol St. NE.
Salem, OR 97301

RE: Draft Oregon Energy Strategy

The City of Portland Bureau of Planning and Sustainability (BPS) respectfully submits these comments in response to the Oregon Department of Energy's draft policy recommendations for the Oregon Energy Strategy. BPS commends ODOE on the thorough and intentional process, from gathering robust input that informs a sophisticated model to creating inclusive workgroups that captured feedback from a wide variety of stakeholders. BPS supports the overall finding of the Oregon Energy Strategy – that Oregon must electrify our energy supply as soon as possible to deliver immediate economic and health benefits to Oregonians, while maximizing approaches that benefit historically underserved communities.

The five pathways identified in the Energy Strategy – energy efficiency, electrification, clean electricity, low-carbon fuels, and resilience – correctly capture and reflect the need for an interconnected approach to guide the State of Oregon in our energy transition. The City of Portland's Climate Emergency Workplan is well-aligned and supports many of the policies identified in the Energy Strategy. BPS applauds ODOE's inclusion and discussion of strategic electrification, advanced building codes, and a coordinated approach to clean energy infrastructure as critical policy levers where the state has unique authority to catalyze change. As an example, modifying the Oregon Residential Specialty Code to require electric heat pumps for cooling instead of conventional air-conditioning would reduce greenhouse gas emissions while increasing resilience to extreme heat events and housing affordability over the long term. BPS supports proposed policy intervention that promotes electrification via fuel

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Traducción e Interpretación | Biên Dịch và Thông Dịch | अनुवादन तथा व्याख्या | 口笔译服务 | Устный и письменный перевод | Turjumaad iyo Fasiraad | Письмовий і усний переклад | Traducere și interpretariat | Chiaku me Awewen Kapas | 翻訳または通訳 | ການແປພາສາ ຫຼື ການອະທິບາຍ | الترجمة التحريرية أو الشفهية | Portland.gov/bps/accommodation

switching, a rapid shift to zero-emissions vehicles, all-electric new construction, and coordinated administration of our electric grid.

The Energy Strategy elaborates upon its pathways and policies to identify 42 Legislative and Policy Actions that are meant to be near-term. At a high level these detailed actions generally fall into two categories – actions to study and actions to fund. BPS's opinion is that too many of the actions suggest further investigation by workgroups and task forces to develop a roadmap or report. Given the urgency of the climate emergency, the state should only study what is critically important, like "Climate-Aligned Transportation Funding" and instead prioritize funding for actions that advance progress towards Oregon's decarbonization mandates.

The set of policy actions proposes a variety of incentives, revolving loan funds, and grant programs to deliver equitable programs. However, lack of funding was the dominant theme during the 2025 Legislative Session. For example, the Community Heat Pump Deployment Program went unfunded despite its critical importance to meeting the state goal of installing 500,000 heat pumps by 2030. BPS supports the vision of a prosperous ecosystem of equitable incentives for heat pumps, electric vehicles, home improvements, and workforce development, but it is clear now more than ever that state leadership must identify robust funding sources to tackle the climate emergency and guide the energy transition. Durable and dedicated energy funding will enable more private sector investment, which supports job growth and can help make Oregon a hub and net exporter of clean energy technology. We know that the clean energy economy we envision will have high upfront costs; the Oregon Energy Strategy makes clear that the cost of delay is significantly more costly.

BPS appreciates the opportunity to inform the final version of the Oregon Energy Strategy via workgroups and via written comments. The Strategy, its underlying model, and complementary analysis of equity and jobs present a well-grounded and well-vetted framework to guide Oregon to a clean energy economy. BPS encourages ODOE and the State Legislature to act with urgency, to take strong and swift actions to realize the benefits outlined in the Energy Strategy, and to avoid the pitfalls and costs of inaction.

Respectfully,

Paul Hawkins
Buildings and Energy Program Manager
City of Portland Bureau of Planning and Sustainability

PUBLIC POWER COUNCIL
Bringing public power together

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September 22, 2025

Ms. Edith Bayer
Energy Policy Team Lead
Oregon Department of Energy
550 Capitol Street NE, 1st Floor
Salem, OR 97301

RE: Public Power Council Supplementary Comments on Draft ODOE Energy Strategy

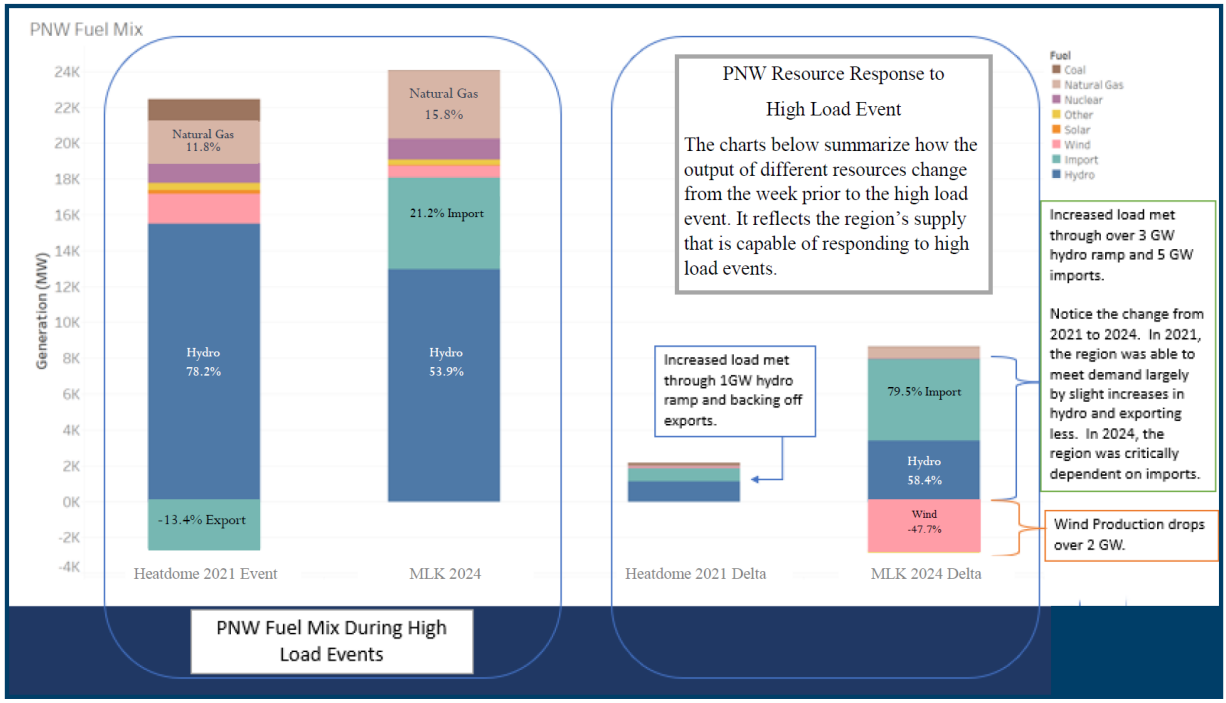
Dear Ms. Bayer:

The Public Power Council (PPC) proudly supports the written comments jointly submitted September 22 to the Oregon Department of Energy (ODOE) from the Oregon Rural Electric Cooperative Association (ORECA), Oregon People's Utility District Association (OPUDA), the Oregon Municipal Electric Utilities Association (OMEU) and PPC regarding the state's draft Energy Strategy. PPC respectfully submits these supplementary comments not only as a regional trade association representing more than 80 consumer-owned utilities in the Pacific Northwest – including those in Oregon – but also as a member of the Advisory Group convened by ODOE to provide input into the draft strategy.

We at PPC are concerned about an impending inability to reliably and affordably meet the electricity needs of Oregon's citizens and businesses given Oregon's restrictive policies that do not allow for the development of dispatchable capacity resources such as baseload and peaking natural gas plants and small modular nuclear reactors.

PPC submits for the record a presentation slide we are sharing publicly regarding the leading capacity resources the region – including the state of Oregon – is increasingly relying upon in extreme events, such as the 2021 heat dome and 2024 extreme cold weather period. Overwhelmingly, it should be noted, hydropower – by a long shot – is the leading resource keeping the power flowing when consumption (load) and capacity needs spike, followed by natural gas-powered generation resources. (See slide on following page).

PNW High Load Events



PUBLIC POWER COUNCIL

Given Oregon's history in clean energy and renewables development and corresponding policies – and the continued push for such development as well as reduced emissions standards for electricity generation in this state – it would be unproductive to suggest a complete 180 degree turn from these policies given the state's political climate and will of certain vocal stakeholders. At the same time, the region is facing an unprecedented growth trajectory of 30 percent more electricity consumption over the next decade that energy providers in Oregon are not prepared to handle given the limited options we have in place today (e.g., a prohibition on the construction of new natural gas plants, for instance).

So what's an appropriate step for Oregon? Directly to our south, the state of California and its policymakers have already wrestled with this same challenge – and addressed it with a comprehensive set of actions. California, known and respected by many in Oregon in developing energy policies that were frontrunners to many of ours, confronted the same harsh reliability quandary a few years ago that we are now just beginning to experience in Oregon.

Specifically, California over a period of years developed and instituted policies that embraced and prioritized intermittent renewable policies and energy resource development over traditional dispatchable capacity investments in resources such as hydro, natural gas and nuclear power. Then, the reality of these policy preferences hit home: **California went too far, too fast.**

As Oregon crafts its energy strategy, it stands to gain invaluable lessons from California's recent experience in building a more resilient and reliable grid under pressure – which also came at a cost. In July 2021, California Governor Newsom's emergency proclamation eliminated permitting hurdles and accelerated deployment of battery storage, long-duration energy resources, and demand-response programs to bolster system flexibility during extreme heat and drought. Shortly thereafter, California's legislature enacted groundbreaking measure – such as establishing a Strategic Reliability Reserve under the Department of Water Resources along with the Strategic Reliability Reserve Fund, extending life for critical generation facilities including Diablo Canyon, and funding distributed backup assets – that together fortify reliability across summer peak periods.

Further cementing this shift, California Senate Bills 846 and 1020 institutionalized quarterly and annual joint reliability assessments across the Energy Commission, the Public Utilities Commission, and the Air Resources Board, enabling sustained planning and accountability. Integrating analogous reliability frameworks into Oregon's energy policy would not only future-proof its grid against escalating climate disturbances but would also ensure the state pursues a cleaner energy transition without compromising the continuity and resilience its citizens expect.

Several times in the ODOE energy strategy development process, we at PPC have advocated that Oregon "not recreate the wheel," and that the state – with its similar policy approaches to California – should look to the example that has been heralded as a success in our neighbor state as it realized it had over-invested in intermittent resources and under-invested in dispatchable capacity. Below are details pulled directly from the public-facing websites of these critical programs run by the California Energy Commission and Department of Water Resources that Oregon should study and consider adopting in policy changes and legislation, which can be propelled through ODOEs energy strategy.

To avoid blackouts, the State of California has developed a "Strategic Reliability Reserve," consisting of three separate programs meant to serve as an insurance policy safeguarding the electric grid during extreme weather events driven by climate change (e.g. – heat events, wildfires). While this reserve system includes some diesel and natural gas generation to meet short-term emergency needs, it is also "hydrogen ready." While the

Oregon draft strategy lacks any meaningful discussion about reliability as we work to meet our clean energy future, and could benefit from an approach developed and embraced by California that both acknowledges the imminent threat to reliability but then addresses it through the support of emergency generation while also providing a glide path to a cleaner future for these resources. California has already realized that they cannot sacrifice reliability in pursuit of clean energy ambitions and has taken steps to address both goals in the near and longer term – Oregon can and must do the same.

California Strategic Reliability Reserve

Extreme heat events and wildfires remain a threat to grid reliability and can strain the grid for days or weeks. The Strategic Reliability Reserve (SRR) was developed in 2022 as part of Assembly Bill 205 (Committee on Budget, Chapter 61, Statutes of 2022) to expand the resources capable of managing or reducing net-peak demand during extreme events. The SRR provides funding to secure conventional generation, efficiency upgrades at existing natural gas plants, demand response, distributed generation, and long-duration storage. The SRR is consists of three programs, two of which are administered by the CEC and one is administered by the Department of Water Resources.

1) **Distributed Electricity Backup Assets Program (CEC)**

The Distributed Electricity Backup Assets (DEBA) Program incentivizes the construction of cleaner and more efficient distributed energy assets that serve as on-call emergency supply or load reduction for the state's electrical grid during extreme events. Projects that may be eligible for incentives include efficiency upgrades, maintenance, and capacity additions to existing power generators, as well as new zero- or low-emission technologies, including, but not limited to, fuel cells or energy storage, at existing or new facilities. All funding recipients under the program shall participate as an on-call emergency resource for the state during extreme events.

2) **Demand Side Grid Support Program (CEC)**

The California Energy Commission (CEC) Demand Side Grid Support (DSGS) Program is part of California's Strategic Reliability Reserve, a suite of programs to alleviate tight energy supplies on the grid caused by heatwaves, wildfires, and other ongoing impacts of climate change. DSGS offers incentives to electric customers that provide load reduction and backup generation to support the state's electrical grid during extreme events from May to October, reducing the risk of rotating power outages. The DSGS Program is open to eligible DSGS providers and participants and has four incentive structure options to choose from.

3) Electricity Supply Reliability Reserve Fund (DWR)

The Statewide Energy Office oversees programs funded by the Electricity Supply Reliability Reserve Fund and the Diablo Canyon Extension Fund. Both funds were established in 2022 by legislation that directs the Department of Water Resources (DWR), with its expertise as one of the largest power producers in California and prior experience with emergency power procurement, to be a backstop to the State's traditional electricity supply planning and procurement.

The Legislature created this role for DWR as California transitions to clean energy and leads the nation in electrification while climate change-induced extreme weather and emergencies are negatively impacting electric reliability.

The program's responsibilities include:

- Developing, owning, or contracting for new emergency and temporary generation to provide incremental power during extreme events
- Extending the operations of existing resources that would have otherwise retired to ensure a reliable and equitable transition to the clean energy future
- Interim procurement such as imported energy while California expands its clean generation fleet.

The Statewide Energy Office works closely and collaboratively with the California Air Resources Board (CARB), California Energy Commission (CEC), California Independent System Operator (CAISO), California Natural Resources Agency (CNRA), and California Public Utilities Commission (CPUC).

Emergency & Temporary Power Generation

Beginning with Governor Newsom's 2021 emergency proclamation following the devastating Bootleg Fire, the Statewide Energy Office worked with the CEC and CAISO to develop emergency and temporary power generation projects to address extreme heat and an unusually high demand for electricity. The 2021 work resulted in 120 megawatts of additional generation capacity brought online in under two months.

Since then, the Statewide Energy Office expanded the number of emergency and temporary generators under the Electricity Supply Reliability Reserve Fund to address extreme events that impact electric reliability.

Small Power Plant Exemption

The CEC Small Power Plant Exemption (SPPE) process allows applicants proposing thermal power plants between 50 and 100 MW to obtain an exemption from the CEC's jurisdiction and proceed with local permitting rather than requiring CEC certification. The CEC can grant an exemption if it finds that the proposed facility will not create a substantial adverse

impact on the environment or energy resources. These facilities were exempted from the CEC's jurisdiction.

Distributed Electricity Backup Assets Program

The Distributed Electricity Backup Assets (DEBA) Program incentivizes the construction of cleaner and more efficient distributed energy assets that serve as on-call emergency supply or load reduction for the state's electrical grid during extreme events. Projects that may be eligible for incentives include efficiency upgrades, maintenance, and capacity additions to existing power generators, as well as new zero- or low-emission technologies, including, but not limited to, fuel cells or energy storage, at existing or new facilities. All funding recipients under the program shall participate as an on-call emergency resource for the state during extreme events.

As well, in anticipation of push-back from a number of stakeholders that may balk at an Oregon reliability emergency reserve program or other measures that, even if only used in emergency situations, rely on natural gas, diesel, gasoline or other "burned" fuels producing emissions, it must be noted that Oregonians – like many Americans – are taking matters into their own hands with record-breaking purchases of standby emergency and portable generators. This not only contributes heavily to the state's emissions profile, one could argue it also further drives an energy equity disparity between those Oregon citizens with disposable incomes and those who are economically disadvantaged.

Recent market analyses show that the U.S. portable generator industry was valued at nearly $3.8 billion in 2024, with steady growth expected over the next decade. California's experience offers a cautionary lesson: when centralized emergency backup is unavailable, consumers fill the gap themselves. In just a few years, the population of diesel backup generators in the Bay Area and Southern California surged by more than 30 percent, creating a "hidden grid" of small, unregulated machines that together represent gigawatts of capacity. Nearly 90 percent of these units run on diesel fuel, a resource with a particularly high emissions profile.

From an environmental standpoint, small gasoline and diesel generators are far less efficient than utility-scale resources. Studies from the National Renewable Energy Laboratory show that per unit of electricity, portable units emit significantly more CO_2, NO_x, and fine particulate matter (PM2.5) than modern natural gas turbines. Worse, these emissions occur in residential neighborhoods, close to homes and businesses, where localized air quality impacts are greatest.

The equity implications are equally concerning. Standby home generators often cost several thousands of dollars, plus ongoing fuel and maintenance, which places them out of

reach for low-income households and most multi-family dwellings. As a result, backup power becomes a luxury good: families with means keep their lights and appliances on, while vulnerable communities face longer and more dangerous outages. Those without access to reliable backup resources risk losing refrigerated food and medications, facing unsafe indoor temperatures, or being unable to power critical medical devices.

By contrast, a centrally managed reliability reserve program that incorporates hydrogen-ready natural gas peaking plants or high efficiency/low emissions "latest generation" technology would provide backup in a more efficient, regulated, and equitable way. These units can be tightly limited to emergency use only, for instance, minimizing their operating hours and climate impact, while serving a broad population rather than a narrow slice of wealthier customers. Because they are subject to permitting and oversight, their emissions are more easily monitored and mitigated. And importantly, hydrogen-ready facilities create a pathway to transition toward cleaner fuels as technology and supply chains mature.

For these reasons, Oregon's energy strategy should carefully weigh not just the presence or absence of fossil fuels, but the real-world alternatives that households and businesses will inevitably pursue if the state prohibits any form of utility-scale backup or other viable options in an otherwise "anti-capacity" energy strategy. Without a balanced approach, Oregon risks a future where its emissions profile worsens and reliability is increasingly stratified by income – an outcome neither equitable nor sustainable.

Again, we offer these comments as a supplement to the other comments provided by the coalition of public power utility trade organizations described in the opening paragraph. We very much appreciate the opportunity to submit comments into this process and are grateful for the opportunity to serve on the Advisory Committee.

Regards,



Scott Simms
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PACIFIC PROPANE GAS ASSOCIATION

September 16, 2025

Oregon Department of Energy
550 Capitol St NE, 1st Floor
Salem, OR 97301

Re: Pacific Propane Gas Association Recommendations to the Draft Oregon Energy Strategy

On behalf of the Pacific Propane Gas Association (PPGA), which represents propane marketers, retailers, equipment manufacturers, and distributers across Oregon, we appreciate the opportunity to submit the following comments on the Draft Oregon Energy Strategy. We support the state's efforts to build a clean, reliable, affordable, and equitable energy future. However, we urge the Oregon Department of Energy (ODOE) to revise several assumptions and recommendations that overlook the strategic, low-emissions, and resilient role propane can play across multiple sectors – especially as Oregon faces rapid load growth,[1] energy infrastructure vulnerabilities,[2] and increasing affordability challenges for rural and underserved communities.[3]

I. Low-Carbon Fuels Pathway Should Fully Integrate Propane's Role in Hard-to-Electrify Sectors

The strategy's fourth pathway – "Advance the use of low-carbon fuels in the hardest-to-electrify end uses" – appropriately acknowledges the need for non-electric solutions in industrial, agricultural, and heavy-duty transportation sectors. Propane stands a commercially available, lower-emissions,[4] and cost-effective fuel for many of these applications.

The Draft Strategy notes that while some fuel solutions such as renewable diesel, biodiesel, and ethanol are utilized in transportation today, others such as hydrogen and ammonia are not at market scale yet. It should be noted that propane autogas stands as a readily available, low-carbon fuel alternative for the transportation sector, and is classified as a clean alternative fuel under the Clean Air Act Amendments of 1992.[5]

According to the U.S. Department of Energy's Alternative Fuels Data Center (AFDC), propane vehicles emit 13% fewer lifecycle greenhouse gas (GHG) emissions than gasoline vehicles and can reduce petroleum use by 99%.[6] Moreover, renewable propane - derived from biogenic feedstocks - is increasingly entering

[1] Public Utility Commission : Large Customer Demand : Utility Regulation : State of Oregon. (2016). Oregon.gov; Large Customer Demand : Public Utility Commission. https://www.oregon.gov/puc/utilities/Pages/Large-Load.aspx
[2] State of Oregon: Safety & Resilience - Oregon Energy Security Plan. (2019). Oregon.gov. https://www.oregon.gov/energy/safety-resiliency/Pages/Energy-Security-Plan.aspx
[3] O'Leary, S. (2019, January 2). Low-income Oregonians struggle with energy costs - NW Energy Coalition. NW Energy Coalition - for a Clean and Affordable Energy Future. https://nwenergy.org/featured/low-income-oregonians-struggle-with-energy-costs/
[4] *Carbon Dioxide Emissions Coefficients,* Energy Information Administration, (September 18, 2024), https://www.eia.gov/environment/emissions/co2_vol_mass.php
[5] Alternative Fuels Data Center: Propane Basics. (n.d.). Afdc.energy.gov. https://afdc.energy.gov/fuels/propane-basics
[6] Alternative Fuels Data Center: Propane Vehicle Emissions. (n.d.). Afdc.energy.gov. https://afdc.energy.gov/vehicles/propane-emissions

the commercial market which can be four times lower than the carbon intensity of conventional propane.[7] Renewable propane is chemically identical to conventional propane, but is produced from renewable sources such as vegetable oils, animal fats, and other organic materials. This makes it a "drop-in" fuel, meaning it can be used in existing propane systems without modifications.[8] As such, we would encourage the ODOE to specifically recommend the expansion of propane autogas infrastructure to advance low-carbon transportation, as well as expansion of renewable propane production within the state of Oregon.

II. Resilience Strategy Should Include On-Site Propane Solutions for Grid-Outage Scenarios

The Draft Oregon Energy Strategy rightly identifies resilience as a key pillar of the energy transition, especially in the face of wildfires, ice storms, and grid-constrained regions. However, the strategy leans heavily on distributed energy resources (DERs) like solar-plus-storage while minimizing the role of dispatchable thermal fuels that do not rely on electric grid uptime.

Propane plays a critical role in resilience planning. It powers school and transit buses, supplies backup generators for hospitals and emergency shelters, and provides reliable winter heating for over 30,000 Oregonians.[9] In emergency settings, propane's portability, indefinite shelf life, and ability to operate independently of utility infrastructure make it a proven solution.

Oregon itself has supported the expansion of energy resilience in energy infrastructure. House Bill 2066 modified the state's Community Renewable Energy Grant Program to expand eligibility and adjust funding criteria for projects that improve energy resilience in critical infrastructure. Specifically, the bill directs the Oregon Department of Energy to prioritize projects that deploy microgrids and other distributed energy resources capable of maintaining essential services during power outages. While the legislation emphasizes renewable generation, it also supports hybrid and dispatchable systems that can integrate low-emission fuels to ensure reliability. Accordingly, the ODOE should explicitly incorporate propane into its resilience planning in the Draft Strategy to be in accordance with HB 2066 and clarify that "clean fuels" do not exclusively mean electricity.

III. Electrification Assumptions Underestimate Cost and Equity Barriers for Many Oregonians

The modeling presented in the Draft Strategy overestimates the cost-effectiveness and feasibility of full building and transportation electrification – particularly in rural, low-income, and tribal communities. The household energy wallet analysis included in the complementary technical report itself admits that heat pump conversions may not be cost-saving for all households, and that the analysis "does not capture the full range of heating fuels used by Oregonians"[10]

Propane offers a low-emissions, cost-effective solution for space heating, water heating, and cooking in existing buildings, particularly where weatherization upgrades and panel capacity are lacking. The Energy Information Administration has documented that average electric system outage times have roughly

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[7] Alternative Fuels Data Center: Renewable Propane. (2024). Energy.gov. https://afdc.energy.gov/fuels/propane-renewable
[8] *Id.*
[9] *Propane's Impact on Economy: 2021 Oregon,* National Propane Gas Association, https://www.npga.org/wp-content/uploads/2024/05/Oregon_2024.pdf
[10] *Oregon Energy Strategy Complementary Analysis,* Evolved Energy Research, Prepared for: Oregon Department of Energy, (August 2025), https://www.oregon.gov/energy/Data-and-Reports/Documents/2025-OES-Complementary-Analysis-Tech-Report.pdf

doubled between 2013 – 2020.[11] Forced electrification risks exacerbating energy burden, increasing reliance on volatile electricity markets, and ignoring the lived realities of residents not well-positioned to retrofit their homes or install expensive charging infrastructure chargers.

We urge ODOE to embrace a more pragmatic "energy diversity" framework that gives households flexibility in fuel choice while still advancing the state's climate goals. Oregon's energy strategy should not penalize homes or businesses that choose cleaner combustion fuels over prohibitively expensive electric conversions.

IV. Propane as a Strategic, Low-Carbon, and Resilient Energy Source

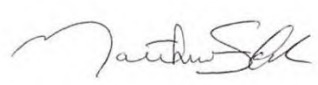
Given the above considerations, the PPGA would recommend that the ODOE consider the below revisions to the Draft Energy Strategy:

- Include propane and renewable propane in its definition and modeling of low-carbon fuels across transportation, industrial, and building sectors;
- Explicitly recognize propane's resilience benefits, including in backup generation and emergency preparedness;
- Address equity and cost-effectiveness limitations of full electrification in low-income and rural communities;
- Support fuel-neutral policies that allow multiple technologies to compete to lower emissions, rather than prescriptive bans or forced electrification mandates.

Oregon has long been a national leader in clean energy policy. By including propane and renewable propane in its vision, Oregon can accelerate decarbonization, improve grid resilience, and protect affordability, especially for the rural and underserved communities the strategy aims to uplift.

Thank you for the opportunity to comment. We look forward to continued engagement as the strategy is finalized.

Respectfully submitted,



Matt Solak
Executive Director
Pacific Propane Gas Association

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[11] U.S. electricity customers experienced eight hours of power interruptions in 2020, U.S. Energy Information Administration, (November 10, 2021), https://www.eia.gov/todayinenergy/detail.php?id=50316

Comments on Draft Oregon Energy Strategy

By Randal O'Toole, Thoreau Institute, Camp Sherman, Oregon, rot@ti.org 12 September 2025

I wish to comment on policy 1c of the draft *Oregon Energy Strategy*. This policy reads, "Prioritize policies and increase support for programs that expand access to multimodal transportation options – including public transit, biking, and walking infrastructure – and promote development patterns that make it easier and more appealing for people to live, work, and access services without relying on a personal vehicle."

The draft document goes on to say, "Reducing the overall amount of driving, particularly in urban areas, is critical to achieving Oregon's clean energy goals at the lowest possible cost while maximizing potential benefits." If reducing driving is critical to Oregon's goals, then the strategy has already failed. Portland and other cities around the country have been attempting to reduce driving for several decades, and it has never worked. Oregon should adopt a strategy that can actually make a difference rather than one that depends on a policy that is guaranteed to fail.

U.S. Efforts to Reduce Driving Have Failed

In 1970, Americans realized that auto driving produced huge benefits but also came with significant negative externalities. Cars were gas guzzlers, averaging just 13.5 miles per gallon. More than 50,000 people a year were dying in traffic accidents. Toxic air pollution created serious health problems for many people. Portland skies were so polluted that it was often difficult to see Mount Hood on a sunny day.

The federal government attacked these problems using two strategies. First, the Environmental Protection Agency, which was created in 1970, encouraged cities to try to reduce driving. Instead of building more roads, many cities spent billions of dollars on urban transit. Urban freeways and arterials became congested, which planners hoped would discourage people from driving. Nearly 100 cities also closed downtown areas to automobiles and even more reduced the capacities of many streets to move traffic.

The second strategy was based on making better automobiles. In 1967, the National Highway Traffic Safety Commission issued standards for ever-safer automobiles. In 1970, Congress directed the EPA to issue rules for ever-cleaner automobiles. In 1975, Congress directed the Department of Transportation to issue rules requiring ever-more-fuel-efficient autos.

Five decades later, highway fatalities declined by 35 percent, toxic pollution from motor vehicles declined by nearly 90 percent, cars today average more than 28 miles per gallon, and even light trucks (SUVs, pickups, and full-sized vans) get better than 20.

All these improvements happened solely because of the strategy of improving motor vehicles. Meanwhile, the strategies aimed at reducing driving completely failed as total miles of driving tripled between 1969 and 2019.

Oregon's Failed Efforts to Reduce Driving

Soon after 1970, Oregon and Portland responded to EPA's call to reduce driving. Portland cancelled the planned Mount Hood Freeway in the mid-1970s and spent the funds that would have been spent on the freeway building the region's first light-rail line, which opened in 1986. The last freeway completed in Portland, Interstate 205, opened in 1982. Since then, the region's population has doubled, yet state and local transportation planners refused to add to the region's highway capacity.

The Land Conservation and Development Commission tried to reduce driving with a 1991 transportation planning rule that required planners in the state's major urban areas to "change land-use patterns and transportation systems" with the goal of reducing per capita driving by 10 percent in 20 years and by 20 percent in thirty years. Neither goal was achieved by any urban area, and in 1998 an amendment reduced the 30-year goal to 15 percent, which also is not being achieved.

In 2023, LCDC replaced the driving reduction rule with a set of "climate friendly and equitable communities" rules. There is no evidence that the policies required by these rules, which favor development in "downtowns, pedestrian districts, transit-oriented developments, climate-friendly areas, areas along priority transit corridors, and other mixed-use, pedestrian-friendly centers," will significantly reduce vehicle miles traveled. Portland has been following such policies since the late 1990s with no effect on driving. As documented by Cascade Policy Institute President John Charles in testimony before the Metro Council, even Metro's own transportation planners say that these policies will, at best, reduce driving by 5 percent (which is almost certainly optimistic) and even then planners say it would take 50 years, not 20 or 30, to do so.

The reduce-driving strategies did more harm than good. By not building new roads to accommodate this driving, cities increased congestion, which wasted more fuel and generated more pollution than it stopped. Eugene joined a nationwide trend by closing downtown streets to automobiles, but killed many businesses in those downtowns. Nationwide, nearly 85 percent of pedestrian malls, including Eugene's, have been reopened to automobiles.

Portland officials have claimed that the city has become a mecca for transit, cycling, and walking. The numbers tell a different story. In the early 1980s, Portland transit (including TriMet and C-Tran) carried about 1.8 percent as many passenger-miles as were carried by automobiles, peaking at 1.9 percent in 1984. Light-rail cost overruns forced TriMet to reduce bus service and increase bus fares, depressing transit to 1.4 percent of autos in 1986, the year the eastside light-rail line opened.

Transit's importance relative to driving fluctuated in the following decades, responding more to gasoline prices and the economy than to anything Portland or TriMet did. In 2014, transit peaked at 2.5 percent of auto passenger-miles, but this was short-lived. Despite opening the Milwaukie light-rail line in 2016, transit fell to less than 2.0 percent of auto passenger-miles in 2019. The pandemic depressed this even further, with transit carrying just 1.1 percent of automobile passenger-miles in 2023 and probably little more than that in 2024.

Table 1: How Portland-Area Residents Traveled to Work, 1980-2024

Percentage Share of Commuters by Mode

	Drive Alone	Carpool	Taxi	Transit	Bike	Walk	Other	Home
1980	64.6%	17.7%	0.1%	9.6%	0.6%	4.3%	1.2%	1.9%
1990	73.3%	12.1%	0.1%	6.5%	0.7%	3.3%	0.9%	3.3%
2000	72.2%	11.4%	0.0%	7.4%	0.9%	3.0%	0.8%	4.4%
2010	70.8%	8.7%	0.0%	7.1%	2.6%	3.4%	0.9%	6.4%
2014	68.6%	9.9%	0.0%	7.6%	3.0%	3.4%	0.7%	6.4%
2019	68.4%	8.9%	0.1%	7.7%	2.2%	3.5%	1.3%	8.0%
2024	61.3%	8.6%	0.3%	4.0%	1.5%	2.7%	0.8%	20.7%

The share of commuters traveling by transit has declined since 1980; remote working has had a bigger impact on transit, bicycling, and walking than it has on auto commuting. "Taxi" includes shared rides. Source: Decennial census data for the Portland urban area for 1980 and 1990; 2000 census, table P030; American Community Survey data for the Portland urban area for 2010 through 2024, table B08301 (click on years to get data).

Table 1 shows that less than 65 percent of workers in the Portland urban area commuted by driving alone in 1980, while 9.6 percent rode transit. Thanks in part to TriMet service cutbacks and fare increases, driving alone rose to 73 percent in 1990 while transit commuting fell to 6.5 percent. Since then, driving alone has decreased and transit's share has increased, but as of 2019, the former was still higher and the latter lower than 1980.

The factor that had the greatest impact on auto commuting was neither transit nor bicycles but people working at home, something that Oregon planners neither anticipated nor promoted. From 1990 to 2010, the growth in remote working completely offset the decline in driving alone to work. The massive increase in remote working after the pandemic reduced the share of workers driving alone by 11 percent, but it reduced the share riding transit by 55 percent, bicycling by 24 percent, and walking by 7 percent.

At the same time, if the goal is to reduce driving, boosting working at home isn't going to do it. Studies have shown that people who work at home tend to drive as many or more miles as when they commuted to work by auto; they just drive at different times of the day. One study found that people working at home drive 37 percent more miles than when they worked in an office.

"A high percentage [of telecommuters] travel to a variety of locations to either visit customers and/or use their spatio-temporal schedule flexibility to perform work tasks from locations other than home," the study found. In other words, they go to coffee shops, parks, libraries, and other places where they can get some work done but also enjoy a change of scenery.

Table 2: How the Pandemic Impacted Portland-Area Commuting

Number of Commuters by Mode

	Drive Alone	Carpool	Taxi	Transit	Bike	Walk	Other	Home
2019	738,776	96,214	1,490	83,085	23,256	37,646	13,923	86,013
2024	688,857	96,462	3,192	44,725	16,542	30,835	10,681	233,056
Change	-6.8%	0.3%	114.2%	-46.2%	-28.9%	-18.1%	-23.3%	171.0%

The pandemic had a much greater impact on transit commuting than on auto commuting. Source: see table 1.

Table 2 shows that the increase in remote working since the pandemic had a much bigger impact on transit commuting than on commuting by auto. Between 2019 and 2024, the number of Portland-area workers who worked remotely grew by 171 percent. This depressed the number commuting by transit by 46 percent, yet the number commuting by automobile (alone, in a carpool, or taxi/shared ride) fell by just 6 percent. This is just one more indication of the failure of Portland's and Oregon's policies to promote transit.

Portland also claims to be a bicycle mecca. The share of workers riding bicycles to their jobs grew from 0.6 percent in 1980 to 3.0 percent in 2014, mostly at the expense of transit and walking. However, by 2019 it was down to 2.2 percent. Remote working also took a big bite out of bicycling and walking to work: between 2019 and 2024, as of 2024 just 1.5 percent bicycled to work and the number of Portland-area bicycle commuters fell by 29 percent while the number walking to work fell by 18 percent.

Construction of light rail has meant that a significant share of Portland-area transit trips are powered by electricity instead of fossil-fueled engines. But the resulting reduction in greenhouse gas emissions is more than offset by the increase in greenhouse gas emissions due to the increased congestion that resulted from spending transportation dollars on light rail rather than on increase road capacities.

The Texas Transportation Institute estimates that the amount of gasoline and other motor fuel wasted in the Portland area due to congestion increased from 5.7 million gallons in 1982 to 35.1 million in 2019. Burning a

gallon of gasoline releases about 21 pounds of greenhouse gases, so the increase between 1982 and 2019 represents 282,000 tons of additional greenhouse gas emissions in 2019.

According to the Energy Information Agency, electricity generated in Oregon in 2019 produced 390 pounds of carbon dioxide per megawatt-hour. In 2019, the electricity required to power Portland's light rail therefore generated about 48 grams of carbon dioxide per passenger-mile. That's well below the average of 245 grams for Portland-area transit buses, 197 grams for the average automobile, and 231 grams for the average light-truck.

If all the people riding Portland light rail in 2019 had taken buses instead, those buses would have generated 45,000 additional tons of carbon dioxide. If they had driving light trucks, they would have generated 42,000 additional tons of carbon dioxide; cars would have generated 34,000 additional tons.

Whether light-rail riders would have ridden buses or driven cars or light trucks, if the billions of dollars spent on light rail had been spent instead on cost-effective highway capacity improvements that would have avoided the huge increase in congestion after 1982, that would have saved six to eight times as much greenhouse gas emissions as were saved by light rail. Transit has played an insignificant role in Portland transportation and electric transit has played an insignificant role in reducing greenhouse gas emissions.

Changing Development Patterns Won't Reduce Driving

Part of policy 1c also calls for promoting "development patterns that make it easier and more appealing for people to live, work, and access services without relying on a personal vehicle." Yet this is as likely to fail as prioritizing multimodal transportation.

In 2008, University of California, Irvine economist David Brownstone was asked by the Transportation Research Board to examine the relationship between density and urban form to driving. His report concluded that previous studies that had found that density and things like transit-oriented developments could reduce driving had failed to take self-selection into account. In other words, people who wanted to drive less would tend to choose to live in denser neighborhoods or in transit-oriented developments, but that didn't mean that densities or certain kinds of developments actually reduced driving. Once self-selection was taken into account, Brownstone found, the relationship between urban form and driving was "too small to be useful" in reducing miles of driving or greenhouse gas emissions.

Brownstone didn't say so, but to the extent that studies show that people living in denser areas do drive a little less than people in low-density areas, they also drive at much slower average speeds. Studies show that miles per gallon are maximized at speeds of 40 to 55 miles per hour. Autos also use far more energy during accelerations than when driving at constant speeds, so the stop-and-go traffic resulting from congestion greatly increases emissions.

Few if any transportation models take the effects of travel speeds or congestion on energy use or greenhouse gas emissions into account. If Oregon had included these factors in the transportation models used to develop the Oregon Energy Strategy, the results would have been far different.

The Oregon Energy Strategy is similarly misguided when it promotes denser housing. Surveys show that 80 percent of Americans want to live in single-family homes, yet Oregon in general and Portland in particular is trying to increase the percentage of people living in multifamily housing. This is likely to increase energy consumption. According to the *Buildings Energy Data Book*, single-family detached homes use an average of about 55,000 BTUs per square foot annually, while single-family attached use 60,000, two- to four-unit multifamily use 94,000, and five- or more unit multifamily use 70,000.

The kind of multifamily housing that Oregon is most strongly promoting—four- to six-story midrise housing—also generates more greenhouse gases to build as it requires a lot more concrete and steel than low-rise single-family housing. State and local governments are spending tens if not hundreds of millions of dollars a year subsidizing such housing on the pretense that it will make housing more affordable, but it will not make it more affordable nor will it save energy or lead people to drive significantly less.

Reducing Externalities Works Better Than Trying to Reduce Driving

Automobiles have negative externalities, but they have also produced huge benefits, including giving people access to better jobs, housing, consumer goods, and social and recreational opportunities. Along with electricity, the automobile is one of the two technologies most responsible for the rise in personal incomes and expansion of personal freedom since 1900. A strategy of reducing driving threatens to reduce many of these benefits and is likely to hurt low-income people the most.

As previously noted, all the problems with automobiles in 1970 were greatly reduced in succeeding decades not by getting people to drive less but by making better automobiles. The Oregon Energy Strategy should learn from this by emphasizing more fuel-efficient cars, not reducing driving.

That doesn't necessarily mean electric cars, as policy 2a in the Oregon Energy Strategy suggests. In 2019, U.S. automobiles used more energy, about 13.5 quadrillion British thermal units, than all of the electricity delivered to consumers, which was 12.8 quadrillion BTUs. Even if Oregon could produce all the electricity it currently uses without generating any greenhouse gas emissions, it would have to roughly double that electrical system to also support electric highway transportation. That isn't going to happen any time soon.

Until that becomes possible, Oregon can make significant gains by encouraging people to buy more fuel-efficient cars. Currently, Oregon has a limited program for giving people incentives to buy electric automobiles. Expanding that program to cover any vehicles that get better than, say, 40 miles per gallon could do far more to save energy and reduce emissions at a far lower cost than prioritizing multimodal transportation and emphasizing developments that supposedly discourage driving.

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September 22, 2025

Attn: Edith Bayer
Energy Policy Team Lead
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

RE: RHA Public Comments on Draft Oregon Energy Strategy

Dear Ms. Bayer:

The Renewable Hydrogen Alliance (RHA) appreciates the opportunity to comment on the Oregon Department of Energy's ("the Department") Draft Oregon Energy Strategy. RHA is a regional non-profit trade association enabling access to safe, affordable, and renewable hydrogen for communities across the Pacific Northwest. Our 80+ members represent the full value chain of the hydrogen ecosystem – hydrogen technology and service providers, equipment manufacturers, project developers, public transit agencies, labor unions, utilities, and many others with an interest in the clean and renewable hydrogen sector.

RHA has been a supporter of the Department's efforts to develop this energy strategy, serving as a member of the Advisory Council and participating in the Transportation Electrification and Low-Carbon Fuels Policy Working Groups during the strategy's development. Thus, we've seen firsthand the great amount of work and care that has gone into the development of this strategy and we applaud the Department on its work on this Energy Strategy, and for highlighting the need for continued coordination to achieve the state's energy, environmental, and economic goals.

General Feedback

Focus on Actionable Recommendations: While we find the draft Oregon Energy Strategy to provide a useful framework for how to approach the state's climate and energy goals, RHA urges ODOE to be bolder and more specific to ensure real and achievable policy action. RHA appreciates that the strategy must address several competing priorities and views on trade-offs, but now is not the time to be modest about the very real work that Oregon's legislature, state agencies, municipal governments, and communities must accomplish to meet the state's goals. The Oregon Energy Strategy recommended actions should be prioritized and paired with greater clarity on who would be responsible for taking action (i.e., ownership) and any cross dependencies between the recommendations to help accountable agencies better map their expected implementation partners. The recommendations should also be further refined and strengthened by establishing a specific timeframe for action, and bolstered through follow-on

RHA
RENEWABLE HYDROGEN ALLIANCE

tactical action items. As the strategy is currently drafted, it is not clear how legislators and other policymakers would use the strategy to inform near-term decisions or implementation.

Clearly Identify Frictions: Where possible, the Department should strive to provide more information on the trade-offs it identified, especially any data that could illustrate the magnitude of potential effects.

Prioritize Based on Timing: Additionally, the Department should add timeliness of actions taken to its "Key Considerations in Determining Benefits and Risks of Action," used in the development of the strategy as well as in the draft report. Climate science has shown the potential warming reductions that can be achieved from reducing greenhouse gas emissions as early as possible; economic modeling has also shown cost savings due to timely replacement at the end of asset life over time for early action. However, it is unclear whether or how timing considerations were included as a key consideration/trade-off, and this is evident in some of the recommendations, such as those for studies, which do not appear to account for the pressing need for action.

Timing is of great importance for developing hydrogen production and infrastructure in the state due to the truncation of the 45V tax credit pathway for clean hydrogen production. To qualify for the 45V production tax credit (up to $3/kg), developers now have until December 31, 2027 to establish their projects before the deadline. This means the industry has about 2.5 years of a "make or break" period to get projects off the ground that can provide a foundation to grow the nascent industry. State support for projects during this period is critical – incentives, markets, streamlined processes, supportive policies, and public/private sector collaboration are all needed during this time to build the clean hydrogen production that the draft energy strategy recognizes as an important part of the state's decarbonization pathway.

Identify Specific Funding Streams: Many of the Department's recommendations identify a need to invest in the state's energy infrastructure and/or energy knowledge base, both of which require money and resources. The Department should identify potential sources of funding that could be used to support the identified activities, with a preference for market-based programs that can provide self-sustaining revenue and avoid unduly burdening the state budget.

Modeling Process: The renewable and clean hydrogen industry is a nascent one in the US, making it challenging to develop reasonable assumptions about hydrogen production, consumption, and costs. RHA recognizes that a prolonged wait for guidance from the federal government on how the 45V tax credit for hydrogen projects would be implemented, combined with a change in the federal administration, only added to this challenge. However, despite numerous requests for more specificity on how the model would represent hydrogen, we did not receive many details and were not able to review and provide comments on these details.

The Five Pathways

RHA supports ODOE's selection of the five key pathways, with the proviso that the strategy and recommendations should be explicit about how 'clean electricity' is defined. Neither the Governor's Executive Order No. 20-04 nor HB 2021 (2021) provides a definition for clean electricity, though HB 2021 does define 'nonemitting electricity' as "electricity, including hydroelectricity, that is generated and may be stored in a manner that does not emit greenhouse gas into the atmosphere." RHA urges the Department to be explicit about how it is defining 'clean electricity' for the purposes of the strategy.

As it defines terms for the draft strategy, the Department should also consider any necessary definitions where Oregon was relying on a federal definition that may not last in statute. For example, the Inflation Reduction Act includes a definition for clean hydrogen according to carbon intensity that is also useful for states. If more portions of the IRA are repealed, this federal definition could also be removed from statute.

Legislative and Policy Actions

Transportation

Given the lack of available funding at the state level, RHA recommends that the Department prioritize **Action 1**, establishing a dedicated, sustainable, long-term state revenue source to support decarbonization of the transportation sector, while also including greater specificity as to how the legislature should establish this funding. Given the lack of forthcoming federal funds and the lack of state funds, the only real option for outside funding right now is market-based policy programs, like the Clean Fuels Program and cap-and-trade programs. The strategy should recommend that the Department and Oregon DEQ collaborate on recommendations to the legislature on how the Clean Fuels Program can be further optimized to better support adoption of zero-emission vehicles and related infrastructure, such as with capacity crediting for hydrogen fueling stations, and how a market-based cap-and-trade program could not only provide a self-sustaining source of revenue for decarbonization efforts, but also support Oregon businesses in accessing the full amount of the 45V hydrogen tax credit.

Currently, Oregon and Washington do not have regulatory frameworks in place to certify that hydrogen refueling stations are safe, dispensers are accurate, the hydrogen fuel meets quality standards, and so on. Developing state oversight for forthcoming hydrogen fueling infrastructure will require collaboration between state agencies, technical experts, vehicle OEMs, communities, advocates, and others. This could be a lengthy process and given the strategy's identification of the importance of low-carbon fuels like hydrogen and expected adoption of hydrogen fuel cell vehicles in the state for fleets in the near term, the state should support this work at once. Thus, the Department should also prioritize **Action 11**. However, it is nonsensical to limit the focus of the proposed multi-agency working group to only heavy-duty refueling infrastructure, as the elements of station oversight will apply across all types of

hydrogen fueling infrastructure, and any regulatory framework developed should not exclude oversight of fueling stations based on the size or weight of vehicles serviced by stations. Oregon needs the ability to regulate both light-duty and heavy-duty fueling stations.

RHA supports the **Action 12** recommendation to amend DEQ's Clean Fuels Program to extend Advance Crediting eligibility given how critical support to the fleets in question is to helping operators invest in ZEVs and infrastructure. This action should also direct DEQ to add station capacity crediting for hydrogen fueling stations to help support the introduction of stations early, before there is adequate demand to support them, which in turn helps grow zero-emission vehicle corridors and overall adoption. This crediting is available in the clean fuels programs in California and Washington and has been demonstrated to help break the "chicken or egg" conundrum to support hydrogen fueling stations through the initial hurdle of vehicle adoption.

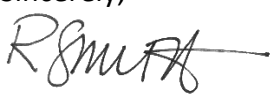
Low-Carbon Fuels

Local production of clean fuels is essential to energy system resilience as well as the achievement of state climate goals. While the state should continue to build a technical understanding of local feedstocks and clean fuel production potential (**Action 2**), creating pathways for pilots and first-of-a-kind projects to test new technologies is an equally important part of Oregon's clean fuels readiness. Additionally, identifying a state-level clean fuel production ambition will help to encourage project developers and align agencies on the scope and scale of actions needed to achieve targets.

Both California and Washington have updated their permitting processes and requirements to streamline permitting for some of the most common types of hydrogen projects. This is expected to help accelerate the production of electrolytic green hydrogen and the development of vehicle fueling stations. Similar policies in Oregon could help to enable timely climate action.

We must act smartly, decisively, but also quickly to speed Oregon on its path to meeting its climate and clean energy goals. We thank the Department for its work on this strategy and urge it to take the steps recommended in these comments to transform it into actionable strategies and tactics.

Sincerely,



Rebecca Smith
Senior Director, Policy and Education

September 22, 2025

Oregon Department of Energy
550 Capitol St. NE, 1st Floor
Salem, OR 97301

RNG Coalition Public Comment on Draft Oregon Energy Strategy

The Coalition for Renewable Natural Gas (RNG Coalition) appreciates the opportunity to submit comments on Oregon's Draft Energy Strategy. We applaud the Oregon Department of Energy for developing this comprehensive strategy to achieve the state's clean energy and climate objectives. We commend the draft for its recognition of renewable natural gas (RNG) as a key component of Oregon's decarbonization pathways – including references to RNG's use in sectors that are challenging to electrify, its deliverability via existing gas pipelines, and its role as a clean fuel for transportation *and* heating. We offer our strong support for these aspects of the strategy and encourage an even greater emphasis on RNG as a reliable, near-term, and scalable solution to reduce greenhouse gas emissions across Oregon's economy.

Recognition of RNG in the Draft Strategy

We are pleased to see that the Draft Oregon Energy Strategy explicitly acknowledges the value of low-carbon gaseous fuels like RNG in the state's energy transition. The strategy correctly identifies that **hard-to-electrify sectors** – such as long-haul trucking, aviation, marine transport, off-road equipment, high-temperature industrial processes, and applications supporting electric grid reliability – will require clean fuels like RNG. By emphasizing **"hardest-to-electrify" industries as targets for low-carbon fuel deployment**, the draft points to RNG as a solution for decarbonizing heavy-duty transportation and heating where electrification is not feasible.

We also note and applaud the draft's documentation of Oregon's progress in adopting RNG to date. For example, Oregon's use of renewable natural gas in the transportation sector has more than doubled from 2019 to 2024, reflecting the success of programs like the Clean Fuels Program in reducing emissions using RNG. The draft further highlights that RNG is already produced in-state from organic waste feedstocks (agricultural, municipal waste, and wastewater) – and that Oregon's local production of RNG provides economic benefits and can improve energy reliability (e.g. by co-locating RNG generation with power plants to help meet peak electricity demand). We commend these forward-looking

elements of the strategy, which recognize RNG as a clean, drop-in fuel for transportation and heating needs that can be delivered through existing infrastructure.

The RNG Coalition agrees with the strategy's approach of integrating RNG into Oregon's energy future alongside renewable electricity and efficiency. By acknowledging RNG's advantages as a drop-in fuel, the draft underscores that RNG can be utilized immediately to decarbonize buildings and industry. Indeed, once upgraded to pipeline quality, RNG is a low carbon direct substitute for fossil natural gas – meeting all the specifications for injection into the natural gas distribution system. We support the draft's recognition that the state's natural gas pipelines can serve as a conduit for clean energy, transporting RNG for use in thermal applications and backup power generation. Importantly, maintaining fuel optionality through RNG will help ensure **energy reliability and resiliency** during the clean energy transition, as RNG-fueled systems can provide dispatchable heat and power when electric systems are constrained – a point reinforced in the draft strategy's discussion of using RNG to help meet peak power demand.

RNG's Near-Term Emissions Benefits and Scalability

We encourage the Oregon Department of Energy to further emphasize in the final strategy that RNG offers immediate and significant greenhouse gas reduction benefits. RNG is produced by capturing methane from sources like landfills, wastewater treatment facilities, animal manure, and agricultural waste – gases that would otherwise escape into the atmosphere. **Methane is a highly potent greenhouse gas**, with 28 times the global warming potential of CO_2 over a 100-year period. Capturing and destroying methane through RNG production therefore yields outsized climate benefits in the near term. The Oregon Department of Energy's analysis has shown that redirecting the state's organic waste streams into controlled RNG production can substantially cut emissions. In fact, if Oregon's available RNG resource potential were fully captured and used to displace fossil natural gas, it could **prevent the release of approximately 2 million metric tons of greenhouse gases** per year[i]. This represents a meaningful contribution toward Oregon's climate goals. We urge the final Energy Strategy to clearly articulate these climate benefits of RNG – emphasizing both methane reduction and that every unit of RNG displaced fossil gas – for a *two-fold greenhouse gas reduction*.

RNG is ready to be deployed at scale, and the strategy should highlight the fuel's scalability and momentum. The technologies to produce RNG – such as anaerobic digestion and landfill gas upgrading – are proven and commercially available today, with dozens of projects already operating on farms, at landfills, and at water resource recovery facilities across the country. In North America, the RNG industry has grown dramatically over the past decade: the number of operational RNG production facilities increased from just 31 in

2011 to over **500 facilities by 2025**, with hundreds more in development.[ii] Oregon is well positioned to capitalize on this growing RNG industry. A state-commissioned resource assessment found that Oregon has sufficient sustainable feedstock to produce enough RNG to replace **10% to 20% of the state's current annual natural gas usage**.[iii] Utilizing this in-state renewable gas potential would not only cut emissions but also improve Oregon's energy security by offsetting a portion of the fossil gas currently imported from out of state.[iv] We encourage the final strategy to reference these findings to illustrate that RNG can be a scalable solution contributing significantly to Oregon's energy mix in the near and medium term.

Importantly, RNG can be expanded *in tandem* with electrification and other renewable solutions. The RNG Coalition views renewable electricity and renewable gas as complementary – not competitive – elements of a holistic decarbonization strategy. Electrification will play a major role in reducing emissions, but as the draft strategy recognizes, certain applications will continue to need molecules rather than electrons for power or heat. RNG can serve those applications with minimal disruption, utilizing **existing appliances, engines, and infrastructure** to deliver carbon-neutral energy. For example, RNG is already being used to fuel transit buses, heavy-duty trucks, and refuse haulers in multiple jurisdictions, cutting lifecycle greenhouse gas emissions and tailpipe pollution in the transportation sector. In building heating, blending and eventually switching to RNG can incrementally lower the carbon intensity of delivered gas for homes and businesses – an approach that aligns with Oregon's Climate Protection Program requirement to reduce emissions from natural gas utilities 90% by 2050. In industry, RNG can provide high-temperature heat for processes that are not easily electrified, such as in food processing or manufacturing, thereby enabling those industries to decarbonize without waiting for new technologies. By highlighting RNG's role across these sectors, the Energy Strategy can reinforce that Oregon has a **portfolio of tools** to reach its climate goals, and that RNG is a critical near-term tool for emission reductions in parallel with long-term transitions.

Conclusion and Recommendations

In closing, the RNG Coalition strongly supports the inclusion of renewable natural gas in Oregon's Draft Energy Strategy and commends the Department of Energy for its thoughtful approach. We recommend that the final strategy further underscore RNG's contributions

as a **reliable, immediately available, and scalable** decarbonization solution for Oregon. This can be done by expanding on the strategy's existing discussion of RNG's benefits – notably, its methane emission reductions, its compatibility with pipeline infrastructure, and its ability to decarbonize hard-to-electrify segments of transportation, buildings, and industry. Emphasizing RNG's role will signal to stakeholders that Oregon is committed to leveraging all available clean energy resources in an integrated fashion.

The Coalition for Renewable Natural Gas appreciates the opportunity to provide these comments. We are encouraged by Oregon's leadership in developing a comprehensive Energy Strategy and its recognition of cleans fuels like RNG as part of the solution. We stand ready to assist the Department in refining and implementing a strategy that fully realizes RNG's potential to help Oregon achieve its greenhouse gas reduction targets while bolstering energy reliability and economic opportunities. Thank you for your consideration of our input.

Sincerely,

/s/

Yanni Psareas
Manager, State Legislative Affairs

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[i] https://www.oregon.gov/energy/energy-oregon/Pages/Renewable-Fuels.aspx#:~:text=If%20Oregon%E2%80%99s%20potential%20volume%20of,and%20provide%20energy%20security%20and

[ii] https://www.rngcoalition.com/news/2025/6/18/rng-coalition-celebrates-500-operational-rng-facilities-in-north-america

[iii] https://energyinfo.oregon.gov/blog/2018/9/21/oregon-department-of-energy-publishes-inventory-of-renewable-natural-gas-potential-in-the-state#:~:text=In%202017%2C%20the%20Oregon%20Legislature,currently%20imported%20from%20other%20states

[iv] https://energyinfo.oregon.gov/blog/2018/9/21/oregon-department-of-energy-publishes-inventory-of-renewable-natural-gas-potential-in-the-state#:~:text=In%202017%2C%20the%20Oregon%20Legislature,currently%20imported%20from%20other%20states

September 22, 2025

To: Oregon Department of Energy

From: Diane Brandt, Policy and Legislative Affairs Director

RE: Comments from Renewable Northwest on the Draft Oregon Energy Strategy

Renewable Northwest ("RNW") appreciates the opportunity to provide comments on the draft of the inaugural Oregon State Energy Strategy. RNW is a nonprofit organization that advocates to decarbonize the electricity sector. Our members include renewable energy and storage developers and businesses, and consumer and environmental public interest advocates. As a supporter of HB 3630 (2023) directing the creation of a state energy strategy and a member of the Energy Strategy Advisory Group, RNW welcomes the draft report as a consolidation of the body of work pulled together so far. From the modeling of Oregon's energy needs to the recommended actions to support the policy objectives, it pulls together a complicated picture of Oregon's current energy situation and future.

Overall, RNW agrees with the strategy's assessment that transmission constraints are of prime concern – a sufficient transmission system undergirds much of achieving Oregon's energy goals and mandates. In the brief comments below, we focus on the recommended actions for Clean Electricity, with general comments and some specific feedback on areas needing clarification. We welcome any follow up questions and look forward to continued engagement on Oregon's Energy Strategy both now and in the future.

Forward Movement on Land Use for Building Energy Generation and Storage Unclear

The land use system in Oregon is well established and was created as a reflection of the value of Oregonians around its lands and natural resources. The need for building renewable energy generation projects and infrastructure requires use of these lands in new or different ways. Given that the Land Use Goals were created over 50 years ago, and only has one goal on energy, there is need for more guidance on how Oregon will accommodate the required renewable energy, storage, and supporting infrastructure.

Clean Electricity Action 2 perhaps gets to this issue of land use being a barrier, but it is not clearly stated as an area for investigation. Equally, the only action that gets close to discussing siting is Action 5 and it is focused on updating the ORESA tool. When HB 3630 (and its previous form as a stand-alone bill as HB 2534) was discussed in the legislature, the desire for an energy strategy to start discussing the "how much" and potential "wheres" of Oregon's energy resource and infrastructure needs was expressed clearly. It was understood that the strategy would include modeling and scenarios that produce numbers on potential need and take that at least one step further to apply these numbers and scenarios to siting and land use. Other aspects

that this “next step” should include are: what these scenarios would mean for building in-state and out-of-state resources, the potential trade-offs of these scenarios and approaches, how many acres each scenario would require, and potential greater transmission needs. The Energy Strategy was meant to create a “menu of options” with these scenarios, setting up the required information to have the difficult discussions on trade-offs.

Encourage Forward, Creative Thinking on Transmission Progress

RNW fully agrees with the need for Clean Electricity Action 1 on establishing a state transmission entity to look at planning, permitting, and paying for Oregon’s needed transmission upgrades. Given the complexity of the region’s transmission system and the deluge of transmission and interconnection requests facing the Bonneville Power Administration and the utilities that own and operate transmission, there is growing urgency for the state to play a more proactive role in transmission. That is reflected in Action 1.

The Oregon Clean Grid Collaborative (“OCGC”) – of which RNW is a member – drafted comments and suggestions on this action. RNW echoes these comments and reiterates the potential for ODOE to approach the structure of a transmission entity creatively and with urgency in mind. As the state faces a difficult budget future, this will require finding ways to creatively accomplish the intent of a transmission entity, potentially with existing resources, staffing, and agency authorities.

RNW agrees with the OCGC suggestion of considering what ODOE, or other state agencies or offices, could do in the near-term given the potential longer timelines of establishing a full transmission entity. Are there actionable, meaningful items that could be done now with existing authorities and staff resources?

Ask PUC to Explore Alternative, Competitive Procurement Methods for Large Loads

Clean Electricity Action 6 would direct the PUC to “investigate opportunities to modify utility business models and ratemaking practices to enhance marketplace competition and thereby lower costs in utility planning and resource procurements.” While the draft strategy discusses efforts like performance-based ratemaking (there is a forthcoming PUC investigation at the direction of SB 688 on this), it does not suggest exploring the expansion of alternative planning and procurement methods that would accommodate large load customers such as expanding direct access or other alternative procurement approaches. While the PUC has begun to investigate a number of issues related to the costs of serving new large load customers and an investigation of the current direct access program,[1] a holistic examination of planning and procurement issues has yet to be undertaken.

The advantage of having options for the large load customers – such as the data centers – to procure their own energy resources would be to offer pathways for procuring the clean energy they need in a timely manner, while also offering another mechanism to keep those costs

[1] https://www.oregon.gov/puc/utilities/pages/large-load.aspx

separate from the rates of other customers. These procurement pathways would still be under the oversight of the PUC along with the potential accounting for the energy and any associated emissions. There is room within Oregon's Energy Strategy to consider alternative procurement methods for new large loads that would allow them to acquire resources to meet their energy needs and corporate sustainability goals in a manner that protects other utility ratepayers. Regardless, there is broader opportunity for the PUC to explore options such as these that would help towards lowering costs.

OCES
Oregon Citizens for Energy Security

August 20, 2025

A review of the Oregon Energy Strategy Draft paper for public comment - prepared by the Oregon Department of Energy.

The Oregon Department of Energy (DoE) released its Oregon Energy Strategy on August 14, 2025. The document is a comprehensive effort that demonstrates the DoE's commitment to addressing the state's energy challenges.

While the strategy is extensive, it is structured to be accessible and engaging. Some sections are designed to stimulate thought and present aspirational goals. Overall, the document is well-written and provides a clear overview of the state's energy aspirations.

Practical Intentions and Challenges

The DoE's approach to the energy strategy has been influenced by recent changes in government, which have led to instability in various sectors. The strategy must be adaptable to these changes and demonstrate its ability to respond effectively.

One of the dynamic areas highlighted in the strategy is electric vehicles (EVs). The strategy defines an EV as an electric vehicle, not an environmental vehicle (without specifying the prime mover). While some manufacturers are producing hydrogen-powered vehicles, the strategy focuses solely on electric vehicles to drive market and consumer incentives for Oregon's goals.

One notable example of hydrogen is Toyota's announcement of plans to mass-produce a Toyota Stout, a pickup truck that can refuel rapidly. Cummins has also recently announced a hydrogen-powered truck, and BMW has introduced hydrogen engines.

The Oregon strategy sets a target that all new cars sold in Oregon will be EVs by 2035. However, the EV credit expires in September 2025, and US sales of EVs, while reportedly increasing, are doing so at a slowing rate. Globally, EV sales appear to have stagnated in Europe, while sales in China remain robust due to lower vehicle costs and government support.

Against this backdrop, meeting Oregon's targets may prove challenging at best. Oregon's population is aging as a demographic. By 2030, it is estimated that 21.2% of Oregon's population will be over 65 years old.

67% of Oregon's population resides in urban areas, but even if the population doubled, 97% of the state would remain undeveloped land. Essentially, 1.4 million people (approximately 30%) occupy most of Oregon geographically. Electric Vehicles (EVs) may prove challenging for several reasons.

Battery technology remains a concern due to the greater range that may be needed in rural areas. Additionally, many rural dwellers own multiple vehicles, including tractors and machinery. A change to electric EVs would be extremely costly for rural residents. Developing the charging infrastructure will also be costly. Many rural dwellers are older (estimated at slightly less than 50%) and may have fixed incomes. They may not wish to purchase an expensive EV, especially ones with a limited battery life, which could be difficult to sell by their executors. Consequently, they may retain older vehicles longer. This is not conducive to rapidly achieving lower emissions targets.

Meanwhile, the Energy strategy encourages the development of new fuel for low-carbon fuels. Developing such fuel production and a distribution system will require time. However, there is already a fully functioning distribution system for conventional gasolines. The strategy paper does not mention whether the oil industry has been approached. At first glance, this may appear counterintuitive. There are reports

that some fuels currently exist in oil company portfolios that have a 40% lifecycle reduction in CO2. Implementing the use of such fuels early could yield significant impacts early and overcome some of the challenges. For rural residents, this could assist them in achieving the state's goals.

Several years ago, electric cars were arguably one of the few viable solutions for lawmakers. However, that is no longer the case, and there is a pressing need for goal-based emission standards rather than prescriptive ones.

Power Transmission

The Energy strategy plan is quite high-level, but it does briefly address both resiliency and power lines.

Power lines are a significant concern. Individuals involved in the State's resiliency efforts are undoubtedly impressed by the level of thought and detail considered in the resiliency plan. It has effectively highlighted Oregon's vulnerability as a state. A relatively small number of lines provide the primary pathways, while a few providers account for the majority of the energy. The paramount importance of these lines to Oregon cannot be overstated. The Bonneville Power Administration (BPA) has been developing innovative methods to transmit more power along the same lines using advanced techniques. Simultaneously, however, they have announced plans to sell some of their production to Southwest Partner Pool (SPP). These lines traverse miles of Ore-

gon, carrying an increasing amount of power to Oregon, but now also to other states. Nevertheless, the heightened transmission risks remain on Oregon.

Power lines are essential in modern life, and their significance is only growing. It is crucial that advancements in the safety of power lines be prioritized. The energy strategy hinges on electricity and the reduction of CO2 emissions. Wildfires, however, can occasionally produce more CO2 than automobiles. This year particularly, we have seen tremendous effort applied by firefighters in early suppression of fire outbreaks. We have seen a large number of lighting strikes. Power lines are uninsulated and relatively high voltage, Consequently, if a power line falls and ignites a wildfire, a substantial portion of the progress made is effectively negated. Additionally, a downed power line leads to power outages, prompting potentially thousands of home generators to start, further contributing to CO2 emissions.

Future-proofing transmission lines, including Interstate, long-distance Intrastate, and local lines, is crucial. Climate change is altering the ability of understory growth to resist fire. Climate change is aging the power line structures more rapidly. Future proofing the power lines is now crucial. This endeavor may necessitate state assistance due to the substantial financial burden associated with its implementation. The cities' power supply relies on lines that cross the state, traversing ranches, forests, and rural dwellings. These transmission lines pose a risk to homeowners and taxpayers in the event of a wildfire. The origin of wildfires can vary, and some of these sources pose challenges to the power transmission system itself, such as lightning strikes. However,

human causes account for a significant portion of wildfires. It is estimated that 20% of wildfires are initiated by electrical means, and those caused by electrical means tend to be larger in scale. The utilities themselves are implementing certain changes aimed at reducing wildfires, including the use of automatic reclosers. Further efforts to prevent wildfires on all fronts would yield substantial benefits. The impacts of wildfires on CO2 emissions are far-reaching, affecting various sectors such as firefighting and suppression, house demolition, materials manufacturing, construction, and transportation. The costs associated with upgrading to insulated lines or undergrounding lines are substantial. The strategic plan was lacking in a clear strategy for power generation and distribution, which is a critical factor in ensuring reliable power supply to users. This omission prompts examination of the routes taken by power lines, the associated risks, the necessary remediation measures, and the underlying infrastructure. Over reliance on a limited number of generating locations presents a challenging and complex issue. Although not directly a part of the energy policy management of the national forests and private forests to minimize widespread fire growth must also be considered.

Power Sources

The proposed plan envisions the utilization of community-scale resources. In the Eugene region, there are currently inactive electrical generating facilities, including Cougar Dam. It has been identified that the substantial earth and rock dam wall at Cougar Dam may be susceptible to failure during a significant earthquake. To address this concern, the United States Army Corps of Engineers (USACE) maintains the water

level within the lake at a low level. Consequently, that level has resulted in the deactivation of the generating capacity. To my knowledge, no plans for modifications to the existing infrastructure have yet been officially announced.

Additionally, another generating station at Leaburg has remained idle since 2018. The current utility owner, EWEB, has proposed demolishing the plant and its associated canals. The initial cost of this project is estimated to be around $200 million. Based on previous projects, it is likely that federal grants of $50 million and state grants of $50 million will be applied. A further $50 million approximately is expected to be allocated for road and infrastructure adaptation. Furthermore, there may be another $70 million for rehabilitating a fish hatchery, followed by another $50 million for homeowners and businesses to cover various expenses.

EWEB has approached this issue in the interests of the city of Eugene, which they are legally obligated to do by charter. However, this may not align with the broader interests of the state. It may be more cost-effective, and environmentally effective to repair and potentially upgrade the dam, ensuring its continued operation for the remaining 40-year license period. This would provide a more reliable source of locally generated power, thereby strengthening resistance to potential disruptions to the BPA lines.

The Leaburg plant has the capacity to power approximately 13,000 homes, as most homes in the area have their own generators. Standby generators typically operate on clear gas or diesel fuel, sometimes for extended periods, such as over a week.

A potential loss of power for a week could result in the activation of around 16,000 portable generators.

The cost of repairing Leaburg is such that no utility could reasonably undertake the project against typical power costs or profit expectations. BPA power provided through the Northwest Power Consortium is relatively inexpensive, which may discourage immediate thoughts by the utilities. For the state, however, Leaburg could represent a more viable solution than simply funding a project without a clear return on investment.

There are indications that EWEB has been removing equipment essential for power generation from Leaburg generating house. The impacts of that are unknown, but one side benefit is that now the plant will be able to fully reveal its activities. Previously the plant was regulated as critical energy infrastructure - and it now no longer is.

Currently, there is no state mechanism that allows projects to be assessed for broader interests, not just this one but others as well.

A group operating in an advisory capacity with non binding opinions could well be needed. Not tied to commercial or political interests, and capable of advising the state with non-political integration of seemingly disparate facts—rather like the essential components of an effective commissioner structure. Some of the groups with distinct interests are well-funded and well-organized. Their interests must also be considered alongside others in our complex world. Upcoming developments, such as the in-

troduction of small nuclear reactors, will undoubtedly generate significant discussion. Such a group may well assist thinking in Salem.

Thank you,

Capt. Robert Weeks

PO Box 317,

Vida OR 97488

OCES

Oregon Energy Strategy

Public Comment

Roberta Richardson, 9.7.2025

Dear Director Benner,

My name is Roberta Richardson, and I live in North Bend, Coos County. I am commenting today because I'm very concerned for the future of my family and community here. It's imperative to pass an Energy Strategy that's affordable and resilient! Households in rural communities are also more likely to be energy burdened, with 30-39% of households in Jackson and Coos county facing severe energy burdens while also earning less than $15,060 per year. ODOE found that 58% of Oregonians lack sufficient cooling at home, and during the 2021 heat dome it was reported that 85% of heat-related deaths occurred in homes without cooling. The increasing prevalence of extreme weather events further burdens community members in Southern Oregon and the South Coast; we need for energy affordability and resilience as climate change impacts continue.

To: ODOE

From: Roger Gray

Re: Draft Oregon Energy Strategy Comments

Sept 22, 2025

Thank you for the opportunity to submit comments on ODOE's OES draft. My name is Roger Gray, and I have worked for over four decades in the electric and water utility business both in California and Oregon. In California, I experienced first-hand the devastating impacts of the 2000-01 energy crisis and the impacts of rolling blackouts and huge rate increases. It is a myth that Enron solely caused these things. California policymakers were warned in 1995-97 during the formation of California's policies that they would fail, and they would fail in a very bad way. They were even warned a year ahead of the first blackouts that the policies were indeed failing, as many predicted.

Most recently, I have worked with NW Natural (NW) and the NW Natural Independent Advisory Group (AG) on the NWN IRP. NWN sought our help because this IRP included a study of building electrification. It is important to note that the cost to both electric and gas customers to achieve existing growth and clean energy policy objectives is going to be very high, even before building electrification. The NWN draft IRP (and other studies) show this.

The NWN draft IRP shows that building electrification would be extraordinarily expensive. It also shows that there are very few incremental carbon reduction benefits compared to less costly and risky alternatives. Steve Wright, who was a member of the AG, submitted his own comments on the OES draft. I share and echo his comments. With respect to the electrification pathway #2, I cannot emphasize enough how concerned I am about this path. The NW/regional electric system is in a very fragile state today and is already forecasting shortfalls (e.g., see PNUCC and NWPCC reports/studies). If we push this system even harder, we risk what I call the "lose-lose-lose" outcome where costs skyrocket, reliability falls, and carbon emissions go up.

Oregon customers are blessed with two amazing energy systems that are high reliability, low cost and low emissions compared to most other states. We can (and should) continue to find ways to reduce carbon emissions, but we must carefully consider cost and reliability and be strategic and smart about our policies.

Thank you.

Roger Gray

Dear Director Benner,

My name is Roger Knudson. I live in Eugene. I am commenting today because I am gravely concerned that we are not transitioning to clean, renewable energy with the urgency that is needed in the face of the worsening climate crisis. The Oregon Energy Strategy is a crucial opportunity for the state to take the kinds of direct actions that will have a direct impact on climate and the health of Oregonians.

I am particularly concerned that the State design an actionable pathway to meet the state's 100% clean energy goals. At the same time, I believe that it is crucial that the State keep false solutions out of Oregon. Small modular nuclear reactors, so-called "renewable natural gas," and hydrogen are all dangerous, false solutions that cause harm to the environment at the same time that they take funding away from solar and wind.

We are a critical crossroads with federal protections and standards for deploying renewable energy and regulating green-house gas emissions under attack and federal funding for renewable energy being cut. The Oregon Energy Strategy must defend against these federal actions that move the State farther away from achieving its climate goals.

I moved to Oregon 3 years ago in no small part because of the incredible natural beauty of our state. As the climate crisis deepens, I am worried that this natural beauty will not survive long enough for my grandchildren to enjoy it. We are out of time for urgent action, and the draft Energy Strategy shows that the greatest costs are associated with inaction and delay. I urge the ODOE to take immediate action to implement the strategy in a way that protects our environment and maximizes benefits for environmental justice communities.

Thank you for your consideration as you move forward on the Oregon Energy Strategy.

Sincerely,

Roger Knudson, Ph. D.

www.RogueClimate.org || PO Box 1980, Phoenix, OR 97535 || 541-301-9204

September 22nd, 2025

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

RE: Rogue Climate's Comments on Draft Oregon Energy Strategy

Dear Director Benner,

Thank you for the opportunity to participate in the Oregon Energy Strategy through the Environmental Justice and Clean Energy Generation and Transmission Working Groups. It has been an honor to represent Rogue Climate in these spaces and advocate for environmental and climate justice throughout the process.

Rogue Climate is a community-based organization with offices in Phoenix and Coos Bay, Oregon with a mission to empower Southern Oregon and South Coast communities most impacted by climate change, including low-income, rural, youth, seniors, and communities of color, to win climate justice by organizing for clean energy, sustainable jobs, and a healthy environment.

Rogue Climate strongly supports ODOE in moving forward with an energy strategy that advances an actionable pathway to meet Oregon's 100% clean energy goals, prioritizes actions that maximize benefits for environmental justice communities, keeps false solutions out of Oregon, and defends against federal actions that move us farther away from a just energy transition.

As an organization organizing alongside South Coast and Rogue Valley community members, we know first hand the costs of inaction on climate change. This month is the 5 year anniversary of the Almeda Fire, which destroyed thousands of homes and businesses, displacing predominantly low-income and Latine/x community members for years. Community members in the Rogue Valley are still recovering. The labor day fires of 2020 and the subsequent years of record high extreme heat, acres burned, flooding and other climate impacts highlight the urgency and critical nature of robust action on a just energy transition in Oregon. The draft Energy Strategy underscores that inaction and delayed action are the most costly paths, highlighting how important it is that Oregon move swiftly and strategically to implement the suggested actions.

In order for the Oregon Energy Strategy (OES) to effectively meet Oregon's clean energy goals and ensure the health and safety of our communities and future generations, the OES must:

1. Provide an actionable pathway to reach Oregon's climate and clean energy goals, beyond recommendations for studies.

2. Prioritize actions that maximize benefits for Environmental Justice Communities.
3. Stop the expansion of the fossil-fuel based energy system.
4. Protect Oregonians from false solutions that fail to address the root cause of the climate crisis and perpetuate inequities through adverse health impacts, impacts to cultural and ecological resources, or further carbon pollution.
5. Defend against federal attacks on climate justice and energy affordability.

The existing pathways are a good starting point for taking a multifaceted approach towards a just energy transition in Oregon. In particular, Rogue Climate supports the emphasis on energy efficiency, electrification, distributed energy resources (DERs), and resilience.

As Oregon is already experiencing record-breaking extreme weather annually, resilience is a critical component of the OES. However, we would like to see more specific actions corresponding to these policies, especially 5b and 5c. Legislative direction on what actions should be prioritized at the intersection of energy and climate resilience are critical. In the 2025 the legislature failed to reinvest in the Community Resilience Hubs program, and wildfire preparedness and recovery funding is a massive gap, especially with FEMA being attacked federally. Policy 5c should not only be focused on maintaining emergency response vehicles with access to fuel, but directing the state to invest in municipalities to have microgrid capacities with backup storage available in conjunction with resilience hubs. Additionally, 5a should not focus on increasing natural gas infrastructure, which will further lock Oregon into fossil fuel dependence for generations, but rather incentivize coordinated electrification.

The OES lacks a pathway focused on stopping the expansion of the fossil-fueled economy in Oregon. In order for the other pathways to be successful, Oregon must also stop "digging the hole." The Trump administration's focus on the expansion of fossil fuel infrastructure while dissolving critical environmental safeguards and renewable energy investments further underlines the need for the the state to protect Oregonians from from the health, land and climate impacts of fossil-fueled power plants and fracked gas pipelines, including expansion projects such as the GTN XPress.

Energy Efficiency & Electrification

Rogue Climate supports the focus on energy efficiency as one of the most accessible, affordable, and immediately actionable pathways towards curbing the impacts of climate change and increasing affordability for energy-burdened communities like ours.

Electrification has been shown to be a critical step in reducing climate pollution in transportation and buildings - the top two emitting sectors in the state. However, electrification will only be an effective method of reducing climate impacts if it is coupled with distributed renewable electricity generation, resilience measures, and upfront investment to prioritize electrification for low-income communities and

BIPOC communities. Haphazard electrification will result in inequities and higher costs for some households.

Transportation Actions to Prioritize

In Oregon, greenhouse gas emissions from transportation are about 35% of total emissions, making it the highest-emitting sector. With the state legislature's failure to pass a transportation funding package, actionable pathways in the OES are crucial for ensuring the safety and reliability of transportation across the state.

- #2 - The Climate-Aligned Transportation Funding Task Force is a priority, especially if it can be focused on a long-term state revenue source for zero-emission vehicle charging and public transit. The existing transportation funding mechanisms being moved forward in the legislature penalize EV and hybrid drivers, while continuing to prioritize funding for highway expansion and other megaprojects. At the same time, rural transit authorities like the Rogue Valley TD are being defunded.
    - Oregon should explore creative tools to redistribute resources to meet critical public needs. For example, a luxury vehicle tax should be employed to fund transportation investments.
- #5 - Invest in Safe Routes to School and Great Streets through expanding statewide payroll tax.
- #7 - We support giving local governments more authority to generate revenues for climate-friendly transportation. As noted, rural transportation districts are suffering disproportionately from the lack of transportation funding in Oregon with drastic service cuts already in effect in the Rogue Valley. Multimodal public transit is an essential investment for resilient and connected communities.
- #10 - The information needed for maps providing capacity available for EV charging, building electrification, distributed generation and battery storage is already available via utilities.
- Additionally, we would like to see electrification and regulation focused on medium and heavy-duty trucks, which produce disproportionate pollution (smog, black carbon and greenhouse gas emissions) though they only represent less than 10% of vehicles on the road.

Buildings Actions to Prioritize

Homes & buildings are Oregon's second largest source of climate pollution behind transportation. We want to see near-term actions that make it easier and more affordable to update current homes and buildings to protect Oregonians from climate harms and transition to renewable, efficient electricity.

- #3 & #4 - Energy efficiency incentives are essential for building weatherization, high efficiency electric heating and cooling and expanding demand flexibility. Electrification and energy

efficiency at a rapid pace have been shown to be the most cost effective pathway laid out by the OES. With the dissolution of federal incentives, Oregon must step up to ensure swift adoption of these actions. Without direct upfront incentive (rather than loans), this transition will leave behind low-income households. Culturally responsive, accessible programs must be prioritized that support households to transition away from unhealthy and inefficient home energy systems.

- #7 - Overcoming the bureaucratic barriers to electrification is essential, with modifying the building code being one key step. Currently, there are significant limitations to what local municipalities can do in policy to shift new buildings away from the use of fossil fuels. This policy action should focus on removing barriers so that ensuring 100% efficient electric construction is the easiest path across the state.
- In addition to the listed actions, the OES should propose solutions to financial and bureaucratic barriers to rapid electrification and energy efficiency that impede benefits for low-income Oregonians, including requiring a shift in Energy Trust of Oregon's policy to incentivize fuel switching. The proposed actions should also reflect the specificity of recommendations in the Justice and Equity Framework, including ensuring long-term and upfront investment for environmental justice communities, because tax rebate structures and loans do not effectively benefit the most energy burdened communities.

Clean Electricity

Rogue Climate organized alongside community members and organizational partners to pass HB 2021, setting an ambitious and essential goal for 100% clean electricity by 2040. Rogue Climate supports a just and equitable transition to renewable energy generation that aligns with the just transition framework. This means renewable energy projects should benefit the communities where they are sited, avoid and mitigate unintended consequences, generate long-term family wage jobs, and build resilience. Ensuring energy affordability for frontline communities is a growing challenge that is critical to a just energy transition.

Clean Electricity Actions to Prioritize

- #1 - Transmission limitations are a significant barrier to reaching HB 2021 goals. A state transmission authority is one step towards ensuring the grid is strategically developed to meet renewable energy generation needs.
    - In the meantime, we would like to see further actions focused on investments in GETs and workforce development, especially in rural areas to increase grid reliability.
- #7 - Expanding ODOE's statewide energy infrastructure resilience programs and funding for the Community Renewable Energy Grant program should be a top priority of all the actions in the Draft. Distributed energy resources (DERs) have the potential to reduce energy costs for Oregonians, provide localized resilience, and reduce fossil fuel reliance on a much faster timeline than utility-scale projects that face many hurdles and adverse impacts.

Comments on Other Actions

- #2 & #4 - While studies provide an important basis for moving forward strategically, we feel the OES currently is overly reliant on studies rather than actions that would create a more immediate tangible impact. An action specifically focused on investing in microgrids and concretely expanding distributed energy systems is missing from this section and does not require further study to move forward. While studies and guidebooks are a critical first step for creating the data and public education needed to move forward policy actions, the need for immediate development of distributed energy sources and workforce development requires policy actions that will have a greater tangible impact in the near-term. For example, investing in technical assistance to support the development of community-owned and operated microgrids and DERs would be very impactful.
- #3 - It is wise for ODOE to monitor and report on developments in emerging technologies. However, the focus of this research should be precautionary and not pull resources away from the accessible, proven technologies that are available such as rooftop solar.
    - Floating offshore wind (FOSW) has the potential to provide significant renewable electricity generation to Oregon's grid. However, this large-scale industrial development has been stalled at the federal level. Even if rapid development resumed in a new presidential administration, a project would not be ready to generate electricity for another 10 years at minimum. In order to meet Oregon's HB 2021 100% clean electricity goals, we need to prioritize investment in currently available and accessible sources of renewable energy generation.
    - South Coast communities and Tribes have significant concerns about the unintended consequences of FOSW development on cultural and ecological resources, the multi-generational fishing economy, and sacred Tribal sites. Large industrial energy development must benefit local communities and Tribes, while avoiding, minimizing and mitigating harms. South Coast communities and Tribes must be central to decisionmaking around FOSW development both through the current Oregon Offshore Wind Energy Roadmap and beyond. Rogue Climate has played a leading role in uplifting local concerns about proposed FOSW development and advocating for a just transition in Offshore Wind if a project does move forward. The benefits Read more about the Just Transition Principles for Offshore Wind and our Listening Report here.
    - Small Modular Nuclear Reactors (SMNRs) are not a viable or equitable solution to Oregon's energy needs or climate goals. Nuclear energy creates many forms of radioactive waste that can remain radioactive and dangerous to human health for thousands of years. Much of this waste is still stored temporarily across the country, with 56 million gallons at the Hanford Nuclear Reservation in Washington alone. According to the Department of Energy (DOE), about one-third of the 177 tanks at Hanford, originally

designed to last for 20 years, are known to have leaked. Nuclear power is also incredibly energy intensive, from the processes for mining and refining uranium ore and making reactor fuel to large amounts of metal and concrete, which require large amounts of energy, usually from dirty fossil fuels, to manufacture. According to the IEEFA, SMRs still are too expensive, too slow to build, and too risky to play a significant role in transitioning from fossil fuels in the coming 10 to 15 years. In the current budget climate, Oregon needs to invest strategically in proven solutions that will not further environmental injustices. The dollars invested in SMRs will not be available for use in building out a clean and efficient energy infrastructure. Carbon-free, low-cost technologies are ready now to accelerate the clean energy transition in the next 10+ years while SMRs will still be looking for licensing approval and construction funding.

Low-Carbon Fuels

Hydrogen, biofuels, and "renewable natural gas" (RNG) are costly technologies that have significant externalities. Hydrogen fuels are often produced with fracked gas, nuclear, or other fossil fuels and are reliant on carbon capture, which does not work. Blue, gray, and pink hydrogen emit more greenhouse gas emissions than coal. Burning hydrogen produces NOx, a pollutant that causes respiratory health impacts especially in environmental justice communities. Additionally, Hydrogen, even when produced using renewable energy, is very inefficient, losing 70% of renewable energy and consuming 9-18 tons of water per ton of H2. There is significant need for renewable energy generation to meet Oregon's HB 2021 goals, and therefore, green hydrogen is an inefficient diversion of renewable energy to expanding industrial uses, rather than meeting current necessary loads. All efforts should be made to stop the use of hydrogen generation that is not green hydrogen, and to avoid the need for hydrogen development at all by first employing electrification, energy efficiency, and other strategies.

The OES should prioritize the most accessible technologies that encourage energy democracy, efficiency, affordability and resilience, over technologies that are more costly and have fewer proven benefits. These technologies should be reserved for the hardest-to-transition sectors. Funding and technical assistance for these technologies diverts investment away from the solutions we know will most benefit environmental justice communities now and into the future.

Actions to Prioritize

- #3 - Forecasting the fuel needs for emergency preparedness with Tribes and partners across the state is a strong step towards preparing Oregon for the ongoing impacts of climate change. In this process, resilience actions should prioritize microgrid and DERs deployment with battery storage.

Comments on Other Actions

- ODOE must include an action updating the current incorrect accounting of GHG reductions from biogenic resources as well as fuels produced outside of the state, for purposes of GHG emissions accounting and Climate Protection Program compliance.
- #2 - A low-carbon fuels roadmap is not necessary and rather should focus on implementing the Climate Protection Program and the Clean Fuels Program. If a roadmap does move forward, it should highlight threats and opportunities for hard-to-electrify sectors and identify pathways for accountability in developing transitional fuels. This roadmap process should:
    - Create accountability mechanisms to ensure that low-carbon fuels are not used for residential purposes to protect Oregonians from adverse safety and health impacts.
    - Regulate against false solutions such as RNG and grey hydrogen that require methane gas for generation and further lock Oregon into dependence on fossil fuels.
    - Set requirements for community consultation, safety practices, and community benefits for those located near to fuel generation sites.
    - Regulate against hydrogen blending with natural gas, especially in residential applications. IOU's should be barred from blending hydrogen with natural gas.

Cross-Cutting Actions

Actions to Prioritize

- #1 - We support directing the EQC to adopt rules imposing registration and reporting requirements on all new large electric loads.
    - Data centers are providing a significant burden on Oregon's load growth while causing worrisome environmental justice impacts on nearby communities including water pollution, disruption of local electricity availability, and land use. Especially new larger data centers focused on AI are using millions of gallons of water a day with a 10 MW load equating to about 8,400 residential customers and a 100 MW load equating to 84,000 residential customers. Regulation of the impacts of data center development in OR must be prioritized as a part of this action. At this current rate of expansion, data centers could be a singular block to meeting Oregon's energy goals, while also raising rates for Oregonians.
- #2 - Establishing a revolving loan fund to provide a stable source of low-cost and no-cost loans to support energy transition and resilience is a top priority.
    - Community engagement and local governance should be prioritized in these investments.
- #3 - A Tribal Energy Block Grant Program is one pathway to invest in Tribal energy sovereignty, which is an essential element of a just and equitable energy transition in Oregon. Rogue Climate respects the sovereignty of Tribal governments and supports efforts to ensure that Tribes have decisionmaking authority over their lands and energy futures.
- #7 - Investment in workforce development is key for a just energy transition. Rather than solely studying gaps in workforce development efforts, Oregon should directly invest in existing

workforce development programs in tradeschools and community colleges, prioritizing rural communities.

- #8 - Advocating for federal policies that support the advancement of strategy objectives will be essential to the effectiveness of the OES. The current federal administration is actively working to undo environmental protections, equity programs, renewable energy investments and climate science in order to further fortify the fossil fuel industry's stronghold on our economies. We would like to see this action have more strength and specificity to it. The state must safeguard Oregonians from the impacts of federal actions by maintaining climate justice as a priority.
- #10 - Rogue Climate supports funding and staffing in order for agencies to implement policy objectives.
- #11 - In light of federal shifts to permit processes, community benefits plans are no longer required or funded by the government. Establishing a community benefits framework could create necessary safeguards to ensure that environmental justice communities are meaningfully consulted on projects that impact them. This framework should not only identify best practices for consultation and community involvement, but also how investments in benefits will relate to a mitigation hierarchy, so that projects are not simply compensating communities for adverse impacts, but also investing in community priorities and avoiding, minimizing and mitigating harms.

Equity & Justice Framework

Rogue Climate appreciated the thoughtfulness and flexibility that ODOE brought to the process of developing the Equity and Justice framework to ensure that many voices were heard. We support what is currently outlined in the framework, and would like to see it more holistically incorporated into the rest of the strategy and specific actions. As it stands, implementation of this framework could be easily ignored as the strategy is put into action. Additionally, we would like to see more concrete actions towards a just and equitable energy transition beyond what is proposed. For example, the framework highlights the need for long-term incentive programs for Environmental Justice communities, but associated actions such as Buildings Action #4 are much more vague. Identifying solutions to address the funding and bureaucratic barriers to rapid electrification and energy efficiency measures would help to concretize these actions and give the legislature more direction to act swiftly. One clear barrier to this is ETO's policy on fuel switching, which should be changed to incentivize households to transition away from gas systems. This would be a concrete and effective way to make this action more affordable and accessible for environmental justice communities.

In order to hold the overall OES accountable to this framework, each policy could be reviewed through the filter of the values outlined here. This would help ODOE and the legislature prioritize its actions to ensure that EJ community benefits are uplifted. For example, there are certain actions that should be deprioritized, such as the exploration of SMNR's, that do not align with the Equity and Justice

Framework given the known environmental, health, water, and economic impacts of this energy source. Others that offer the most direct benefit, lowest cost, and greatest improvements to community health should be prioritized, such as building code improvements, upfront long-term energy efficiency incentives for businesses and residents, investments in the community renewable energy program, workforce development, and resilience policies.

Conclusion

We appreciate ODOE's thorough work bringing together impacted parties across the state to craft this comprehensive Energy Strategy to meet Oregon's energy goals. With federal attacks continuing to change the energy landscape constantly, it is more important than ever that the OES direct the state to take efficient near-term actions while investing in the long-term vision of a just energy transition. Actions focused on "studying" an issue should be reserved for rare cases where a clear pathway is not already apparent. We are at a critical turning point to ensure that Oregon isn't falling behind on meeting renewable energy goals and keeping energy affordable for every Oregonian. The Oregon Energy Strategy has the potential to direct the legislature and agencies to take immediate and strategic action towards a more just, livable and thriving future for our state. The more specific and actionable the plan, the more positive impact will be possible in avoiding the highest costs and most severe impacts of climate change. Thank you for the opportunity to comment in the spirit of strengthening this important strategy.

Sincerely,
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Southern Oregon Climate Action Now
September 22 2025

SOCAN Comments regarding the Department of Energy Draft Oregon Energy Plan

Colleagues:

We write on behalf of Southern Oregon Climate Action Now to express general support for the Draft Oregon Energy Policy but also to express reservations in four particular areas.

The Five Pathways reported below make very good sense and summarize valuable energy approaches. However, we note that item 4, Low Carbon Fuels should be Low GHG emissions fuels. This is because not all carbon is equal. For example, the Carbon dioxide equivalent of the C in methane to the C in carbon dioxide is such that each atom of C in methane (CH_4) is much more effective as a warming agent than each C in carbon dioxide (CO_2). Thus "On a 100-year timescale, methane has 28 times greater global warming potential than carbon dioxide and is 84 times more potent on a 20-year timescale" (EC undated). Meanwhile, The International Energy Agency (IEA 2021) suggested: "The Intergovernmental Panel on Climate Change (IPCC) has indicated a GWP for methane between 84-87 when considering its impact over a 20-year timeframe … and between 28-36 when considering its impact over a 100-year timeframe…." By trying simply to reduce carbon, actions might create a greater climate problem than if the target were to reduce greenhouse gases measured in terms of their carbon dioxide equivalent. It may be assumed as I have often heard when this language is employed, that 'of course, everyone knows that when we identify low carbon, we mean, low carbon dioxide equivalent emissions fuel.' We suggest that such an assumption is just naïve and will likely lead to uninformed legislators proposing policies that make matters worse.

1**. Energy Efficiency Advance** energy efficiency across buildings, industry, and transportation sectors, including by expanding access to and appeal of multimodal transportation options, to deliver the benefits of a more efficient energy system.

2. **Electrification** Increase electrification of end uses across the economy, including in transportation, buildings, and industry, while incorporating measures to safeguard reliability and support affordability.

3**. Clean Electricity** Invest in clean electricity infrastructure to maintain reliability and promote load flexibility to reduce system costs.

4. **Low-carbon fuels** Advance the use of low-carbon fuels in the hardest-to-electrify end uses to achieve GHG emissions reductions while maintaining industry competitiveness and a reliable electricity grid.

5. **Resilience** Strengthen resilience across all levels of the energy system, including utilities, communities, and customers, enhancing Oregon's ability to adapt to climate change and mitigate other risks.

While there is much to appreciate, we are concerned about the guaranteed return to utility investors, identification of natural gas and biomass as clean/low carbon fuels and the suggestion that nuclear generation by small modular reactors as a reasonable emerging technology energy option in a clean energy policy.

Utility Investor Guarantee

At the core of this issue is the guaranteed rate of return that utilities are allowed to earn on infrastructure investments. Today, utilities secure roughly a 9% return—far above the true level of risk these investments carry—while passing costs directly to households and businesses. This structure rewards capital expansion over collaboration, and it leaves Oregon's clean energy efforts vulnerable to utility profit motives rather than public need.

- Ratepayers subsidize not only the repayment of utility borrowing but also investor profits, despite utilities facing virtually no risk of failure.
- In comparison, a 3% return is considered the baseline for beating the market—making the current 9% guarantee excessive and misaligned with public interest.
- The Energy Strategy itself identifies the "utility build-vs.-buy bias," where utilities prefer to build their own projects rather than support community- or third-party-owned resources.
- This bias has already stifled promising local initiatives, such as community solar farms in Southern Oregon, which could deliver both renewable generation and greater regional energy sovereignty.
- Recent legislation, including SB 688 (OLIS 2025), has attempted to address these imbalances, but reforms to date remain partial and inadequate.

Oregon has an opportunity to correct this imbalance by tying utility rates of return to the 10-year federal treasury bond—a fair benchmark for low-risk investments. This reform would protect ratepayers from inflated costs, ensure utilities receive reasonable compensation, and free up resources for the urgent infrastructure upgrades our energy system requires. Most importantly, it would align utility incentives with Oregon's climate goals, ensuring the Energy Strategy delivers more than words of encouragement.

The Biomass Boondoggle

SOCAN recognizes the role biofuels are expected to play in Oregon's Energy Strategy, particularly in the transportation sector—the state's largest source of greenhouse gas emissions (DEQ undated) and one of the hardest to decarbonize. While biofuels are often presented as a low-carbon substitute for fossil fuels, their climate benefit depends entirely on how they are produced, measured, and integrated into the energy system.

It is, therefore, unfortunate that biomass is identified in the draft energy plan as a clean fuel. As reported by Simet (2015) in 2015 the Oregon Legislature passed SB 752 (OLIS 2015), and the Governor signed, this bill "that exempts biomass-derived carbon dioxide emissions from regulation under certain air pollution laws…." Then in 2017, the Senate passed SB634 (OLIS 2017) that sought to add woody biomass to this definition, though this bill was in committee at adjournment and thus didn't pass. However, in contrast to the Oregon legislature's uninformed decision, in reality, only full lifecycle assessment can reveal whether any fuel is genuinely carbon-free (i.e., climate pollution free) or low carbon (i.e., low in greenhouse gas emissions). It is certainly the case that when vegetation is burned, the carbon dioxide released from its combustion is carbon dioxide trapped from our current atmosphere rather than an atmosphere hundreds of millions of years ago and that photosynthesis will capture the carbon dioxide released, as IEA (2018) argued. Although this suggests we are not adding that historic carbon dioxide to our current atmosphere but simply cycling back the gas from our current atmosphere, such a simplistic perspective fails to recognize reality.

As indicated above, before it is possible to determine carbon neutrality of any product or activity, a full life cycle assessment must be undertaken. In the case of biofuels, this assessment must determine carbon dioxide emissions resulting from the nurturing of the biomass (i.e., emissions from the production, transport, and application of herbicides and fertilizers) to which we must add emissions from fuel combustion by equipment employed in the nurturing or harvest of the biomass and emissions from processing the biomass and transporting it to wherever it is burned to release energy. Full lifecycle assessment suggests that burning woody biomass is not greenhouse gas emissions neutral (e.g., SIG undated). Of course, when forested land is cleared to grow a crop, to these costs must be added the carbon in the cleared forest and the thwarted ongoing capacity of the forest to sequester carbon from the atmosphere (e.g., Liu et al. 2017). This concern is reflected in the comment reported in MIT (2020): "There are many challenges to making biofuels that are truly carbon neutral. That's because many steps used to create biofuels—fermentation, the energy for processing, transportation, even the fertilizers used to grow plants—may emit CO_2 and other greenhouse gases even before the fuels are burned." To assign biomass a free pass without such an assessment is a gross error. Regrettably, the Oregon legislature and Governor in 2015 seemed unaware of this need. Thus, Oregon is saddled with a statute that defies both science and sanity. Despite the 2015 legislative action, we would expect the Department of Energy to be better informed and incorporate into state energy policy the caution that biomass is more often not clean than it is.

In the case of biomass burning PFPI 2025 noted: "biomass burning power plants emit 150% the CO2 of coal, and 300 – 400% the CO2 of natural gas, per unit energy produced." This is because wood burning inherently releases more CO_2 than natural gas or coal per unit of energy generated from its combustion. GBPSR (2025) concur with this assessment suggesting: "Burning biofuels increases air pollution and pollution-related disease and creates climate-damaging greenhouse gasses at a time when scientists are telling us urgently to slash these emissions."

For this reason, SOCAN supports only those biofuels that meet strict criteria for sustainability, efficiency, and life-cycle emissions.

- Food security: Protections must ensure that biofuel production does not divert farmland away from food or trigger deforestation and habitat loss. Waste-based feedstocks—such as garbage,

wastewater, manure, and food waste—offer promise, but safeguards must be in place before large-scale adoption.

- Energy return on investment: The state has not sufficiently addressed the balance of energy required to produce biofuels versus the energy they deliver. Analysis from Oregon's SB 334 report suggests the need for rigorous feasibility studies to ensure production yields positive net energy.
- Lifecycle greenhouse gas assessment: Programs like the Clean Fuels Program and Climate Protection Program already recognize the need for well-to-gate lifecycle analysis. SOCAN insists that all biofuels must demonstrate clear reductions in carbon intensity compared to fossil fuels.
- Air quality co-benefits: Research shows that substituting diesel with natural gas in heavy-duty engines can dramatically reduce pollutants such as CO, NOx, and particulate matter, indicating that biofuels, when properly sourced and applied, can yield measurable health benefits.

Oregon should move forward with biofuels only under strict, enforceable standards that protect food supplies, ensure positive net energy, and prove measurable life-cycle emission reductions. Without these conditions, biofuels risk becoming a costly detour rather than a genuine climate solution. With them, Oregon can responsibly integrate waste-based biofuels into its energy mix while advancing both environmental protection and community health.

Oregon should move forward with biofuels only under strict, enforceable standards that protect food supplies, ensure positive net energy, and prove measurable life-cycle emission reductions. Without these conditions, biofuels risk becoming a costly detour rather than a genuine climate solution. With them, Oregon can responsibly integrate waste-based biofuels into its energy mix while advancing both environmental protection and community health.

We urge the Department of Energy to avoid succumbing to and legitimizing the false claim that biofuel is a clean energy source unless this is demonstrated for each project claiming such.

The Natural Gas Fraud

The myth that natural gas is a 'clean fuel' has been promoted by gas utilities for years (e.g., McCabe 2022) to defend their ongoing business model of expanding natural gas usage even though it has been demonstrated time and again to be a false claim. Although the combustion of natural gas produces far less (maybe 50%) of the carbon dioxide emitted than when coal is burned to produce the same amount of energy (eia 2024), this fails to account for the methane emissions that leak upstream as the gas is extracted, processed, and transmitted through pipelines and their compression stations. Indeed, in a recent summary of methane emissions from natural gas usage (MIT 2023), this value was reported to be as high as 9% in some cases. This source noted that while methane comprises some 70% of raw natural gas, by the time it is processed, the methane content rises to some 95%. As noted above, assessments of the carbon dioxide equivalent, or Global Warming Potential of methane suggest that it is much worse than carbon dioxide. Indeed, as reported by the Intergovernmental Panel on Climate Change on their Assessment Report 6 (IPCC 2021) on a 100-year basis, methane is some 29.8 times worse than carbon dioxide, while on a 20-year basis it's 82.5 times worse (values tabled in Sproule 2021).

Many years ago, Howarth (2014) discussed research from his Cornell Lab (e.g., Howarth et al. 2011) that revealed "For conventional natural gas, we estimated a range of methane emissions from 1.7% to 6% (mean = 3.8%), and for shale gas a range of 3.6% to 7.9% (mean = 5.8%)" Howarth (2014) also reported that the break-even point for the natural gas fugitive emissions is 2.8% (range 2.4-3.2%) meaning emissions above this value make the gas worse than coal. This implies that shale fracked gas is always worse than coal, and a substantial proportion of conventionally extracted natural gas is also worse than coal. More recently, Ciesielski (2024) reiterated the Howarth findings while, in a more recent analysis, Gordon and Hughes (2023) reported "Methane leakage as low as 0.2 percent puts gas's climate impact on par with coal." Gordon et al. (2023) reported similar conclusions.

The point is that designating natural gas as a low-carbon or clean fuel is a travesty of the current science.

The Nuclear Conundrum

Stimulated substantially by the nuclear power industry itself, but also by the proposals contained in the anti-science Heartland Institute's Project 25 (Dans and Groves 2023), there has recently been a resurgence of interest in nuclear electricity generation as a rational option in a clean energy economy. Many Oregonians unfamiliar with the issue, including some with climate or other environmental concerns, have been attracted by this is unfortunate development. It was with some surprise that I discovered deep in the draft, (not mentioned before Clean Energy Action 3 on p. 72) reference to small modular nuclear reactors as an emerging technology that, presumably, could be explored by DoE as a component of a clean energy future for Oregon. The bottom line for nuclear power is, as Sovacool (2021) has concluded, the lead time necessary to bring nuclear power plants online compared to that for renewable generation, indicates that, unlike renewables, nuclear generation is unlikely to be capable of addressing the climate crisis in the time necessary. Indeed, Plummer (2025), writing for Forbes Magazine, offered the following economic assessment:

> "According to the U.S. Energy Information Administration, the LCOE for advanced nuclear power was estimated at $110/MWh in 2023 and forecasted to remain the same up to 2050, while solar PV estimated to be $55/MWh in 2023 and expected to decline to $25/MWh in 2050. Onshore wind was $40/MWh in 2023 and expected to decline to $35/MWh in 2050 making renewables significantly cheaper in many cases. Similar trends were observed in the report for EU, China and India."

Small modular nuclear reactors would be employed at the expense of Oregon utility consumers.

Stanford University environmental engineer, Mark Z Jacobson (Jacobson 2019), long a researcher in the energy arena, reported that "New nuclear power plants cost 2.3 to 7.4 times those of onshore wind or utility solar PV per kWh, take 5 to 17 years longer between planning and operation, and produce 9 to 37 times the emissions per kWh as wind." This author also noted: "…a fixed amount of money spent on a new nuclear plant means much less power generation, a much longer wait for power, and a much greater emission rate than the same money spent on WWS [i.e., Wind, Water or Solar] technologies." The economics of nuclear generation have not changed since that analysis was published. Jacobson (2019) also countered the myth often propounded by nuclear proponents that nuclear power is a zero-emissions energy source with the assessment that "Overall, emissions from new nuclear are 78 to 178 g-

CO2 /kWh, not close to 0." Again, nothing has changed since then; nuclear power is still the most expensive and delayed method of reducing emissions from electricity generation.

As I have argued and justified elsewhere (Journet 2023), nuclear proponents seem to base their support for nuclear generation on one or more of three false premises:
1) There is insufficient renewable energy available to meet global energy demand,
2) Nuclear generation is free of greenhouse gas (carbon) emissions,
3) Nuclear generation is safe.

The falsification of any one of these three premises should be enough to negate the nuclear option. However, since all three are false, the myth of a nuclear option should be firmly rejected without any waste of taxpayer funds invested in its further exploration; these are funds that could be used to explore worthwhile options

In addition, in relation to Small Modular Nuclear Reactors, proponents again propound myths, that Lyman (2024) evaluated:
1. SMRs are not more economical than large reactors.
2. SMRs are not generally safer or more secure than large light-water reactors.
3. SMRs will not reduce the problem of what to do with radioactive waste.
4. SMRs cannot be counted on to provide reliable and resilient off-the-grid power for facilities, such as data centers, bitcoin mining, hydrogen or petrochemical production.
5. SMRs do not use fuel more efficiently than large reactors.

Finally, previous nuclear proponent Gundersen (2025) concluded:

> "With SMRs, you get all the risk and complexity, but at even higher costs per unit of energy, due to the loss of economies of scale. That is why nuclear power has never been financially viable. Every plant built in the U.S. required public subsidies, and every attempt to reduce unit costs by increasing reactor size, designing the plant in factory modules, or eliminating safety features has ended in disaster or disappointment."

In summary, Oregon's Department of Energy should not fall for the nonsense propounded by proponents of small modular reactors that these comprise an emerging technology rather than an irrelevant diversion from the path to a genuinely and economically viable clean energy.

Respectfully Submitted



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Director Benner,

Thank you for the opportunity to sit at the table as an advisor to the development of the state energy strategy as well as the access to participate in transmission and large scale generation committees. Through this participation I have once again witnessed the diligence, professionalism, intelligence and grace of your staff and your leadership and for that I commend you. The agency, under your leadership has risen to the challenging task of balancing a deep infusion of equity and inclusion into a strategy development for the inherently complex energy sector in the midst of unprecedented dynamics in energy markets, technology development and impending resource inadequacy.

While I appreciate the limitations of the legislative direction and funding within which ODOE has operated in undertaking this task, I urge your bold leadership in alerting our elected officials to the urgency of transitioning from strategic contemplation to mission critical actions that will be required to allow Oregonians to access the energy and fuels that we need to support our livelihoods and our lives.

Many of our communities are experiencing the increasing frequency and duration of power supply interruptions due to severe weather and wildfire induced transmission outages. These disruptions disconnect our households, schools, hospitals and businesses from access to the energy necessary to transact, communicate, transport, shelter, and provide for basic human health and safety needs. As we continue to electrify our society while relying on imported energy and fuels amidst a rapidly changing climate, the trend of what was once referred to in public power planning as “low frequency, high consequence” events is toward “high frequency and higher consequence”. Overlaying these global externalities with our regional exposure to resource inadequacy, as evidenced by the postponement of the Western Resource Adequacy Program and the 2024 MLK weekend storm event which placed the region on the brink of energy collapse, it is safe to say that it is high time to sound the alarm.

Rapidly actionable solutions are necessary and available. I am writing this from Denmark where, yet another, delegation of Oregon elected officials, agencies and industry members have traveled to learn from the failures and successes of a nation that was once in our energy dependency position and now able to provide affordable, secure, increasingly decarbonized energy while simultaneously growing the national GDP by 250% by focusing on energy independence. It is with this mindset of ever growing personal distress over the precarious livelihoods of Oregonians and my immersion into best practices resulting in a stable, thriving and wealthy society 50 years ahead of us that I offer these recommendations for swift actions that can result in reliability, affordability and wealth building for Oregonians.

State of Energy Emergency Action Plan:

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1. **Emergency Categorical Exemptions**: In order to expedite access to energy security for Oregonians and rapidly sunsetting federal ITCs, declare of state of energy emergency to allow for 18 months of categorical exemptions from state land planning goal 3 for renewable energy and energy storage project siting for projects located on non - irrigated agricultural lands that are within 10 miles of interconnection to the existing energy network.
2. **Industrial Symbiosis Hub Planning:** At the nexus of equitable societal wealth building, healthy communities and vibrant ecosystems is a holistic planning approach to integrate, balance and synergize our communities' natural resources, needs and existing and emerging private sector economic development. Industrial symbiosis planning funding for Oregon's port and other emergent economic hubs will leverage a deeper understanding of and no regret infrastructure planning for energy efficiency, clean fuel production and thermal exchanges for community level multi-generational affordability, security, and livability.
3. **Expedition of Low Impact Solutions:** Enact categorical exclusions for state siting consultation or permitting requirements for county approved agrivoltaics on un-irrigated farmlands, floating solar on public and private water supply reservoirs, solar covered irrigation canals, and parking lots.
4. **Industry Action Planning:** Our state has been at the forefront of clean energy and technology visioning but has hindered our own realization of progressive development for our own benefit. Allow and direct those most capable: our academic, industrial and national laboratory intellectual energy brain trust to develop a state Energy Action Plan functionally capable of keeping our lights on, achieving our climate objectives, supporting agriculture and diversifying our economic development. Appoint an advisory in January of 2026, task them with preparation of a plan for submission to Oregon legislators and Governor by November 2026.
5. **Embrace Biomass:** Biomass solutions for fuels, heat and electricity should be a central priority for the state of Oregon. Agricultural, municipal and forestry wastes and biproducts are abundant, readily available renewable resources that should be front and center of our immediate and long term planning, permitting and development initiatives.

Conclusion

We have what it takes to do what must be done. Please weigh these recommendations with the gravity that they deserve and know that Oregon's energy security is always on my mind.

Respectfully,

Shannon Souza, P.E.

Oregon Energy Strategy

Public Comment

Sophie Beym, 9.16.2025

I support establishing a Tribal Energy Block Grant Program for the (9) Federally Recognized Tribes to support sovereignty and self-determination. Also, consultation with the Tribes is critically important. Overall, I support the Oregon Energy Strategy Summary.

September 22, 2025

For the Energy Strategy Working Group,

I appreciate the opportunity to comment on the Oregon Energy Strategy and am grateful for all the time dedicated to this work by ODOE staff and the members of the Advisory Group and Working Group. I hope this report provides guideposts for future policies and pathways for Oregon. There is a lot of great information and analysis in the report. Here's my feedback on where things could be changed:

Comments on Specific Sections

· Strategy 4a should be more specific about what the options and realities are for low-carbon fuels. The most helpful thing for policymakers will be specific recommendations and policy options.

· The discussion around hard to decarbonize sectors is an important one and the mention of aviation and marine transport is great. Given those industries, I think this section is too narrowly focused on what sounds like Oregon-specific networks. A recommendation could be to work with Business Oregon and Oregon ports to identify economic development opportunities based on clean fuels and figure out how the Legislature and the State can support this. Taking into consideration, for example, the Clean Shipping Alliance, the development of Sustainable Aviation Fuel, and the renewable fuels facility being built outside of Clatskanie. As a state we should be looking to access larger markets by supporting innovative fuel options. This is mentioned again in Fuels Action 2, but I think could warrant some more specific ways this moves forward.

· Fuels Action 3 (page 79) should also acknowledge and identify the risks of fuel storage in places that are most likely to be impacted by natural disasters and recommend actions that will make them more resilient. For example, the CEI Hub or the aforementioned renewable fuels facility on the Columbia, we must ensure that enough safeguards are in place to prevent spilling and environmental disasters; if the worse does happen, would there be funding available for clean up and accountability?

· Agrivoltaics is defined in the glossary, but never mentioned as a policy action. Maybe it is implied that it should be part of a conversation around distributed energy and resilience, but there is a lot of anxiety and ambiguity around agrivoltaics and a recommendation to have a work group that addresses its siting and connection would be helpful.

· The full list of legislative and policy actions (starting on page 86) is better suited at the beginning of the document, either in an executive summary or stand alone, because I think

this is what most people will look for when picking up the report. The context of the strategies is important for anyone not familiar with this topic, but most policymakers and energy advocates reading the report will want to jump right to the action items.

Generally

· The national policy shift towards different fuel sources should be acknowledged, even if it is not encouraged. The current federal administration's push for nuclear, carbon capture, geothermal, and fossil fuels, for example. More discussion on how to take advantage of any positive momentum that is out there now.

· A number of the actions result in directing ODOE to do a study or a roadmap or something similar. I agree that policymaking should be done in an informed and data-driven manner, my concern is that these studies need legislative approval, funding, and time to be completed, when we often essentially know what the problem is. We must shift towards a bureaucratic culture that allows for speed and innovation in order to get us out of the cumbersome and lengthy processes we have in place. These are the reasons we are behind in so many areas, like energy development, mode shifting, and climate goals. More nimble processes, like legislative work groups and robust policymaking process can sometimes take the place of a study that ties up the State's scant resources. I'd love to see more recommendations that balance information getting *while* simultaneously moving forward.

· I recommend thinking about how to best get the main points and recommendations across to people who pick up the report. I think some of the strategies could likely be combined or abbreviated. The strategies and context are important for reference, but most people will skip to the executive summary or the policy recommendations.

My name is Steve Wright. I have been a member of the Northwest Natural Advisory Group. You can find our credentials elsewhere. My comments today though, while based on the review performed by the AG, represent my views alone.

I very much appreciate the holistic view in the draft Oregon energy strategy, particularly the multiple references throughout the documents to the importance of maintaining affordability and reliability. I was the BPA Administrator during the 2001 west coast energy crisis and aftermath when there were threats to reliability, extremely large rate increases and substantial opposition to any investments that might further increase rates. Bottom line is threats to reliability and affordability become so important to public sentiment that other important objectives can be severely compromised. The Oregon energy strategy needs to carefully consider potential reliability and affordability impacts that could limit the ability to accomplish all the other important objectives.

As a long-time proponent of energy efficiency, I am very supportive of its priority in the draft strategy document. Energy efficiency is the best path to achieving multiple economic and environmental objectives. As the cost of alternative energy sources are rising, more energy efficiency measures become cost-effective.

The electrification goal importantly describes the need to incorporate measures safeguarding reliability and supporting affordability and includes a worthy commitment to further study “strategic electrification.” It will be critical to sound public policy making that policymakers and the public are provided robust analysis of the potential risks to reliability and affordability particularly with respect to electrification strategies for buildings. The AG provided substantial input as to what it believes are pragmatic assumptions that affect the challenges of adding building electrification in the near-term to the existing, nearly overwhelming difficulty of maintaining resource adequacy in a clean and affordable manner. I would ask that ODOE consider running an analysis utilizing the AG input about load growth, timeframes for new transmission additions and the cost of new generation in order to understand the reliability and affordability impacts which could potentially impact the timing of aggressive pursuit of building electrification. This is particularly important with respect to extended low temperature events that present likely the highest cost and risk to public health and safety. It was very encouraging to see the draft strategy incorporate the use of dual fuel heat pumps which would provide diverse fuel supply for extended low temperature events.

As to clean energy, the general direction of seeking means to accelerate the construction of transmission and generation while supporting the development of dispatchable, clean and cost-effective resources is on the mark.

I would also note the AG has supported thoughts included in the document such as the value of greater coordination between the gas and electric industries and recognition of the need for resilience particularly against the increasing occurrence of extreme weather events.

While I am unable to be with you today due to prior commitments, I am open to further discussion and answering Commissioner comments should you so desire.

Oregon Department of Energy
550 Capitol Street NE
Salem, Oregon 97301

September 22, 2025

The **Stop Northwest Gas Expansion Coalition** is an alliance of public health, faith, and environmental organizations, along with community members based in Oregon, Washington, and Idaho. Our mission is to protect communities in these three states from the health, safety, and climate threats of methane gas. Members of this coalition have been following the development of the Oregon Energy Strategy from the beginning. We applaud ODOE, its consulting team, members of the advisory and working groups, and other contributors for a very impressive effort during some particularly stressful times. In most respects, we are impressed with the Draft Oregon Energy Strategy's strong framework and detailed recommendations to help Oregon achieve its climate, clean energy, affordability, and environmental justice goals.

The Stop Northwest Gas Expansion Coalition is among the groups that signed on to the joint comment letter from the Environmental Caucus. The comments in this letter offer greater detail on one of the issues raised briefly in the joint comments, namely: that we feel Oregon needs to take strong initiative to set bold clean energy standards in order to meet our energy, affordability, environmental justice, and climate goals, while the federal government is currently pursuing multiple strategies that make these goals more challenging. We will focus primarily on two examples we know well to help illustrate our broader concern:

(1) the federal government's efforts to expand the production, transport, and use of natural gas, and

(2) the extraordinary reduction in pipeline safety inspections and enforcement.

We also offer specific suggestions for possible state options to ensure Oregonians and our natural environment are safe and secure from dangerous leaks, explosions, and fires.

1. **Our Primary Concern: Trump Administration Rollbacks of Environmental Protections**

In developing an energy strategy in 2025, it is important for the Oregon Department of Energy and the other agencies involved in the Interagency Steering Group to recognize and address the Trump Administration's effort to thwart what it refers to as "state overreach." As noted in the Executive Order titled **Protecting American Energy from State Overreach**, the White House argues that "many states have enacted, or are in the process of enacting burdensome and ideologically motivated 'climate change' or energy policies that threaten American energy dominance and our economic and national security."

Unfortunately, many of Oregon's laws and executive orders that support our climate, clean energy, and environmental justice goals might considered, in the view of the current Federal administration, "burdensome" and "ideologically motivated" because they are intended to advance a cleaner and more just energy future and reduce the use of oil, natural gas, and coal. The President's Executive Order insists that "these state laws and policies are fundamentally irreconcilable with my Administration's objective to unleash American energy. They should not stand."

Oregon's Draft Energy Strategy includes the following sentence as Cross-Cutting Action 8: "Advocate for federal policies that support the advancement of state energy objectives." We believe it will be critically important for Oregon's state government, our congressional delegation, and all stakeholders who care about Oregon's climate, energy, and environmental justice goals to do much more than simply advocate for sound federal policies. We need to vigorously defend against efforts by the current administration to make it exceedingly difficult for Oregon to move in a positive direction on these goals.

Of course, the state of Oregon does not have the authority or capacity to take on all the critical responsibilities qualified staff at federal agencies are no longer being allowed to provide. However, there may be some particularly important instances where the state may determine that it must at least attempt to assume some critical responsibilities that were previously addressed in a conscientious manner by federal agency staff. This is particularly the case when the current leaders of these agencies choose to misinterpret,

revise or eliminate federal laws and regulations that are likely to jeopardize the health and safety of Oregon's citizens, threaten the environment, and harm our quality of life.

The elimination of critical scientific investments, replacement of career experts, creation of bureaucratic roadblocks to clean energy, and disregard for the law confirm the Trump Administration's fundamental rejection of the federal government's responsibility to protect American families from higher greenhouse gas emissions, other environmental harms, and rising energy prices.[1]

One of the most far reaching is the proposal to repeal EPA's "Endangerment Finding" in rejecting the overwhelming scientific evidence that greenhouse gas emissions do harm human health. One of the many negative consequences of this repeal will be to give polluters virtually free reign to dump toxic emissions into our air and water. Another will be to remove much of the motivation for automakers to offer zero and low emission vehicles.

Our Secondary Concern: Reductions in Federal Pipeline Safety Enforcement and Regulations

Amidst these Federal rollbacks in environmental protections, we note recent reductions in pipeline safety enforcement and attempts to further roll back safety regulations. Methane "natural" gas pipeline projects are being revived due to a perceived increase in demand due to AI data centers.[2] To keep Oregonians safe when working or living near natural gas

[1] Other representative examples of Federal agency actions include: the elimination of EPA's Office of Research and Development and the layoff of hundreds of scientists and experts; the release of an AI Action Plan that supports the removal of "regulatory barriers" that encourages the construction and powering (with fossil fuels) of data centers; new Department of Interior (DOI) review procedures intended to halt wind and solar energy projects by subjecting them to political screening from hand-picked senior staff.

[2] A recent analysis by Morgan Stanley confirms that American tech companies are now much more likely to turn to natural gas generation and pipelines to power the expansion of data centers and other AI infrastructure.
Northwest pipeline projects that had been abandoned or placed on hold are now being revived. Here are some of the region's pipeline expansion projects that are currently underway: Huntington Connector Project, capacity 87 MMcf/d, expected completion 4Q 2026; Kelso-Beaver Reliability Project, capacity: 80 MMcf/d, expected completion: 4Q 2028; Stanfield South Project, capacity: 80 MMcf/d, expected completion: 4Q 2025; Ryckman Creek Lateral Project, capacity: 50 MMcf/d, expected completion 4Q 2025; Naughton Coal-to-Gas Conversion Project, owner: Rocky Mountain Power (a PacifiCorp subsidiary), capacity 98: MMcf/d, expected completion 2Q 2026; Wild Trail Project, capacity: 83 MMcff/d, expected completion 4Q 2027. Source: Williams Northwest Pipeline Customer Meeting Presentation, March 2025.

New projects that have been proposed include: Trail West/NMax Cross Cascades proposed pipeline starting at GTN system near Madras and connecting to Williams Northwest Pipeline near Molalla, Oregon (discussed in Cascade Natural Gas 2025 Integrated Resource Plan); Williams Northwest Pipeline Eastern Oregon Expansion, intended to serve new customer demand in the Pendleton and Baker City areas; NWP Express Project/I-5 Sumas Expansion Project; Cascade Natural Gas envisions this project as expanding natural gas capacity from Sumas to Bellingham, Mount Vernon, Bremerton, and Longview;

and other pipelines, Oregon needs to pay attention to what is occurring at the Federal level and create our own standards, regulatory procedures, insurance requirements, and safety processes.

a) Reductions in Federal Pipeline Safety Enforcement

While **testifying** before the House Energy and Commerce Committee in July 2024, the executive director of the Pipeline Safety Trust described the following pipeline safety incidents since January 2024: 881 reportable incidents, 18 people killed, and 45 injured to the point of in-patient hospitalization. On average, that means a significant incident every 1.32 days, and nearly four people killed or seriously injured every month.

A May 2025 **analysis** in the *Washington Post* highlighted a 95% drop in enforcement actions by PHMSA since the beginning of 2025, perhaps due to a **directive** from the White House to halt protections of critical energy infrastructure. A problem for decades, current Federal policies are exacerbating this dramatic decline in pipeline safety enforcement that has increased since the beginning of the second Trump Administration.

This decline in enforcement was highlighted by Senator Cantwell, the Ranking Member of the Senate Committee on Commerce, Science and Transportation, who **called on the Trump Administration** to explain why PHMSA is "failing to act against operators that fail to comply with laws that keep the public safe." Cantwell noted that enforcement actions have drastically declined since President Trump took office. According to PHMSA's own data, only five pipeline safety enforcement actions were initiated in the first three months of President Trump's second term, compared to 68 in the same period in President Trump's first administration, a 92% decrease. Senator Cantwell also **indicated** that the Department of Transportation has taken another step to chill enforcement of pipeline and transportation safety by proposing a formalized process for political appointees to retaliate against the Department's own pipeline safety inspectors and investigators. This is likely to result in investigators fearing they could be fired for doing their jobs.

In June, the Stop Northwest Gas Expansion Coalition submitted a press release and **letter** to PHMSA and the region's congressional delegation calling for action to restore federal oversight and protect communities across Oregon, Washington, and Idaho from the growing risks of aging gas pipeline infrastructure. The letter cited **PHMSA's own data** indicating that over the past 20 years pipeline incidents have caused over 257 deaths, 1000 injuries, and $11 billion in damages.

NWP Wenatchee Expansion Project, this proposed project would deliver natural gas from Sumas to new customers in the Yakima and Wenatchee areas.

The letter called for:

- Restoration of full federal enforcement capacity and staffing;
- Public disclosure of enforcement activity and trends since January 2025;
- Engagement with frontline communities and health experts on pipeline risks; and
- Independent oversight of compliance actions, free from political interference.

b) Federal Changes to Pipeline Safety Regulations

The Pipeline and Hazardous Materials Safety Administration (PHMSA) released an **advance notice of proposed rulemaking** to "solicit stakeholder feedback to eliminate undue burdens on the identification, development, and use of domestic energy resources and to improve government efficiency." The intent is to "deregulate" (with the effect of virtually eliminating) pipeline inspections and reduce "compliance burdens" in ways that will support the fossil fuel industry rather than enhance transparency and public safety. The comments of the natural gas pipeline companies and associations are (unsurprisingly) very supportive of the proposed new regulations.

However, other entities concerned about public safety and environmental protection such as the **Pipeline Safety Trust** and the **National Association of Pipeline Safety Representatives** (an organization of state agency pipeline safety managers, directors, and technical staff). Our own group, the **Stop Northwest Gas Expansion Coalition,** submitted comments raising serious concerns about the implications of this proposed rule. Existing regulations fall well below current "best practices" for inspections found in many other countries.

c) Human and Economic Benefits from Pipeline Safety

Pipeline safety regulations exist because pipeline failures cause devastating health consequences for workers and communities. As health professionals in our coalition have documented, these impacts range from immediate medical emergencies to long-term chronic conditions that impact our healthcare systems for decades. If the proposed new regulations that would "deregulate" pipeline inspections are adopted, it is reasonable to assume that the resulting health impacts will become more serious.

Improvements in pipeline safety enforcement also benefit the industry, especially small operators, by avoiding economic loss caused by pipeline incidents and failures that result in loss of product and/or destruction of pipeline infrastructure. They also enhance reliability and support the overall economy. The executive director of the Pipeline Safety Trust identified a cost of over $6 billion over the last decade due to pipeline incidents. "Pipeline failures don't just kill people; they cost billions, disrupt energy supplies, and

undermine America's energy leadership. But the same solutions that save lives and protect our environment also strengthen our economy and energy security. … Every dollar invested in inspection could prevent hundreds of dollars in disruption costs."

3. Implications for Oregon Energy Policy

a) Natural Gas Pipeline Expansion Leads to Increase in Greenhouse Gas Emissions

Given these developments, no matter what is recommended in the state's Energy Strategy, significant counter pressures exist to increase the importation and use of natural gas within Oregon, our Pacific Northwest region, and the nation. **Reports** from the data center industry's most recent conference called *Data Center World 2025* confirmed that "data center developers are flooding natural gas pipeline companies with requests for connections" and "natural gas is at the top of the list among electric generation sources." As one leading data center developer explained, rather than pursuing cleaner sources based on electricity, they are now "chasing the (natural gas) molecule." It will not be possible for Oregon or Washington to meet their climate and clean energy goals if the confirmed, projected, and speculative natural gas expansion projects proceed to completion.[3]

b) Our Recommendations for a Response to Federal Rollbacks by the State of Oregon

While we would be delighted if PHMSA decides to accept these recommendations, we realize this is unlikely. Multi-state collaboration in the energy sector has already happened through such initiatives as the **Pacific Coast Collaborative**. Another helpful model in the health care sector is the recent formation of the **West Coast Health Alliance** by the governors of Oregon, Washington, California, and Hawaii to develop a virus vaccination policy for COVID-19, influenza, and RSV vaccines. There are many schools, child centers, hospitals, and easy-to-ignite forests and grasslands located along pipeline routes that also need to be protected.

Therefore, we recommend:

- Governors of Oregon, Washington, and Idaho and the appropriate state agencies and public utilities commissions fill the gap. Oregon and other states should actively defend against policies, regulations, and practices that will undermine the

[3] See footnote 2.

achievement of state energy and climate goals, harm public health and safety, and damage the environment.

- We urge the State of Oregon to aggressively offer to take on safety oversight responsibilities when lives are in danger and there is no reasonable alternative. Some states have already received authority to take on some aspects of the safety inspection role regarding interstate pipelines located in their states. Oregon should join other west coast states, and explore collaborating with them on this effort

- We recommend that the State of Oregon join other states to challenge PHMSA to allow and support its pipeline safety inspectors to do their job without fear of reprisal. If PHMSA fails to allow for inspections without fear of reprisal, we recommend that Oregon seek to join other states who have already chosen to take on more of this responsibility so Oregon's citizens and the environment will not face unnecessary harm.

We urge Oregon to take the initiative to set bold clean energy standards in order to meet our energy, affordability, environmental justice, and climate goals. We thank you for your attention to this critical matter and for the opportunity to provide our feedback.

Peter Fargo
Coalition Coordinator, Stop NW Gas Expansion (StopGas.org)
Environment & Energy Program Manager, Ecumenical Ministries of Oregon

TO: Oregon Department of Energy
FROM: Daniel Whelan, Director of Government Affairs, Sustainable Northwest
DATE: September 22, 2025
RE: Public Comment on ODOE Draft Energy Strategy

Energy resilience is a top priority for Oregon's frontline communities due to the increased likelihood and severity of grid disrupting natural disasters like wildfires, extreme weather, and earthquakes; unprecedented load growth on the state's grid, especially from large energy users like data centers; and the desire to hedge against rising energy costs and carbon-intensive fossil fuels in support of local clean energy economies.

Legislation that will make Oregon a national leader in Microgrid Development, HB 2065 and HB 2066, passed the Oregon Legislature with overwhelming bipartisan majorities and was enthusiastically signed into law by Governor Tina Kotek.

(https://apps.oregon.gov/oregon-newsroom/OR/GOV/Posts/Post/governor-kotek-signs-landmark-microgrid-legislation-into-state-law)

Clean energy advocates, local governments, and utilities from across the state supported these bills that directs the Oregon Public Utility Commission (OPUC) to create the legal and regulatory framework that will enable utilities, communities, and third parties to develop microgrids in Oregon. Sustainable Northwest and its partners agree with the US Department of Energy that:

"*By 2035, microgrids are envisioned to be essential building blocks of the future electricity delivery system." (https://www.energy.gov/oe/microgrid-program-strategy)*

In Oregon, microgrids will eventually become an important component for the state to meet its resilience and clean energy goals. Currently, the regulatory landscape is stifling rural and Tribal communities' ability to pursue small scale renewable energy projects that would directly enhance preparedness, economic development, and public safety. The OPUC frameworks for HB 2065 and HB 2066 will streamline that stifling regulatory landscape. Support from ODOE and the state for microgrid development moving forward will be critical.

Sustainable Northwest applauds the Oregon Department of Energy for including microgrids in the following Actions of the Draft Energy Strategy:

- **Clean Electricity Action 4**: *Study government policy incentives for local electricity investments and identify opportunities for the state to better advance infrastructure needs, economic development and energy justice objectives.*

- **Clean Electricity Action 6:** *Direct the OPUC to investigate opportunities to modify utility business models and ratemaking practices to enhance marketplace competition and thereby lower costs in utility planning and resource procurements.*

- **Clean Electricity Action 7**: *Expand the Oregon Department of Energy's statewide energy infrastructure resilience programs, including increasing funding for and amending the Community Renewable Energy Grant Program to support projects that improve energy resilience.*

Sustainable Northwest also supports the proposal identified in the Draft Energy Strategy to create a **Tribal Energy Block Grant Program** to allow Tribes to "**assess their risks, identify priority investments, and develop implementation strategies tailored to their communities**" as well as potential "**support for community-scale energy projects and microgrids would allow Tribes to maintain electricity during grid outages, reducing dependence on large utility infrastructure while increasing local control.**"

Tribes across the United States have been successfully incorporating microgrids into energy portfolios (https://bluelakerancheria-nsn.gov/wp-content/uploads/2018/11/BLR_Microgrid_FactSheet.pdf, https://www.colusaindianenergy.com/microgrids)

HB 2065 and HB 2066 will empower Tribes in Oregon to work directly with utilities to develop their own microgrids and energy projects. State support for these Tribal projects will help tribes control their own energy destinies while supporting the development of a market for microgrids in the state and region.

Once the OPUC finalizes its regulatory microgrid framework, counties, cities, unincorporated communities, in addition to Tribal governments, will be able to assess their own energy resilience potential, plan and implement community microgrid projects, partner with private entities or utilities in microgrid development, and operate microgrids during both normal conditions and emergencies.

With its support for microgrids as a potential strategy for both clean energy and resilience actions outlined in the Draft Energy Strategy, we strongly urge the Oregon Department of Energy to participate in upcoming OPUC dockets for HB 2065 and HB 2066 through public comment or as a resource for OPUC staff.

Sustainable Northwest applauds the forward-thinking vision of the Oregon Department of Energy's Draft Energy Strategy for recognizing the need for more distributed energy resources and microgrids to help Oregon achieve its clean energy and resilience goals.

Thank you.

SUSTAINABLE NORTHWEST

Daniel Whelan
Director of Government Affairs
(541) 232-7475

September 22, 2025

To Whom It May Concern:

I am writing on behalf of the Technology Association of Oregon (TAO) to share comments regarding the Oregon Department of Energy's recently released draft Strategy. The following comments relate specifically to the proposed large load GHG reporting/disclosure. Rather than imposing new reporting requirements, we respectfully recommend that Oregon partner with industries that have already committed to sustainability goals. Many companies, particularly in the tech sector, have established ambitious renewable energy and carbon reduction targets that often exceed state requirements.

Potential for Competitive Disadvantage:

- Imposing additional regulations on new electric loads could put Oregon at a competitive disadvantage compared to other states. This will discourage businesses, particularly in the tech sector, from locating or expanding operations in Oregon, resulting in lost economic opportunities and jobs. Many companies, especially smaller ones or those in emerging tech sectors, will find these reporting requirements overly burdensome.

Existing Frameworks Are Sufficient:

- Oregon already has robust environmental policies and reporting mechanisms in place, including Oregon Department of Environmental Quality's Climate Protection Program. Adding another layer of reporting is redundant and unnecessarily complex. We should focus on optimizing existing frameworks rather than creating new ones. To be sure, some recent programs have not even been fully implemented. For example, ODOE's new Building Performance Standard program passed in 2023 (HB3409). Before creating additional energy efficiency programs, the State should wait until the current programs are fully implemented and maximized.

One-Size-Fits-All Approach Is Problematic:

- The proposed requirement appears to treat all new electric loads equally, regardless of size, industry, or potential economic benefit. This blanket approach fails to account for the nuances of different industries and their contributions to the state's economy and could unfairly impact certain sectors. For example, new large loads do not necessarily correlate to large emissions, as many large loads have ambitious sustainability goals. Moreover, the utilities in the state have to meet the targets in HB2021. Plus, it is unclear who would have to perform this reporting (utilities or the customer), and at what point in the process. Disaggregated reporting/registration in such a way may require utilities to assign emissions (and maybe RECs) to specific customers, which is not in line with DEQ's current reporting approach.

Potential Conflict with Clean Energy Goals:

- This requirement could hinder the adoption of beneficial electrification technologies. As businesses and industries transition to electric options to reduce emissions, additional reporting requirements could slow this transition, potentially conflicting with the state's broader clean energy and decarbonization goals.

Collaborative Partnership Approach:

- Rather than imposing new reporting requirements, Oregon should partner with industries that have already committed to sustainability goals. Many companies, particularly in the tech sector, have established ambitious renewable energy and carbon reduction targets that often exceed state requirements. The state should focus on enabling and accelerating these voluntary corporate commitments through supportive policies and incentives, not additional regulation.

Market-Driven Solutions Are Working:

- As a state, we're already seeing significant private sector investment in clean energy and sustainability initiatives driven by customer demands, investor expectations, and corporate ESG commitments. Companies are voluntarily pursuing power purchase agreements for renewable energy, investing in energy efficiency, and developing innovative solutions to reduce their carbon footprint. Adding new reporting requirements will divert resources away from these actual sustainability investments and implementations. The state should focus on removing barriers to these market-driven solutions rather than creating new regulatory hurdles.

Why is Oregon struggling to meet growing energy demands?

- According to recent media reports, The Bonneville Power Administration (BPA), a federal agency that markets hydropower from 31 federal dams in the Columbia River Basin, owns and operates 75% of the Northwest's high-voltage lines.
- BPA built much of its 15,000-mile high-voltage system from the late 1930s to the 1970s, coinciding with the construction of the dams. Since 1990, BPA has added just over 300 miles of transmission to its system.
- BPA has been overwhelmed with requests from developers and utilities to connect new carbon-free energy projects to its grid, which BPA cannot quickly meet, partly due its transmission lines being nearly full.

Why can't new transmission lines be built quickly in Oregon?

- Building new transmission lines is extremely costly, takes 10 to 20 years to build, and requires significant community and stakeholder engagement.

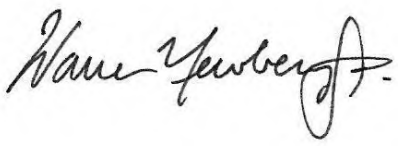
How many renewable energy projects are waiting to be connected to the Oregon grid?

- As of February 2025, BPA has 68,000 megawatts of requests in its transmission service queue, representing 641 unique requests.
    - The 68,000 megawatts is nearly 10 times the generating capacity of the Grand Coulee Dam, the largest dam on the Columbia River. It's enough to light up 68 cities the size

of Seattle, which has an average consumption of roughly 1,000 megawatts – that's assuming all the wind and solar projects in the request queue were built and running at once at their maximum capacity.

If you have any questions regarding the above comments, please do not hesitate to contact me. Thank you for your consideration.

Sincerely,



Warren "Skip" Newberry Jr.
President & CEO, TAO
skip.newberry@techoregon.org

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September 19, 2025

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Re: Oregon Department of Energy Draft Oregon Energy Strategy

To the Oregon Department of Energy,

On behalf of TechNet, I'm writing to submit public comments in response to the draft Oregon Energy Strategy released in August 2025.

TechNet is the national, bipartisan network of technology CEOs and senior executives that promotes the growth of American innovation by advocating a targeted policy agenda at the federal and 50-state level. TechNet's diverse membership includes over a 100 dynamic American businesses ranging from startups to the most iconic companies on the planet and represents five million employees and countless customers in the fields of information technology, artificial intelligence, e-commerce, the sharing and gig economies, advanced energy, transportation, cybersecurity, venture capital, and finance.

The Oregon Department of Energy's Draft Energy Strategy is a thoughtful and ambitious framework. We commend the Strategy's spirit of cooperation, its emphasis on system-level planning, and its recognition that Oregon's energy future depends on aligning multiple sources of load growth with clean, reliable, and affordable supply. We appreciate the plan's commitment to the principles of collaboration, transparency, and integrated planning throughout the report.

In that spirit, TechNet respectfully opposes *Cross-Cutting Action 1* (p. 79-80), which directs the Environmental Quality Commission (EQC) to impose new registration and reporting requirements on large electric loads. While we are aligned with the goal of ensuring new demand aligns with state emissions targets, this proposal would not meaningfully advance that goal and would undermine the economic benefits of the types of projects, such as data centers, which are explicitly named as an example large load project in this section of the report.

Creating a new EQC-run reporting regime risks duplicating existing planning efforts, discouraging new investment, and undermining the report's own objectives of affordability and reliability. Creating an open-ended reporting framework could inject unnecessary uncertainty into the siting and expansion of large loads, deterring companies from making long-term investments in Oregon. As one example of the economic benefits of large load investments,, Amazon Web Services (AWS) recently reported their data center investments in eastern Oregon have resulted in an estimated $11.8 billion in increased GDP to the area, supported more than 8,320 full-time equivalent jobs annually, and more than $54.2 million in property taxes, fees, and other payments.

Focusing specifically on data centers as load growth ignores other large load industries which are critical to the Oregon economy. Also, it ignores the process companies and

utilities must go through to site, develop, build and run a data center. A company must work with a utility to develop a data center. A utility must be able to serve that customer, they must know they will be able to meet the new load. Utilities are the party responsible for reporting all their GHG emissions associated with serving their entire load, not just a specific customer.

Data centers can be the driver of Oregon's clean energy transition. Many operators, particularly those in the tech sector, have already adopted ambitious renewable energy and carbon-reduction commitments, often exceeding state goals. With the right policies, these facilities can help finance new clean resource, enhance grid flexibility, and deliver significant economic benefits in jobs and tax base. Burdensome and duplicative reporting, by contrast, risks slowing these benefits and undermining Oregon's competitiveness as a hub for technology and clean energy investment. Again, utilities working with the tech sector will result in more investments in clean energy to serve these loads. Requiring burdensome reporting on companies which do not provide the actual energy simply does not make sense.

As the Strategy itself acknowledges, Oregon's future load growth comes from many directions: electrification of vehicles and buildings, industrial demand, and emerging tech sectors. Managing this portfolio is a system-level challenge best solved with system-level tools, not facility-by-facility paperwork.

We urge the Department to prioritize policies that expand clean supply and system reliability through efforts like establishing a state transmission authority, accelerating the deployment of grid-enhancing technologies (GETs), supporting emerging technologies, and advancing regional market integration rather than imposing new administrative requirements on industries already committed to sustainability. Such an approach will better align with the report's objectives and ensure Oregon remains competitive and open for investment in the clean energy economy. TechNet believes utilities, who are already required to report GHG emissions, are the appropriate entity to report emissions for their entire customer energy usage.

TechNet appreciates your consideration.

Sincerely,



Rose Feliciano
Executive Director
Washington + Northwest

The Nature Conservancy
Protecting nature. Preserving life.™

The Nature Conservancy in Oregon
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September 22nd, 2025

Oregon Department of Energy

Public Comment: Draft Oregon Energy Strategy

Submitted by Lauren Link, TNC OR State Policy Advisor

Thank you for the opportunity to provide comments on the Oregon Department of Energy (ODOE)'s draft state energy strategy. As a member of both the Advisory Group and the Clean Electricity Generation and Transmission Policy Workgroup, we are excited to see the draft energy strategy reflect many of the ideas and policy solutions identified and discussed by workgroup members.

The Nature Conservancy (TNC) in Oregon is a science-based, non-partisan organization working across the state to address the impacts of climate change and biodiversity loss. TNC is committed to helping the state develop a clear, actionable state energy strategy that helps Oregon meet its clean energy goals, streamlines the transition and deployment of clean energy infrastructure, and delivers positive outcomes for both people and nature.

TNC's vision of a rapid and responsible clean energy transition is rooted in our science-based approach to helping create, implement, and defend strong and durable climate policies as well as develop new strategies and explore opportunities to center the needs and input of our communities.

Much like the electrical grid, TNC's work spans across the Oregon border, working with partners in our neighboring Western states and across the country, to identify best practices and policies that:

1) establish robust and integrated state-level planning, siting, and permitting reform for renewable energy projects, specifically identifying pathways to avoid, minimize, or mitigate impacts to our most sensitive habitats and ecosystems

2) maximize the role of the existing grid by removing barriers to land-saving approaches, such as reconductoring, co-location, and expanding existing right of ways

3) identify streamlined approaches to align state planning and permitting processes with regional efforts; and

4) advocate for early and meaningful community engagement on clean infrastructure projects

We are excited at the opportunity to continue to work with ODOE and others on developing, refining, and implementing a strong, actionable state energy strategy and welcome conversations on how best we can partner, uplift, and support this important work.

Draft State Energy Strategy Organization. We are impressed with the comprehensive document that ODOE has compiled based on the modeling, stakeholder conversations, and public comments. The pathways-policy recommendations-policy actions structure makes sense and is a logical way to go from high level guidance to specific actions. TNC believes the five pathways identified adequately represent the areas the state needs to invest in to advance Oregon's clean energy goals.

TNC recommends that ODOE create a visual (flowchart, diagram, etc.) that illustrates the connection from pathway to policy action. The report is currently structured in a way that jumps from pathway to pathway, then recommendation to recommendation, and finally from policy action to policy action, making it difficult to visualize how policy actions connect back to pathways. Drawing a more explicit connection between the pathways and policy actions would be helpful in sequencing policy actions.

At the end of the report, ODOE has a section on cross-cutting policy actions that includes some compelling overarching and interconnected actions. However, because of where they are located in the report, they appear somewhat as an afterthought and are hard to connect back to the pathways. **TNC recommends that these cross-cutting policy actions are integrated into each of the policy pathways, so they are considered alongside the other policy actions.**

Prioritization. TNC supports developing near-term policy actions that address existing barriers and needs in the next four years that also contribute to the state's 2040 and 2050 climate goals. **TNC recommends that the policy actions identified be as detailed, sequential, and actionable as possible, so that decisionmakers have sufficient information and clear guidance on the near-term actions needed to meet our state's goals.**

As the strategy is currently drafted, there is a list of 42 policy actions, ranging from studies to scaling up/expanding existing programs to creating new state entities. While it is helpful to see the range of policy actions in the current draft, it is difficult to identify and prioritize which policy actions will most significantly help Oregon reach its energy goals. **We recommend that ODOE continue to refine the near-term policy actions into more of a roadmap**, so there is a clear line drawn from what policy actions are recommended and how they are truly addressing the original barriers/challenges to meeting our state's clean energy goals and providing clean, reliable, and affordable energy to Oregonians.

In looking through the policy actions, we believe that it would be helpful to develop a matrix or table that outlines the policy actions in terms of greatest impact, timeliness (urgency), and whether the policy action is foundational to strategy progress vs an action that is narrow in scope and outcome specific, making it easier to understand actions that need to be taken immediately as well as actions that provide multiple benefits and greatest impact relative to the resource input.

While we believe all the pathways identified are important, TNC has focused our comments on the Clean Electricity Pathway as we believe identifying and reducing barriers to increasing our clean energy infrastructure with least impact to communities and nature is one of the most important steps the state can take to implementing Oregon's state energy strategy.

Clean Electricity Generation and Transmission Policy

We have identified and prioritized pathways and policy actions we believe will help accelerate Oregon's clean energy transition.

1) Establish robust and integrated state-level planning, siting, and permitting reform for renewable energy projects, specifically identifying pathways to avoid, minimize, or mitigate impacts to our most sensitive habitats and ecosystems

Addressing gaps in transmission planning and financing is an important step towards a cleaner and more resilient grid. The state needs to address siloed utility and grid planning, prioritize clean energy investments with statewide benefit, and increase coordination between regional, state, and local jurisdictions to accelerate the clean energy transition quickly, efficiently, and equitably.

TNC supports:

- Clean Electricity Action (CEA) 1. Establish a state transmission entity with the authority to 1) identify and designate transmission corridors; 2) pursue partial siting and permitting approvals for future projects; and 3) provide direct financial support through state bonds for projects that are determined to benefit the public interest.

Currently, no one agency is responsible for coordinating transmission planning across utilities in Oregon. **We support establishing a state transmission entity to ensure more comprehensive and coordinated transmission planning occurs**. A newly established state transmission entity would not duplicate current transmission planning, but instead offer a focused pathway to identify, finance, and develop new transmission projects across the state that individual utility planning efforts might not prioritize.

The most important pieces we see for a state transmission entity to focus on would be 1) pulling together and integrating utility by utility planning into a coordinated system; 2) **prioritizing investments that make the most out of existing corridors and grid infrastructure to increase capacity, including reconductoring and co-location;** 3) identifying funding opportunities to increase investment in new projects; and 4) identifying opportunities for this body to study and work to address additional barriers and opportunities related to transmission capacity expansion needed to meet clean energy goals.

We see an opportunity for the state to ensure transmission projects make efficient use of existing lines and corridors, minimizing the impact of new transmission corridors. Connected West, a recent study by GridWorks, found that 85% of new high-voltage transmission miles needed in the Western US can be added through reconductoring or expanding existing transmission corridors. **TNC strongly supports identification of existing corridors and lines as a first step to designating potential "statewide significant corridors".**

We recommend that a state transmission entity should identify gaps in transmission needs concurrently with grid improvements and beyond planned projects. This could include looking for opportunities to coordinate capacity investments with lower conflict generation areas, as done through the California Energy Commission's Land Use Screens process.

TNC recommends clearly identifying roles for agencies already engaged in the planning and siting of renewable energy, in particular the Energy Facility Siting Council (EFSC), and to ensure that we are not adding steps to an already complex process.

TNC would like to see the state prioritize a centralized and coordinated process that identifies transmission upgrades and new buildout and at the same time, we want to recognize the challenges in creating a new state entity with a constrained state budget and staff capacity. **We urge the state to consider expanding capacity and authority for existing state agencies,**

such as ODOE, and to utilize the existing agency structure we have to make progress on this important work. We see the identification and assessment of existing corridors and lines as a potential action that can be undertaken now by state agencies to ensure Oregon is moving forward on building the clean energy infrastructure it needs.

- CEA 2. Direct ODOE to conduct a study on barriers preventing construction and interconnection of permitted projects and recommend actions to overcome barriers.

TNC supports this policy action and would encourage ODOE to prioritize this action in the near term, considering the truncated timeline for developers to utilize the clean energy tax credits. We encourage ODOE to include legal, jurisdictional, and process barriers to interconnecting permitted projects, with a focus on aligning state processes with regional entities. The Oregon's Public Utilities Commission (OPUC) and the Bonneville Power Administration (BPA) interconnection reforms are mentioned, but there are no explicit actions identified to engage, support, and/or align the reforms with ODOE. **TNC recommends identifying more specific actions related to working with OPUC and BPA on interconnection reforms.**

Additional Actions:

TNC recommends additional policy actions on developing a more robust mitigation framework that could potentially be supported by and housed in a state transmission entity. With an anticipated buildout of transmission and renewable energy projects, we see a need to fund and establish a Regional Advance Mitigation Planning (RAMP) approach that would increase the level of certainty for developers in the permitting and siting process.

TNC supports the development of an in-lieu fee (ILF) program that could forecast and generate credits in targeted geographies, proactively identifying areas that will likely need offsets (perhaps in conjunction with the corridors of statewide significance) and that represent good conservation and community outcomes. We also see the study of barriers preventing construction and interconnection of permitted projects as another opportunity to identify whether meeting mitigation standards is a barrier to project construction and interconnection.

2) Maximize the role of the existing grid by removing barriers to land saving approaches, such as reconductoring, co-location, and expanding existing right-of-way

TNC recommends ODOE prioritize policy actions that maximize our existing grid and provide co-benefits to Oregonians.

TNC supports:

- CEA 1. Establish a state transmission entity…

As mentioned in detail above, TNC supports establishing a state transmission entity to ensure a more coordinated and comprehensive transmission planning process and would like to see efficient use of existing lines and corridors prioritized. Advanced reconductoring and grid-enhancing technologies (GETs) offer important opportunities to add capacity and resilience to our existing transmission corridors.

According to the Sightline Institute, advanced reconductoring can "double the transmission lines' capacity at less than half the cost of building new lines" . This could greatly reduce the amount of new, greenfield transmission corridors developed to meet new electricity loads and the cost of adding transmission capacity. GETs such as dynamic line ratings, topology

optimization, and advanced power flow controls offer tools to make the most of existing infrastructure and reduce wildfire risk.

We were excited to see HB 3336 pass in the 2025 state legislative session, as we see this as the first step in addressing the gap in utilities' planning processes for implementing GETs and upgrading our aging infrastructure. However, we recognize there are still significant planning and permitting challenges at the local jurisdictional level to incentivize and implement GETs deployment as well as prioritize projects in existing corridors and rights-of-way.

TNC recommends ODOE (in collaboration with other state agencies) identify local jurisdiction planning and permitting challenges to upgrading existing lines and expanding existing corridors and facilitate a roundtable with local jurisdictions (counties, cities, park districts, sovereign tribes, etc.) to develop solutions for streamlined processes.

- CEA 5. Update and enhance the Oregon Renewable Energy Siting Assessment (ORESA) Tool, with the goal of providing a robust database of lands suitable for various types of electricity infrastructure projects.

A comprehensive decision support tool like the ORESA can speed permitting, project implementation, and could improve mitigation outcomes. **Beyond updating and adding datasets, TNC encourages the proactive use of ORESA to create provisional least conflict areas for future projects and infrastructure investments, as well as vetting possible areas for mitigation investments that maximize offset success while contributing to multiple scales of conservation and community benefits.** We recommend ODOE identify how the tool has been helpful to the public and developers and whether the use of the tool has resulted in better sited projects before additional investments are allocated for the tool.

Updating an existing tool is a good first step, however TNC recommends more actionable steps on how the Oregon energy strategy can work to address the existing conflicts between Oregon's land use planning rules and state siting regulations (EFSC) that have already been identified through energy project proposals and agency rulemakings (including the most recent DLCD Eastern Oregon Solar Siting Rulemaking). TNC urges the state to continue conversations that are cross-agency and that foster greater alignment on strategies, as we recognize that renewable energy siting conversations are more productive when everyone is at the table.

We urge ODOE to prioritize policy actions that can continue to identify conflicts in existing land use laws and siting regulations as well as competing state priorities, such as upholding land use protections, protecting areas of significance (ecological, cultural, archeological), promoting clean energy development, reducing wildfire risk, and promoting economic growth, and identify ways to balance competing priorities and develop pathways that mitigate impacts to communities and ecosystems.

- Cross Cutting Policy Action 10. Increase resources, funding, and staff levels at agencies needed to implement actions necessary to advance Oregon's energy policy objectives.

TNC supports continued and increased investments for state agencies to implement this important work. We recommend ODOE prioritize maintaining agency programs, and wherever possible, expanding or scaling up agency funding and staff capacity where they have identified existing programs that are oversubscribed, underfunded, and are providing significant impact. While funding availability is always a barrier, we know that it is often a heavier lift to stand up and fund a new program than it is to increase funding and expand an existing program.

3) Identify streamlined approaches to align state planning and permitting processes with regional efforts

TNC supports:

- Policy Recommendation 3d. Collaborate with neighboring states and regional entities to address OR's needs as part of regional grid (regional engagement).

TNC strongly supports collaborating with neighboring states and regional entities to ensure Oregon energy infrastructure needs are considered as part of the larger electric grid. Besides the creation of a new state transmission entity, we don't believe this policy recommendation has subsequent policy actions identified to encourage this regional collaboration.

We recommend that ODOE identify detailed and proactive policy actions for the state to increase their engagement with regional entities and to identify regional plans/areas where the state can align their strategy with regional efforts, such as the Northwest Power and Conservation Council and the Western Interstate Energy Board.

- Cross Cutting Policy Action 8. Advocate for federal policies that support achievement of state energy strategies.

TNC recommends ODOE conduct a thorough analysis of existing studies and research on the barriers to clean infrastructure buildout, including a transmission and grid assessment on the forecasted needs, the barriers to building the electric grid Oregon needs, and possible solutions.

We encourage ODOE to compile existing plans and forecasts from the Bonneville Power Administration (BPA), the Northwest Power and Conservation Council (NWPC), the Pathways Initiative, and others, as well as develop and articulate a strategy on how federal energy policies touch down and are implemented in Oregon and how best the state can engage and leverage these regional and federal processes.

Specifically, FERC Order 1920, which establishes a new long-term planning process to better anticipate and address regional energy needs, directs regional transmission providers (including CAISO, Northern Grid, SPP, and WestConnect) to consider opportunities for right-sizing and utilizing existing grid infrastructure in the development of regional transmission plans. Orders 1920-A and B further require that regional transmission providers consider state input and consult relevant state entities during the development of transmission needs scenarios.

TNC recommends the state identify ways to leverage FERC 1920 and work with other state agencies, elected officials, and utilities to influence regional planning and project selection process to ensure that co-location and reconductoring are adequately considered. The state should align Oregon's state energy strategy with regional planning processes whenever possible, to both reduce duplicative efforts and be ready to take advantage of future funding opportunities.

Additional Actions:

Permitting timelines, delays, and duplicative processes were identified by the workgroup as a challenge to responsible development of electricity generation and transmission in Oregon. From TNC's perspective, the draft policy actions presented by ODOE don't adequately address this challenge.

From previous studies, it has been identified that the federal permitting process is 'process-based' and the state permitting process (EFSC) is 'outcomes-based'; these varied lens in which renewable energy is permitting and sited in Oregon has made it very difficult to streamline existing processes and/or to conduct these processes simultaneously.

Statewide permitting reforms would require a "marrying" of statewide land use planning goals and state clean energy goals, that as of right now, are in conflict. **TNC encourages ODOE to prioritize policy actions that would reduce and remove permitting barriers and create an expediated process to reconductoring in existing right-of-way, which could also incentivize projects that maximize our existing grid.**

4) Advocate for early and meaningful community engagement on clean infrastructure projects

TNC supports:

- Draft energy strategy's Equity and Justice Framework

We have appreciated ODOE's intentionality and consistent outreach efforts throughout the development of the energy strategy and want to commend ODOE on their multi-level public engagement process to ensure Oregonians have the opportunity to contribute to the energy strategy.

We support the four pillars as well as the six key approaches identified in the Equity and Justice Framework. We are concerned that since the EJ Framework is separate from the policy actions listed, it will be easier to overlook or not be considered when weighing each policy action. **We recommend integration of the EJ Framework into policy actions to ensure that these approaches as well as impacts are carefully considered.**

- Cross-Cutting Action 11. Direct ODOE to develop a community benefits framework that can be used as appropriate across the agency to address outreach and engagement, workforce needs, prioritizing environmental justice communities, and equitable practices.

TNC supports this policy action as a way to ensure that local communities' needs and input are centered in the clean energy transition. We encourage ODOE to explore opportunities to engage with a wide array of stakeholders and communities regarding minimizing and/or mitigating impacts to their lands and livelihoods.

- CEA 4. Study government policy incentives for local electricity investments and identify opportunities for the state to better advance infrastructure needs, economic development, and energy justice objectives.

TNC supports this policy action and wants to see it prioritized in the near-term, in order to see local communities' benefit from renewable energy development, while at the same time, protecting our high value habitats and working lands.

Policy incentives for local electricity investments are a key to growing distributed energy resources on the grid and for gaining the resilience benefits that would result over the longer term. **TNC supports identifying, funding, and expanding existing programs that deliver results that advance our clean energy goals with least impact to people and nature.** We

would encourage the state to prioritize funding for programs that deliver several co-benefits and are needing to plug funding gaps from federal funding uncertainty.

- Policy Recommendation 3c. Consult and engage with Tribes to understand their concerns around energy development and to identify opportunities where state policies, funding, and programs can support tribal priorities while minimizing the effects of development on environmental and cultural resources (Tribal engagement).

TNC recommends early and consistent engagement with Tribal governments to understand their barriers and needs to siting clean energy infrastructure. TNC encourages ODOE to weave any themes or feedback for working with Tribal governments into the overall energy strategy to ensure efficacy and outreach needs happen early. **We encourage ODOE to coordinate with other state agencies on outreach and engagement on renewable energy needs to Tribal Nations to reduce duplicative efforts and to honor the time and capacity of Tribes.**

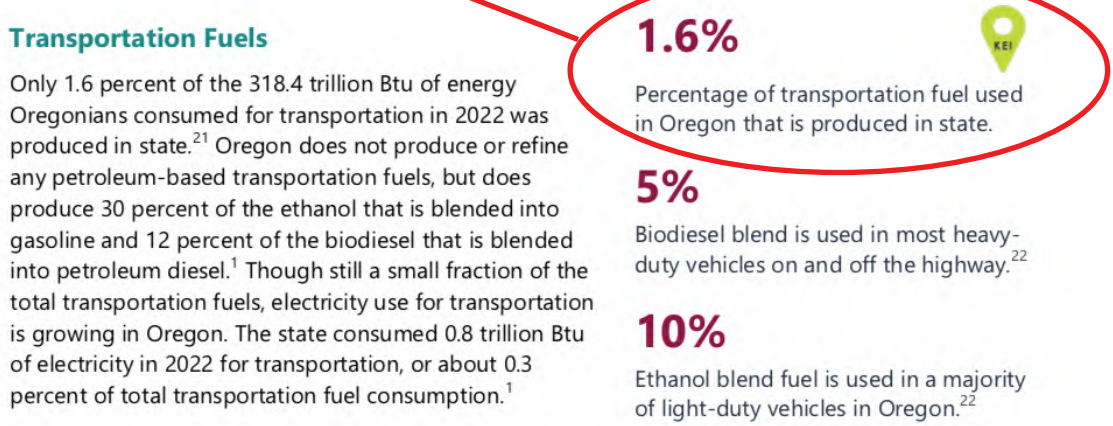
Many Tribal governments have created their own energy visions or pathways that outline the Tribe's energy and community resilience priorities. We recommend ODOE crosswalk the pathways identified in the draft state energy strategy with Tribal governments' energy visions and plans and identify areas of alignment.

Oregon Energy Strategy Draft

Public Comment

Toby Kinkaid
Portland, Oregon

1.0 The greatest danger for institutions which reach 50 years - is mission drift. After 50 years of ODOE, Oregon still imports, in 2022, over **98%** of our transporation fuel which is toxic (fossil fuels) and expensive. The ODOE charter 50 years ago calls for a "Permanent" ability to power Oregon in-state. 50 years on, we still import **98%** of our transportation fuel, really, no progress at all by this metric.



Transportation Fuels

Only 1.6 percent of the 318.4 trillion Btu of energy Oregonians consumed for transportation in 2022 was produced in state.[21] Oregon does not produce or refine any petroleum-based transportation fuels, but does produce 30 percent of the ethanol that is blended into gasoline and 12 percent of the biodiesel that is blended into petroleum diesel.[1] Though still a small fraction of the total transportation fuels, electricity use for transportation is growing in Oregon. The state consumed 0.8 trillion Btu of electricity in 2022 for transportation, or about 0.3 percent of total transportation fuel consumption.[1]

1.6%

Percentage of transportation fuel used in Oregon that is produced in state.

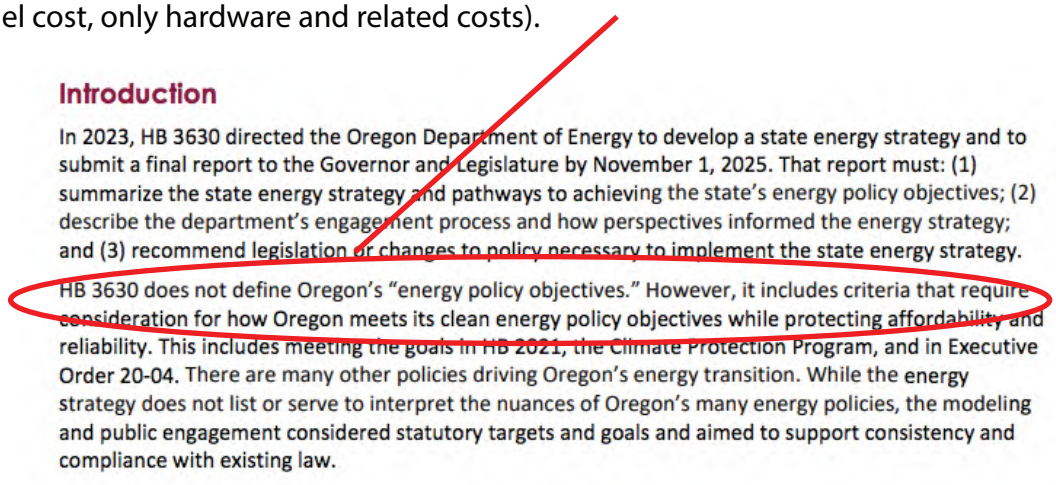
5%

Biodiesel blend is used in most heavy-duty vehicles on and off the highway.[22]

10%

Ethanol blend fuel is used in a majority of light-duty vehicles in Oregon.[22]

2.0 ODOE's Summary says HB-3630 does not define "energy policy objectives," only criteria to develop a proper stategy. However, Oregon does have an energy policy objective: a sustainable Oregon economy. This is the problem with hiring out-of-state consultants to write your strategy, they're often unaware of Oregon history, or Oregon values such as energy independence and self-sufficiency. 25 Years ago Gov. Kulongoski passed the "Sustainable Oregon Act" of 2001. A new century, with the objective of a sustainable electricity and fuel supply produced in Oregon. Powering, and fueling Oregon's economy with no toxicity or fuel cost (natural energy i.e. solar, wind, has no fuel cost, only hardware and related costs).



Introduction

In 2023, HB 3630 directed the Oregon Department of Energy to develop a state energy strategy and to submit a final report to the Governor and Legislature by November 1, 2025. That report must: (1) summarize the state energy strategy and pathways to achieving the state's energy policy objectives; (2) describe the department's engagement process and how perspectives informed the energy strategy; and (3) recommend legislation or changes to policy necessary to implement the state energy strategy.

HB 3630 does not define Oregon's "energy policy objectives." However, it includes criteria that require consideration for how Oregon meets its clean energy policy objectives while protecting affordability and reliability. This includes meeting the goals in HB 2021, the Climate Protection Program, and in Executive Order 20-04. There are many other policies driving Oregon's energy transition. While the energy strategy does not list or serve to interpret the nuances of Oregon's many energy policies, the modeling and public engagement considered statutory targets and goals and aimed to support consistency and compliance with existing law.

3.0 Notably, in the opening Glossary there is **EV**, but no **BEV**, or **FCEV** distinction, (Battery Electric Vehicle, Fuel Cell Electric Vehicle, respectively). There are two types of EV - BEV, and FCEV, respectively. If you don't think in terms of these differences, (Both are EVs but are different drive trains, and different infrastructures), then Oregon will be locked into the narrow and very expensive Battery EV paradigm.

Battery EVs are relatively inexpensive to get into - very Expensive to scale. Fuel Cell EVs are a bit more expensive to get into - but scale beautifully as Clean Hydrogen can be produced at low cost in Oregon, at scale, at night, tapping into the near 16 Twh we have in surplus during off-peak to produce clean fuel - In Oregon for Oregon's sustainable economy.

Battery EV infrastructure, advocated by ODOE's Reference Scenario, in contrast, connects thousands of new high-load DC Fast Chargers directly to the grid for use in real-time often during the most difficult and expensive times for grid operators: mid-peak and peak. This requires a huge cost in Grid Expansion to accommodate these huge loads connected directly to the grid. Then, add the high demand-charge electric bill. This is not least cost.

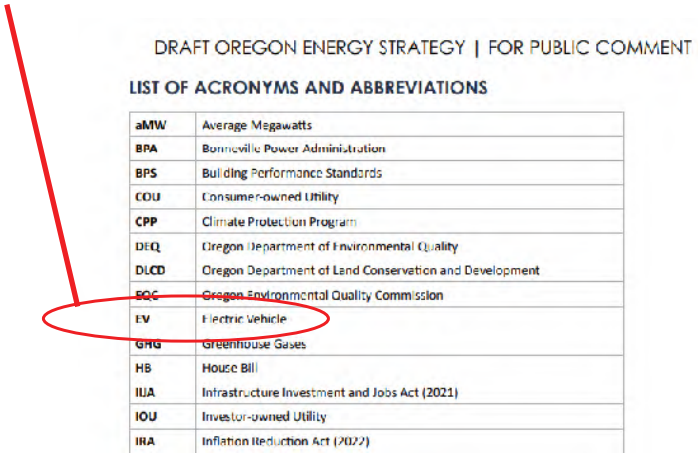
There is a much better paradigm Oregon could pursue.

Fuel Cell EV infrastructure does Not require grid upgrades at all - it simply uses excess clean energy at night during off-peak to produce Clean Hydrogen fuel in Oregon for Oregon fleets.

"Solar Onsite -
Grid at Night"
Toby Kinkaid

This is the clean energy strategy Oregon could pursue.

By ignoring the differences in infrastructure - Oregon misses a big opportunity to solve our energy problems by simply using our abundance of clean energy at night to make near 100% clean fuel for Oregon fleets both pubic and private.

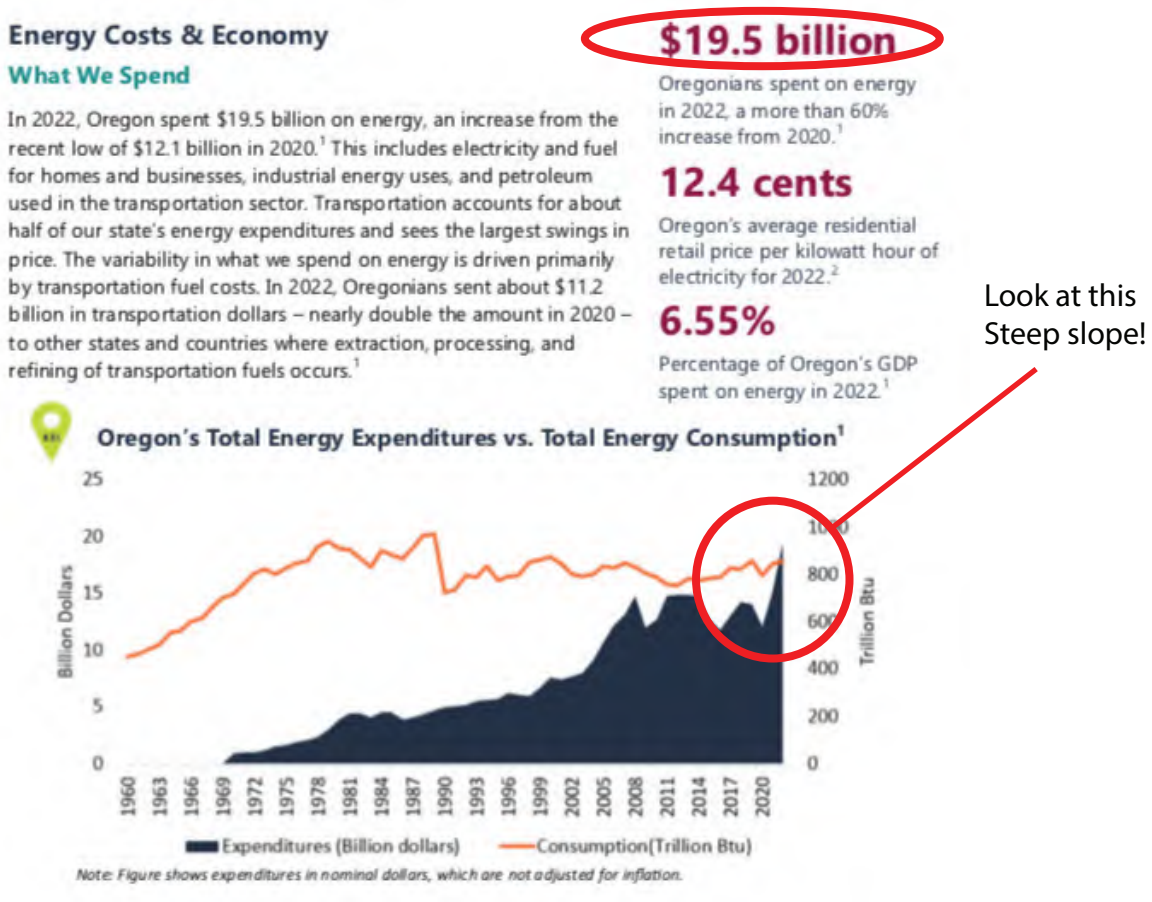


DRAFT OREGON ENERGY STRATEGY | FOR PUBLIC COMMENT

LIST OF ACRONYMS AND ABBREVIATIONS

aMW	Average Megawatts
BPA	Bonneville Power Administration
BPS	Building Performance Standards
COU	Consumer-owned Utility
CPP	Climate Protection Program
DEQ	Oregon Department of Environmental Quality
DLCD	Oregon Department of Land Conservation and Development
EQC	Oregon Environmental Quality Commission
EV	Electric Vehicle
GHG	Greenhouse Gases
HB	House Bill
IIJA	Infrastructure Investment and Jobs Act (2021)
IOU	Investor-owned Utility
IRA	Inflation Reduction Act (2022)

4.0 ODOE's energy policy recommendations over the last 10 years since the last "Oregon Energy Strategy of 2015" have resulted in higher costs for consumers with very steep increases ever since ODOE has been pushing for Battery EV infrastructure claiming a "Least-Cost" model. The majority of public funds (around $1,000 Million per year) is funneled to PGE for "grid-expansion" projects to serve this notion, and obstructs the alternative of distributed Solar/storage charging stations requiring no grid upgrades or electric bills (being solar powered and independent). A real least-cost solution for BEV charging.



Look at this Steep slope!

5.0 ODOE's Energy Strategy draft for Transportation is focused on Battery EV charging infrastructure; and its enormous cost to install. Often claimed to be a "least-cost" pathway to decarbonization, BEVs actually pencil out as one of the most-expensive paths due to massive grid-capacity expansion required, as ODOE acknowledges.

ODOEs idea to install 20,000 DC Fast Charge dispensers by 2030, under the Reference Scenario demonstrates this high cost. An average DCFC dispenser is rated at 60 kW of power demand each.

20,000 new DC Fast Charge dispensers may require around 1.3 GW of new grid capacity. At $1/watt for grid upgrades on average, the cash required is $1.3 Billion - just to install capacity. The DCFC dispensers add another quarter billion and you're in around $1.5 Billion before you begin paying the electric bill. This is not a least-cost scenario.

6.0 ODOE's Draft document focuses on expensive Grid-Expansion, and expensive Transmission and Distribution (T&D) as Oregon's strategy under the pretense of being "clean energy" ready.

There is a danger Oregon will end up like Wyoming. The state of Wyoming, when their new Cheyanne AI data center goes online will consume more electricity than all the residences in Wyoming combined. Take that in for a moment. Corporate data-centers consuming more electricity than all the citizens of the state.

ODOE's proposed stategy takes Oregon down the same path as Wyoming, on Data Centers, and High Capacity battery charging requiring massive grid expansion costs leaving Oregon rate-payers holding the bill. (See 4.0)

ODOE's hired consultants are more focused on T&D expansion, already addressed by PGE, BPA, FERC, CAISO, and other interested parties which "wheel" electricity across states, losing focus on the concept of Clean Energy Independence for Oregon.

ODOE's focus on following suit with Oregon, in fact, condems Oregon to being a Middle-Man spending all of her public and rate-payer funds on Utility interests instead of distributed solar/ battery charging solutions for BEV charging which require zero grid-upgrades, and being solar powered - zero electric bill.

Iconography showing ODOE's intent to focus on T&D





Clean Electricity Actions

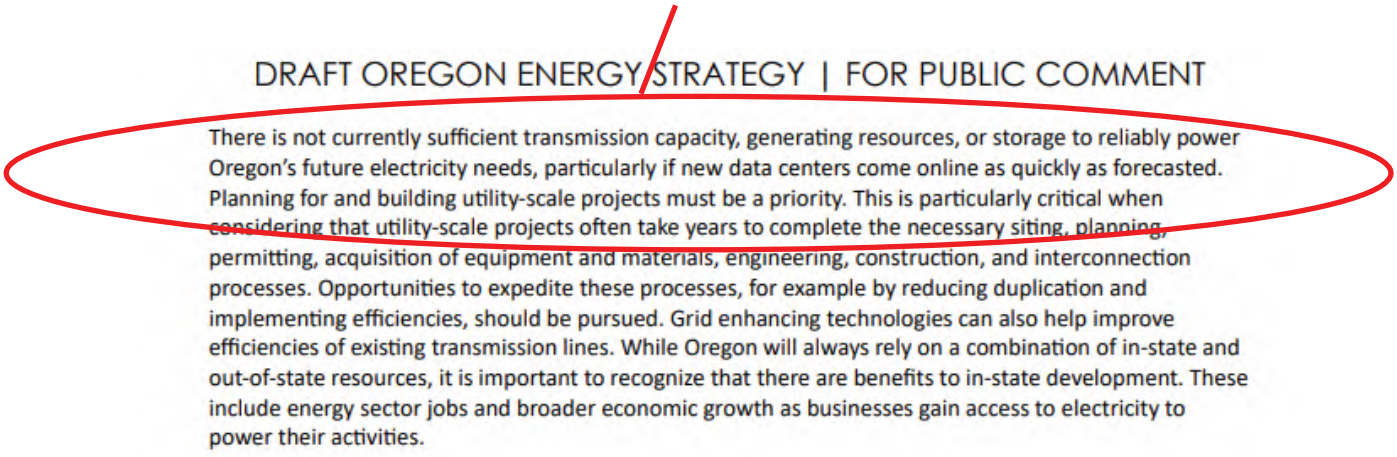
Vision

Clean electricity actions cover investment in the electricity sector, from utility-scale generation, storage, transmission, and distribution to distributed renewable resources that include customer-sited generation and storage. They also encompass an increased focus on how customer-side resources interact with the electricity system, including through measures like load shifting in residential, commercial, and industrial sectors. Load shifting may include actions like charging an electric vehicle overnight instead of during the day, or pre-cooling a home before the mid-day peak happens.



Electricity is a key fuel for Oregon to meet its energy and climate policy objectives. Oregon's electric utilities provide an essential service that supplies energy for nearly every Oregon home and business, for

7.0 ODOE's strategy is focused on Grid-Expansion and T&D forging Oregon into a Middle-Man role serving Western Grid interests at the expense of Oregonians energy independence.

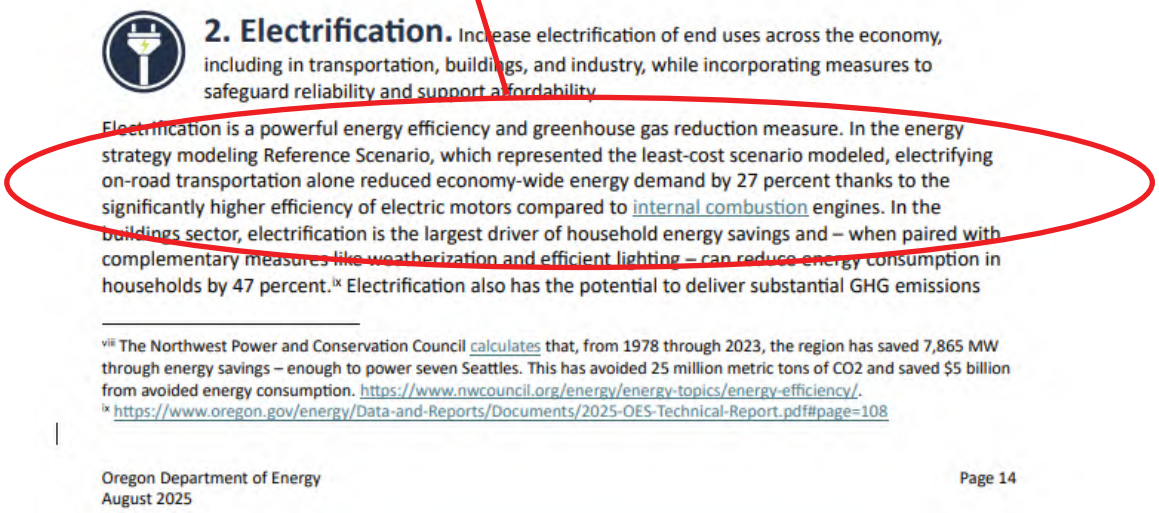


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There is not currently sufficient transmission capacity, generating resources, or storage to reliably power Oregon's future electricity needs, particularly if new data centers come online as quickly as forecasted. Planning for and building utility-scale projects must be a priority. This is particularly critical when considering that utility-scale projects often take years to complete the necessary siting, planning, permitting, acquisition of equipment and materials, engineering, construction, and interconnection processes. Opportunities to expedite these processes, for example by reducing duplication and implementing efficiencies, should be pursued. Grid enhancing technologies can also help improve efficiencies of existing transmission lines. While Oregon will always rely on a combination of in-state and out-of-state resources, it is important to recognize that there are benefits to in-state development. These include energy sector jobs and broader economic growth as businesses gain access to electricity to power their activities.

8.0 ODOE's Draft Reference Scenario claims a least-cost model with 27% energy reduction due to efficiency gains. Focusing on "energy" reduction ignores the enormous increase in "power" required to deliver that energy. The "power" capacity required to charge those BEVs is enormous by any measure. The cost to increase the "power" capacity for a Megawatt charger for One Heavy Duty Vehicle requires a full Megawatt of new capacity. To highlight projected Energy savings, while ignoring the enormous Power required to deliver it, is, a bit deceptive.

100 HDVs (long haul trucks) would require 100 MW of new grid capacity, to support that charging should they occur simultaneously. The reference scenario hides this high cost power grid expansion with promises of energy reduction. At $1/watt, grid expansion for 100 MW would be $100 Million dollars before the electric bill begins. I would challenge the claim of the reference scenario being least-cost.



2. Electrification. Increase electrification of end uses across the economy, including in transportation, buildings, and industry, while incorporating measures to safeguard reliability and support affordability.

Electrification is a powerful energy efficiency and greenhouse gas reduction measure. In the energy strategy modeling Reference Scenario, which represented the least-cost scenario modeled, electrifying on-road transportation alone reduced economy-wide energy demand by 27 percent thanks to the significantly higher efficiency of electric motors compared to internal combustion engines. In the buildings sector, electrification is the largest driver of household energy savings and – when paired with complementary measures like weatherization and efficient lighting – can reduce energy consumption in households by 47 percent.[ix] Electrification also has the potential to deliver substantial GHG emissions

[viii] The Northwest Power and Conservation Council calculates that, from 1978 through 2023, the region has saved 7,865 MW through energy savings – enough to power seven Seattles. This has avoided 25 million metric tons of CO2 and saved $5 billion from avoided energy consumption. https://www.nwcouncil.org/energy/energy-topics/energy-efficiency/.

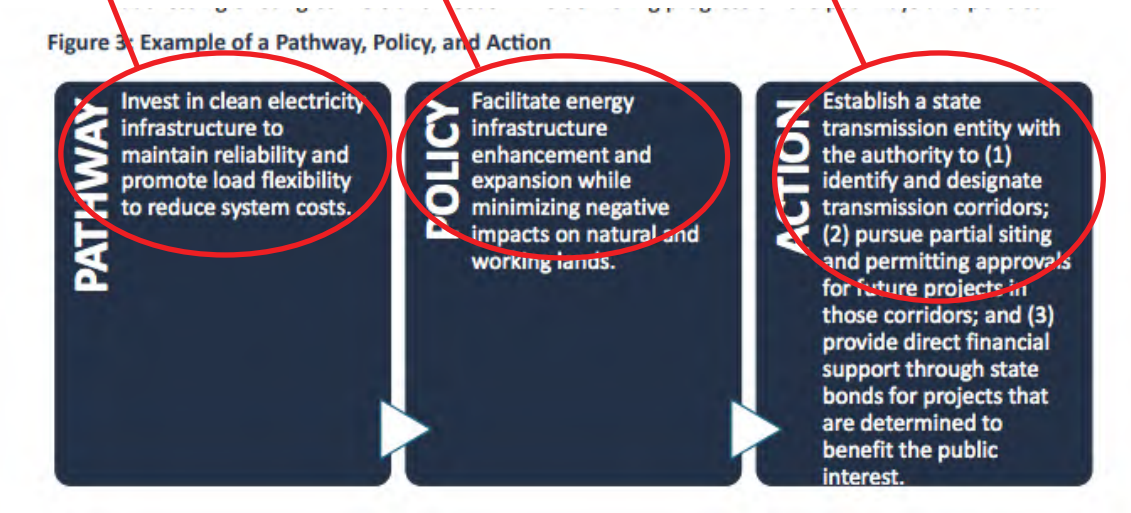
[ix] https://www.oregon.gov/energy/Data-and-Reports/Documents/2025-OES-Technical-Report.pdf#page=108

9.0 ODOE's Draft document gives an example of Pathway, Policy and Action (below), however, I'd like to point out how **Clean Enegy** always becomes **Transmission Lines** with this strategy:

Starts with "Clean Energy Infrastructure"

Becomes "Energy Infrastructure"

Becomes "New State Transmission Entity"



ODOE's Draft document morphs a Clean Energy start into an exclusive HIgh Power Transmission strategy - the fate of Wyoming. The reference scenario may start with a clean energy claim, but always leads into two troughs: grid expansion, and long distance High Power Transmision, all, or largely paid for by Oregon tax and rate payers.

10.0 ODOE's Draft reference scenario does mention hydrogen stations later as something to consider in the future in the Drafit, but is not front and center, where frankly it belongs based on infrastructure characteristics. Becasue the Reference Scenario software is largely inhouse and unavailable, I'd like to illustrate my point:

Comparison of BEV and FCEV infrastructures, respectively, using Clean Hydrogen from "Solar Onsite - Grid at Night" approach

Battery EV	vs.	**Fuel Cell EV**
		
Uses the Most Expensive Electricity: ON-PEAK		Uses the Least Expensive Electricity: OFF-PEAK
Long Charge Time		Fast Fueling Time
Massive Grid Upgrades		No Grid Upgrades
Little Renewable Energy		Mostly Renewable Energy
High Price Volatility		Low Price Volatility
No Charging Services if grid goes down		Provides Fueling Services if grid goes down
High Demand Charges		Low Demand Charges
Expensive to Scale		Less Expensive to Scale

Comparing BEV with FCEV how is it logical to choose BEV for Oregon? If BEV, then use Solar/storage Parking Lot based chargers with no grid expansion or electric bill required. Use clean hydrogen stations for all other fleets - including Agricultural.

11.0 Because ODOE's Draft reference scenario does not include many numbers in the narrative, and doesn't focus on Solar resources available in Oregon, may I offer some math?

Registered in Oregon, there are around 3.2 Million cars and light trucks. Each vehicle, on average, drives about 12,800 Miles per year.

Oregon's total Vehicle Miles Traveled (VMT) is nearly **40 Billion Miles** - every 12 months. Mathematically, there are only two ways you can produce 40 billion miles of VMT in Oregon. Either, import toxic fossil fuels (as we do now), or produce clean hydrogen in Oregon for Oregon from excess renewable energy at night during off-peak when there are vast amounts of excess renewable energy with no where to go. Clean Hydrogen fuel produced this way requires Zero grid upgrades.

To make this point I'll offer more math. Modeling 1/3 of Oregon's car fleet using BEV (charged with distributed solar/battery), and 2/3rds clean hydrogen fueling fleets.

"How much Solar Energy
would it take to clean charge, and clean fuel (BEV and FCEV)
all the cars in Oregon producing 40 Billion Miles of VMT/year?"

BEV

33% Battery EVs: using Parking lot Solar/battery chargers

A third of 40 Billion miles per year divided by 365 days/year means

Zero Grid Upgrade

Oregon needs 36 Million Miles / day @3 Miles/kWh means you need

Zero Electric Bill

12 Million kWh / day of Solar PV
Dividing by 4 sun peak hours/day
and derating to 80% battery to battery =

4 GW of Solar PV

Deployed in parking lots across Oregon with no Grid Expansion, no new land, and no Electric Bill. Distributed across all 36 counties in Oregon.

FCEV

67% Fuel Cell EVs:

Two thirds of 40 Billion miles per year divided by 365 days/year means Oregon needs

Zero Grid Upgrade

73 Million Miles per day @65 Miles/Kg of clean Hydrogen, Oregon needs to produce

1.12 Million Kg per day @60 kWh/Kg Oregon needs

Low Electric Bill

68 Million kWh per day Solar PV

Dividing by 4 sun peak hours/day =

17 GW Solar PV

Deployed on, or near, existing Truck Stops across all Counties in Oregon with onsite solar PV powering electrolysis at day, and off-peak grid at night converts surplus renewable energy into clean hydrogen fuel for Oregon fleets public and private - instate. (This eliminates over 60 Million tons of air pollution in Oregon per year!)

NOTE: China installs over 40 GW of Solar PV - Each Month! Oregon could do this over 7 years producing nearly 100% clean transportation with no Grid Expansion, or Transmission (T&D) Expansion required. Using "Solar onsite, Grid at Night" low cost electricity at night lowers this number even further.

12.0 ODOE's Draft reference scenario is light on specifics regarding pathways. As if all roads lead to Rome, most pathways seem to converge in the Reference Scenario with two priorities which outfund all other efforts: grid expansion and high power T&D expansion.

Although, Solar and Solar Storage are mentioned a few times, these words are only used catagorically and with no specificity.

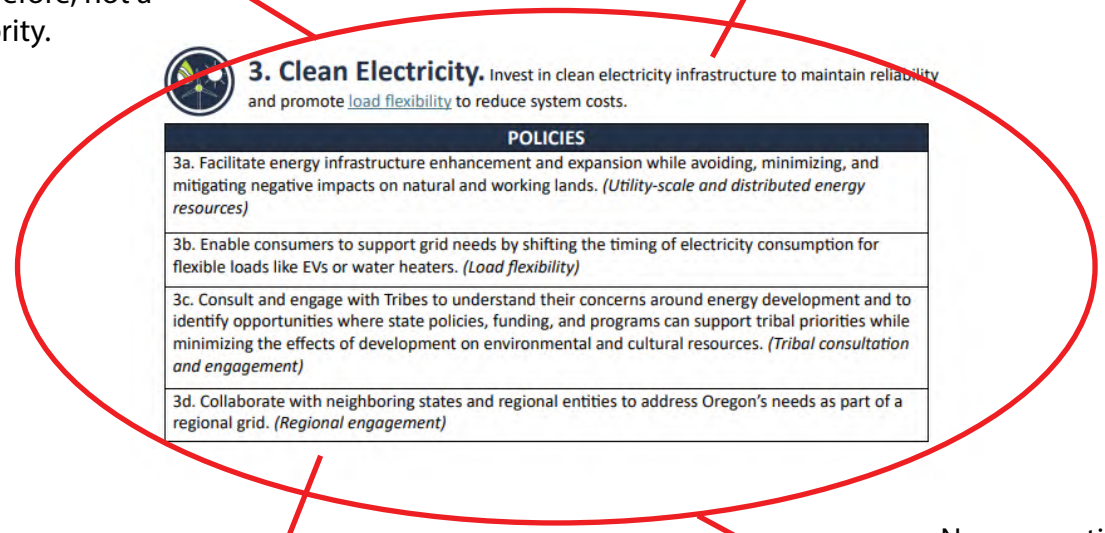
Missing are any objectives to put some level of solar and storage, for example, in every school from Grammer, Middle, High Schools, Community Colleges, Universities, and all Government Buildings in the State of Oregon.

This kind of policy, even if those buildings are only equipped to off-set Peak demand would be a great step. Solar roofs, and parking lot canopies with solar can charge these structures batteries, as well as charging at night when excess renewable energy is available at the lowest cost.

This kind of policy action results in Lowering the Peak demand on the grid, and can off-set the ODOE priority of expanding (at high cost) grid capacity.

Never mentions the word Solar, therefore, not a priority.

Clean Energy Infrastructure covers for Grid Expansion infrastructure



3. Clean Electricity. Invest in clean electricity infrastructure to maintain reliability and promote load flexibility to reduce system costs.

POLICIES
3a. Facilitate energy infrastructure enhancement and expansion while avoiding, minimizing, and mitigating negative impacts on natural and working lands. *(Utility-scale and distributed energy resources)*
3b. Enable consumers to support grid needs by shifting the timing of electricity consumption for flexible loads like EVs or water heaters. *(Load flexibility)*
3c. Consult and engage with Tribes to understand their concerns around energy development and to identify opportunities where state policies, funding, and programs can support tribal priorities while minimizing the effects of development on environmental and cultural resources. *(Tribal consultation and engagement)*
3d. Collaborate with neighboring states and regional entities to address Oregon's needs as part of a regional grid. *(Regional engagement)*

Prioritizes Western Grid interests, turning Oregon into a Middle-Man for other states

Never mentions tapping into the enormous surplus of clean energy at night, instead ODOE prioritizes expanding the grid for daytime use (the most expensive).

13.0 ODOEs Oregon Energy Strategy, with all due respect, is vague and, frankly, almost evasive. As if to only say "our goal, is to meet our goals." My high-school English teacher would object to this as it undermines the meaning of the word "goal" in the first place - which is an aspiration to be obtained. An aspiration to achieve an aspiration is a bit redundant and non-commital.

ODOE correctly points out that HB-3630 does not define any speciifc objectives, outside of meeting our existing statutes and goals. However, as mentioned above, Oregon does have a clear Objective since the Sustainible Oregon Act of 2001 which is not reflected in ODOEs Reference Scenario.

The "Energy Strategy" stated by ODOE does not reflect core sustainability, and therefore, the 2.5 year effort to create an Energy Strategy becomes a restatement of previous goals, aspirations, platitudes, and good intentions, catagorically, but lacks any real specificity.

Why does it take two and a half years and millions of dollars to restate what you've already stated in your biennium reports? Although high production value, there is nothing new here at all.



Vague, with a total lack of clean objectives, other than to acheive objectives. No specificity. Ugh.

Old Proverb:

- "If you don't know where you're going, any road will take you there."

14.0 ODOE's Draft reference scenario on "Policy" is just more general language which, without specificity, is really just more language which reads as just platitudes. The problem here is clean energy itself, outside of large utility solar, and other than categorical reference is always an after thought.

Prioritizes Grid Upgrades for "System rediness for EVs" leaving the actual clean energy to last of all. Spending Billions of dollars on grid expansion for BEV is unnecessary and expensive.

2. Electrification. Increase electrification of end uses across the economy, including in transportation, buildings, and industry, while incorporating measures to safeguard reliability and support affordability.

POLICIES
2a. Advance and expand efforts to electrify transportation, with a focus on removing barriers to ensure the state meets its zero-emission vehicle goals. *(Electrify transportation)*
2b. Facilitate and accelerate the interconnection of EV charging infrastructure and related distribution system upgrades to enable faster deployment, lower costs and complexity, and improve grid readiness. *(Distribution system readiness for EVs)*
2c. Promote strategic electrification across the residential, commercial, and industrial sectors by aligning policies and investment to deliver affordable, reliable, and clean energy. *(Strategic electrification)*

15.0 ODOE's Energy Stragety Draft is a bit self-serving. ODOE calls for more committees to be formed, taxes to be raised, with ODOEs budget to be increased, and more serves the interests of ODOE funding, Western Grid utility interests, than responds to the letter of HB-3630.

For example, HB-3630 (Sec. 13) declares an Energy Emergency. Strangly, the word "Emergency" has never been spoken by ODOE over many hours of public outreach and is absent from the Draft.

As an emergency is declared by the Oregon Legislature, taking 2.5 years to come up with mere recommendations which have already been stated, is a bit - long. A bit unresponsive, considering the work product is a fancy restatement of previous policy. I don't see anything new - am I missing something?

Please forgive me, but it reads a bit like the old joke:

"Oh, we can't actually fix your heart - But, we can tell you exactly how diseased it is!"

16.0 Of the original 13 sections in HB-3630, Sec. 9, below, specifies that ODOE is to create a "Single Resource" which would be a resource for Oregonians, and Oregon firms.

STATE DEPARTMENT OF ENERGY SINGLE RESOURCE

SECTION 9. (1) The State Department of Energy shall create a single resource that provides to interested persons information, technical assistance and assistance in identifying contractors and financing options, related to available energy efficiency incentives and programs.

(2) The department shall coordinate information and data exchanges between federal and state agencies, private and public utility providers, and energy efficiency incentive or program providers as may be necessary to:

(a) Create and maintain the single resource described under subsection (1) of this section; and

(b) Support the implementation and reporting requirements of available energy efficiency incentives and programs.

(3) The department may contract with a nonprofit or other entity as may be necessary to carry out the provisions of this section.

(4) Entities that exchange, compile or maintain information or data under this section or that are involved in carrying out the provisions of this section shall use best practices to

Enrolled House Bill 3630 (HB 3630-A) Page 4

ODOE's Reference Scenario under HB-3630 Sec. 2, seems to be 99% of this effort. ODOE spends over $1 Million on out-of-state consultants, which is allowed, but keeps their software inhouse and proprietary, giving Oregonians no idea what is being considered and no way to interact in real-time.

HB-3630 Sec. 9 seems to indicate ODOE should produce an open-source data-base tool with all Federal and State programs listed for Oregonians to streamline planning, regulatory affairs, funding and construction, with emphasis on Counties, and project development just doesn't seem to be here.

ODOE's staff seems big on Adminstrators, and Managers, but perhaps a bit light on technology experts who can actually assist with technical support - as intended, seems lost with the consultants ODOE has selected to write Oregon's Energy Strategy.

Starts with Clean Energy

Immediately pivots to "Transmission Entity"

Clean Electricity

1. Establish a state transmission entity with the authority to (1) identify and designate transmission corridors; (2) pursue partial siting and permitting approvals for future projects in those corridors; and (3) provide direct financial support through state bonds for projects that are determined to benefit the public interest.
2. Direct the Oregon Department of Energy to conduct a study on barriers preventing construction and interconnection of permitted projects and recommend actions to overcome barriers.
3. Report on developments in emerging technologies, including long-duration storage, enhanced geothermal, floating offshore wind, and small modular nuclear reactors, to identify the role they can play in meeting the state's electricity needs and opportunities for pilot programs in the near-term.

17.0 ODOE's Draft reference scenario states "... greatest cost and energy savings... transportation electrification, and reducing miles driven... compared to replacing fossil fuels with low carbon fuels..." Really?

You find that "replacing fossil fuels" is not cost effective? Isn't that the point of an energy strategy - to make it so? The reference scenario claims the least-cost is to connect High Load DC Fast Chargers directly to the grid. Least cost? Really? Perhaps your analysis ignores clean hydrogen (a near ZERO carbon fuel) made from abundant clean energy available in Oregon off-peak at night? Your reference scenario is not comprehensive if you ignore this and claim it can't be done.

Transportation Actions

Vision

The transportation sector includes on-road vehicles like cars, trucks, and buses; industrial and agricultural vehicles and equipment; and modes such as aviation, marine shipping, and rail. It includes personal vehicles and public transportation, as well as infrastructure for active transportation, including sidewalks and dedicated bicycle lanes. This sector is responsible for 35 percent of Oregon's greenhouse gas emissions, making it the largest source of emissions in the state.



The Energy Strategy modeling found that transportation electrification and reducing vehicle miles traveled offer the greatest cost and energy savings, compared to strategies that rely more heavily on replacing fossil fuels with low-carbon fuels. While electrification is a viable and cost-effective strategy for most on-road transportation, some segments of the sector – such as aviation, marine and rail transport, long-haul trucking and shipping, and agricultural or other off-road equipment – are more difficult to fully electrify and will require increasing shares of low-carbon fuels to achieve decarbonization. The Low-Carbon Fuels Actions section describes near-term priorities to support this transition, while this section focuses on strategies to electrify on-road vehicles and expand access to and appeal of multimodal transportation options.

18.0 ODOE's Draft calles for "Low-Carbon Fuels." The problem with this is language. Since we know simply lowering our Carbon footprint will only delay catastrophe, not solve it, the entire "Low-Carbon" fuel language is purposely a non-starter. Low-Carbon can mean hundreds of different things, and therefore, is so open ended that it's useless language. Zero Carbon should be the focus.

"Foster, Support, Support" are fine words, but meaningless if there are no specific ways you intend to Foster, and Support. Rings empty, being just open ended words.

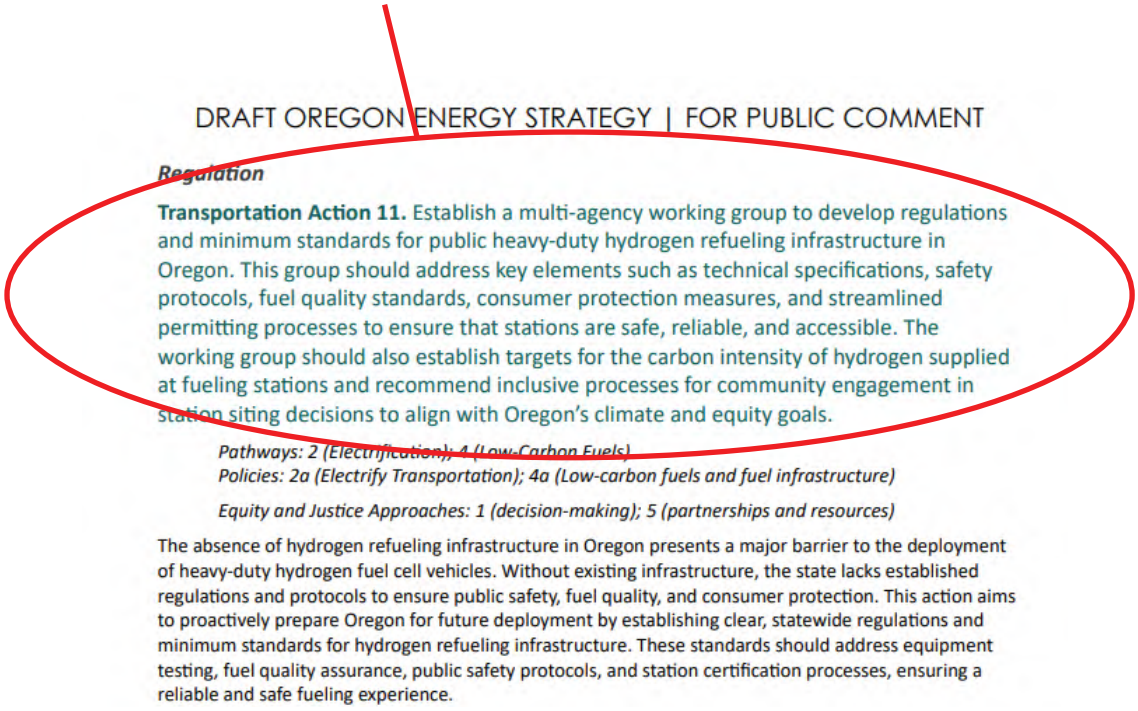
4. Low-Carbon Fuels. Advance the use of low-carbon fuels in the hardest-to-electrify end uses to achieve GHG emissions reductions while maintaining industry competitiveness and a reliable electricity grid.

POLICIES
4a. Foster development and expansion of low-carbon fuels and fuel infrastructure in Oregon to serve the hardest-to-electrify sectors in Oregon as a strategic resource, while mitigating environmental and community impacts. *(Low-carbon fuels and fuel infrastructure)*
4b. Support low-carbon fuel adoption in the hardest-to-electrify sectors including aviation, rail, marine transport, long-haul trucking, agriculture and off-road equipment, high-heat industrial processes and resources that support electric system reliability. (*Low-carbon fuels adoption)*
4c. Support a managed fuels transition that minimizes stranded assets as end-uses electrify, identifies opportunities to leverage existing infrastructure and expertise to support clean fuel alternatives, and encourages technological innovation to advance new opportunities. *(Managed fuels transition)*

19.0 The most frustrating aspect of the last 2.5 years is the general language. As an example, below the ODOE Draft claims this is "Oregon's inaugural energy strategy" Well, no that's factually wrong. There is the "Oregon Energy Strategy of 2015", and then of course, the "Sustainable Oregon Act of 2001." ODOE's consultants' claim this is "just the beginning" ignors 50 years of history.

This is Oregon's inaugural energy strategy. ODOE recommends updating the Energy Strategy every four years to enable it to have a near-term, actionable focus, and to provide opportunities for updates and course corrections over time to keep Oregon on track to meet its long-term goals.

20.0 Buried at number 11 in action items is the creation of yet, another bureauceracy. Hydrogen is already well regulated, it's a hundred year old industry. There are comprehensive standards (International, and national) already in place. California has around 50 Hydrogen stations already. Calling for yet another interagency "working group" is just a slow walk. Frankly, kicking the can down the road with redundant effort. Qualified vendors, system integrators, contractors, maintenance and balance of plant construction and services are all available now.



DRAFT OREGON ENERGY STRATEGY | FOR PUBLIC COMMENT

Regulation

Transportation Action 11. Establish a multi-agency working group to develop regulations and minimum standards for public heavy-duty hydrogen refueling infrastructure in Oregon. This group should address key elements such as technical specifications, safety protocols, fuel quality standards, consumer protection measures, and streamlined permitting processes to ensure that stations are safe, reliable, and accessible. The working group should also establish targets for the carbon intensity of hydrogen supplied at fueling stations and recommend inclusive processes for community engagement in station siting decisions to align with Oregon's climate and equity goals.

Pathways: 2 (Electrification); 4 (Low-Carbon Fuels)
Policies: 2a (Electrify Transportation); 4a (Low-carbon fuels and fuel infrastructure)

Equity and Justice Approaches: 1 (decision-making); 5 (partnerships and resources)

The absence of hydrogen refueling infrastructure in Oregon presents a major barrier to the deployment of heavy-duty hydrogen fuel cell vehicles. Without existing infrastructure, the state lacks established regulations and protocols to ensure public safety, fuel quality, and consumer protection. This action aims to proactively prepare Oregon for future deployment by establishing clear, statewide regulations and minimum standards for hydrogen refueling infrastructure. These standards should address equipment testing, fuel quality assurance, public safety protocols, and station certification processes, ensuring a reliable and safe fueling experience.

Oregon's Energy Strategy Objectives should reflect core Oregon values, these are specifically:

Energy Independence
Energy Non-Toxicity
Energy Abundance
Energy Access for All Oregonians

The best way to achieve this is to produce clean energy in Oregon in a Distributed Fashion for Oregon. Utilizing Demand Side Management with Distributed Resources using solar at day and nightime abundance.

There is a direct way to achieve all of our shared values, objectives, goals, and aspirations using **specific clean energy technology solutions**

21.0 Oregon and ODOE have a great opportunity to live up to our traditions: "The Pioneer State" by focusing on three solutions which reduce grid demand and clean up transportation.

(1) Peak-Shaving Battery for Structures. Distributed Battery Storage for buildings ***sized to power the structure during Peak Hours (5pm to 10pm) each day***. An outdoor battery/ power center (for easy access to maintain) powers the building during peak hours, and recharges at night for the next day.

At night, the batteries charge, slowly and efficiently, using the abundance of clean energy available in Oregon at night. This Demand Side Management is easy to implement and has advantages of being "solar ready" when the structure does add solar, and provides a NEC code compliant solution which effectively, takes the structure "off-line" during peak. Lowering peak load - "avoiding" the cost of expensive grid upgrades.

Oregon could install 10,000 of these small battery systems for all structures in phase I dramatically lowering peak demand - therefore, you can take the enormous sums of capital you now spend on grid expansion and instead, install these battery boxes for each structure in Oregon (where practical).

Small footprint (about the size of a dresser drawer for residences), easy to install, easy to maintain, makes the structure "solar ready" for adding solar at a later time, and can be entirely paid for by using funds earmarked for grid expansion.





Example of Small battery bank/power centers which can be housed in NEC Outdoor enclosure for residential, commercial and other structures with an electric bill. Operates with simple timer lowering peak demands on the grid.

(2) Charging Battery EVs with Solar/storage stations. Battery EVs are expensive to DC Fast Charge connected directly to the grid, considering the near 40 Billion Miles (VMT) Oregon needs. Billions of dollars have already been spent on grid expansion under the intent of Fast Charging BEVs in real time - the most expensive approach to decarbonizing VMT available.

Since the BEV market is now well over 10 years old, if ODOE would switch priorities for public funding from High Peak demand paths into distributed solar/storage Level 2 and DCFC chargers - Oregon can build, instead, charging solutions which require no grid impacts, expansions, or grid costs (see below, photo EV4). In the stand-alone case below, doesn't even have an electric bill.

These charging solutions could be distributed in parking lots across all 36 counties in Oregon and demonstrate 100% clean transporatation infrastructure with no electric bill. Deployed in parking lots across Oregon these stations offer real infrastructure which benefit Oregonians directly.



Photo: EV4



Photo: EV4, battery DCFC Intel Headquarters, Santa Clara, CA

Network of Solar charging stations across Oregon Counties

ETM®

"Driving on Sunshine"

Productivity:



Photo: EV4

Each ETM™ Station Solar Canopy (7kW) with station battery provides in Oregon over 1,800 Miles per Month on average of 100% Clean VMT with No Grid Costs, or Electric Bill.

Installing 30 ETM™ stations per County would produce 64,000 Miles Per Month of 100% clean VMT - per county across Oregon. Month in and month out for 30 years.

In aggregate, each (30 units/county) Oregon would produce amost 2 Million Miles per month of 100% clean VMT per 30units/county installed. Oregon could do this again, and again, installing 30 EMT™ stations per county - every 6 months, (until we run out of parking lots). This is 30 year infrastructure producing clean transportation for decades, and provides emergency power resilience when the grid goes down - with easy access for Oregonians during an emergency.

Example of County focused Build-out of Solar EV Infrastructure

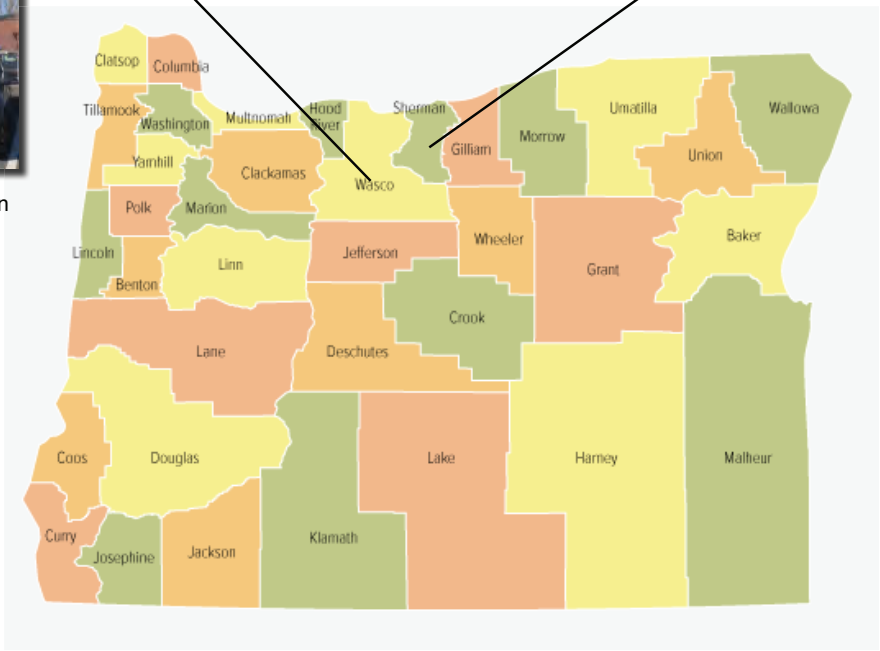
WASCO County

SHERMAN County



Photo: EV4, Wilsonville, Oregon

Deploy across All Counties in Oregon



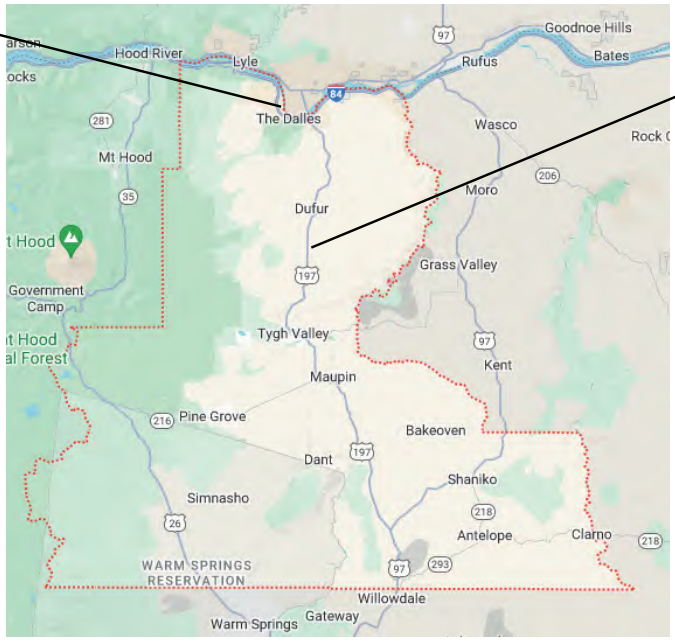
Build out 150 Stations across WASCO and SHERMAN Counties

I-84 The Dalles

HWY 197

WASCO County

The Dalles	20
Dufur	5
Tygh Valley	5
Maupin	5
Pine Grove	10
Bakeoven	10
Dant	10
Shaniko	5
Antelope	10
Clarno	10
Simnash	10
Warm Springs	10



SHERMAN County

Biggs Junction	5
Rufus	5
Wasco	10
Klondike	2
Moro	3
Ershine	5
Grass Valley	5
Rutledge	5
Kent	5

The Dalles - Wasco County

Example of what ODOE could be doing to secure Oregon's sustainable energy future for EACH County in Oregon

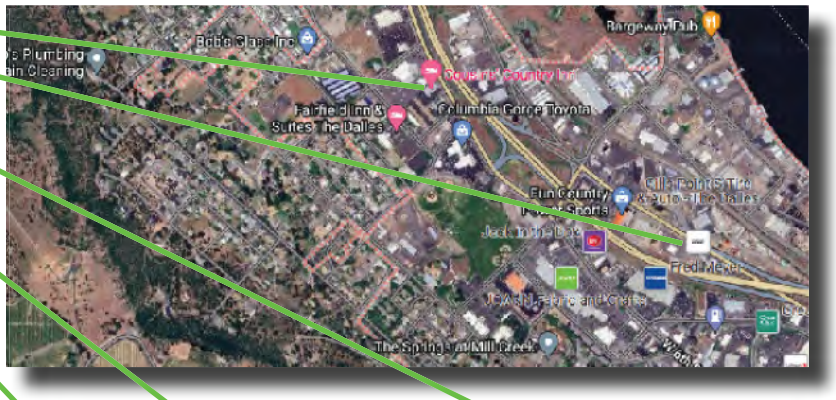


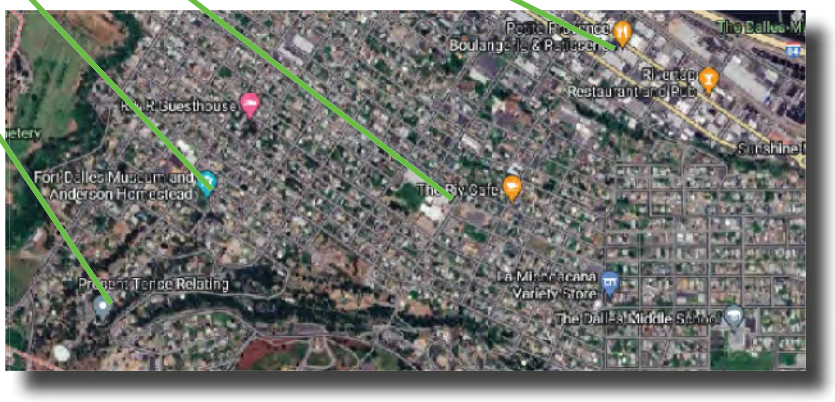
Proposed ETM™ Station Locations:





Photo: EV4.website





Delivers DCFC and L2 Charging

Installation: Six (6) Months

Produces 1,800 Miles per Month of 100% clean mobility from solar per ETM™

Provides Emergency Services Charging

(3) Clean Hydrogen Fleet Solutions (see below**)** for Oregon with no grid impacts for Heavy Duty Vehicle fleets. Oregon needs clean fuel to become Sustainable. Fortunately, Oregon has an abundance of clean energy at night (over production from hydro/wind) with no where to go. Using Electrolyzers, which convert water and electricity directly into Oxygen and Hydrogen fuel, would allow Oregon to produce all the fuel we need, at scale - instate. There is no other way to produce 40 Billion Miles VMT in Oregon, other than importing toxic fuels.

Oregon, has an opportunity to join Europe, Asia, South American and other regions and countries which are focusing their respective Energy Strategies on the Clean Hydrogen economy.

ODOE's analysts would be well served studying Chile's energy strategy using solar from the North, hydro from the middle, and high winds in the South to produce Green Hydrogen for sale to Korea, and Japan who are buying all they can deliver.

As a Pacific Rim state, Oregon would be well served by opening up large export markets, as well as Oregon's energy independence, by becoming expert, and well versed in how, all other major economies, are demonstrating a learned approach to clean hydrogen industrial solutions - instate.

Clean Energy Fleet Solutions for Oregon

Light Duty Vehicle Fleet Solutions



Photo: EV4 Wilsonville, Oregon

Solar/Storage DC Fast Charge Station
from single-phase service

Light-Duty Vehicle Fleets

Cars
Light Trucks
Dellivery Vans
Buses

Heavy Duty Vehicle Fleet Solutions



Clean Hydrogen Stations producing Clean Hydrogen at Night

Heavy-Duty Vehicle Fleets

Cars
Light Trucks
Vans
Buses

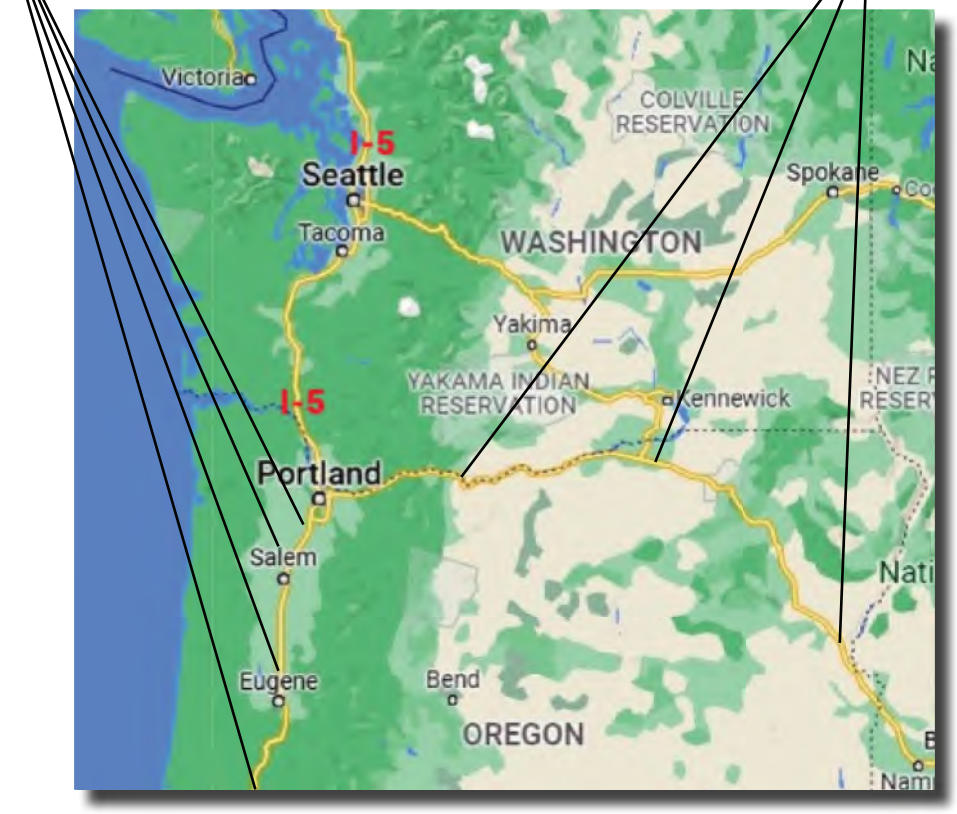
Heavy Trucks
Maritime
Construction Equipment
Agriculture



Oregon's Clean Hydrogen Highway Initiative

I-5 Corridor
Clean Hydrogen Refueling Stations

I-84 Corridor
Clean Hydrogen Refueling Stations



Build Out Clean H2 Refueling Stations near, or at Truck Stops across Washington, Oregon, and California then all interstates. Pilot project of seven (7) Clean Hydrogen Stations across Oregon.



Battery EV heavy trucks are problematic for DC Fast Charge. A 100 truck fleet requires 100 Mw of grid upgrades, typically at $1/watt coming to $100 Million of cost before the electric bill. Further, being in real time, charging may often occur during peak times which is terrible stress on the grid at peak. Also, 2 hour charge times make frequent charging impractical for timely deliveries.

Fuel Cell heavy trucks using clean Hydrogen stations require zero grid upgrades. Electricity is drawn from the grid only during nighttime off-peak hours providing additional value for grid operators with an easy way to put those kWhs to work instead of curtailment.

Proposed Oregon's Energy Mission Statement and Logic:
Zero Emission Economy

Possible Solutions → Oregon's Energy Goals (Conditions) → Solution(s)

Business as Usual	Low Cost at Scale
Nuclear	Safe
Carbon Capture Storage	Potent (all sectors)
Fossil Fuels	Available Everywhere
Geothermal	Produced in Oregon
Synthetic Fuels	Least Toxic Materials
Solar	Lowest Water Consumption
Wind	Reliable
Hydro	Sustainable
Off-shore	Robust
Biofuels	100% Non-Toxic
Thermal Plants	Creates Jobs
Batteries	Least Environmental Impact: (Soil, Water, Air, Biology)

→ Outdoor Battery Box to Peak Shave Buildings



→ Solar/Battery
(Light Duty Loads)



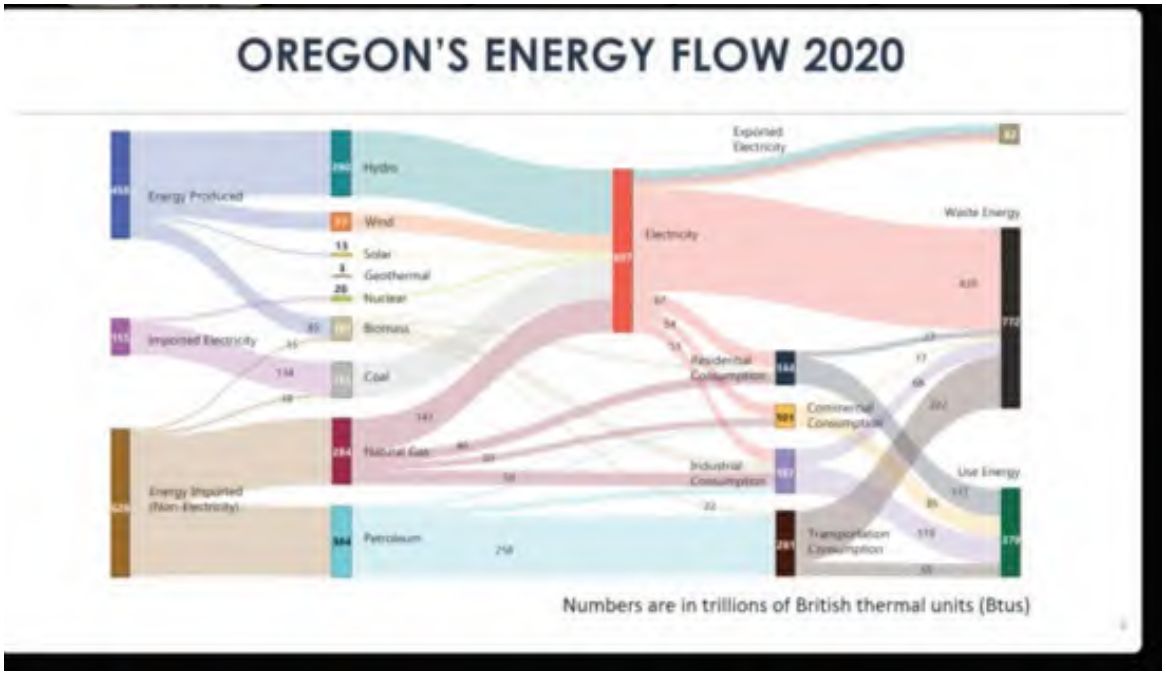
→ Clean Hydrogen
(Heavy Duty Loads)



NOTE: A real Solution(s) must satisfy All conditions listed above simultaneously, or, it's not a solution

Oregon's Current Energy Paradigm:

Sankey Flow-chart



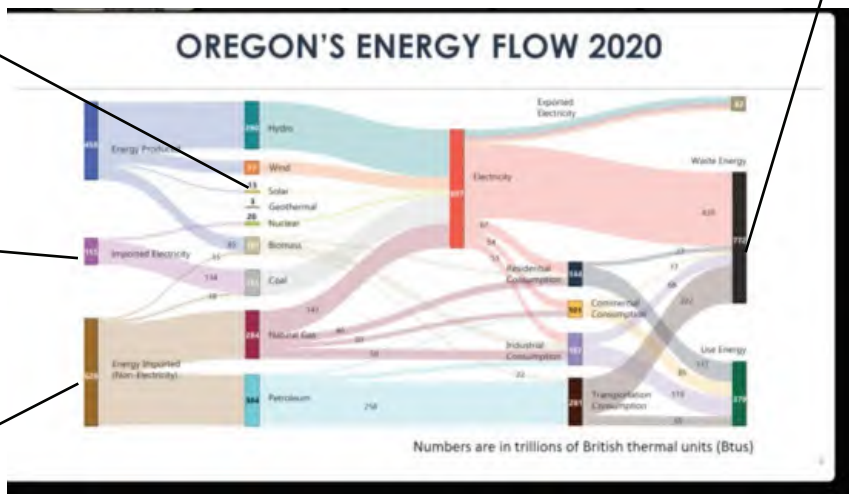
2024 ODOE

The Problems with Oregon's Energy Strategy

Low Solar Component

High Toxicity and Waste

Undesirable Coal/Nuclear Imports

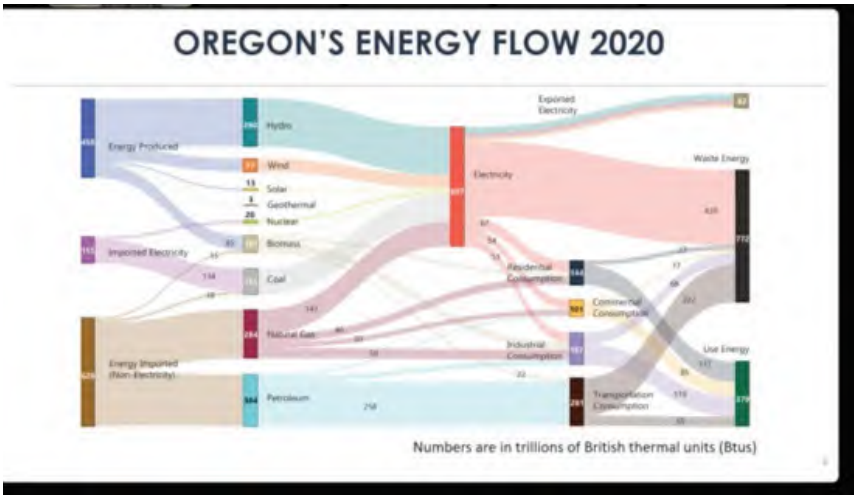


High-Cost Imports of Toxic Fuel Net-loss Balance of Payments (about $1 Billion / Month)

The Transportation Solution: Oregon Made Clean Hydrogen

Transition fossil fuel markets into Oregon's energy-independent, efficient, resilient, sustainable & clean energy paradigm for Oregon's assured economic prosperity

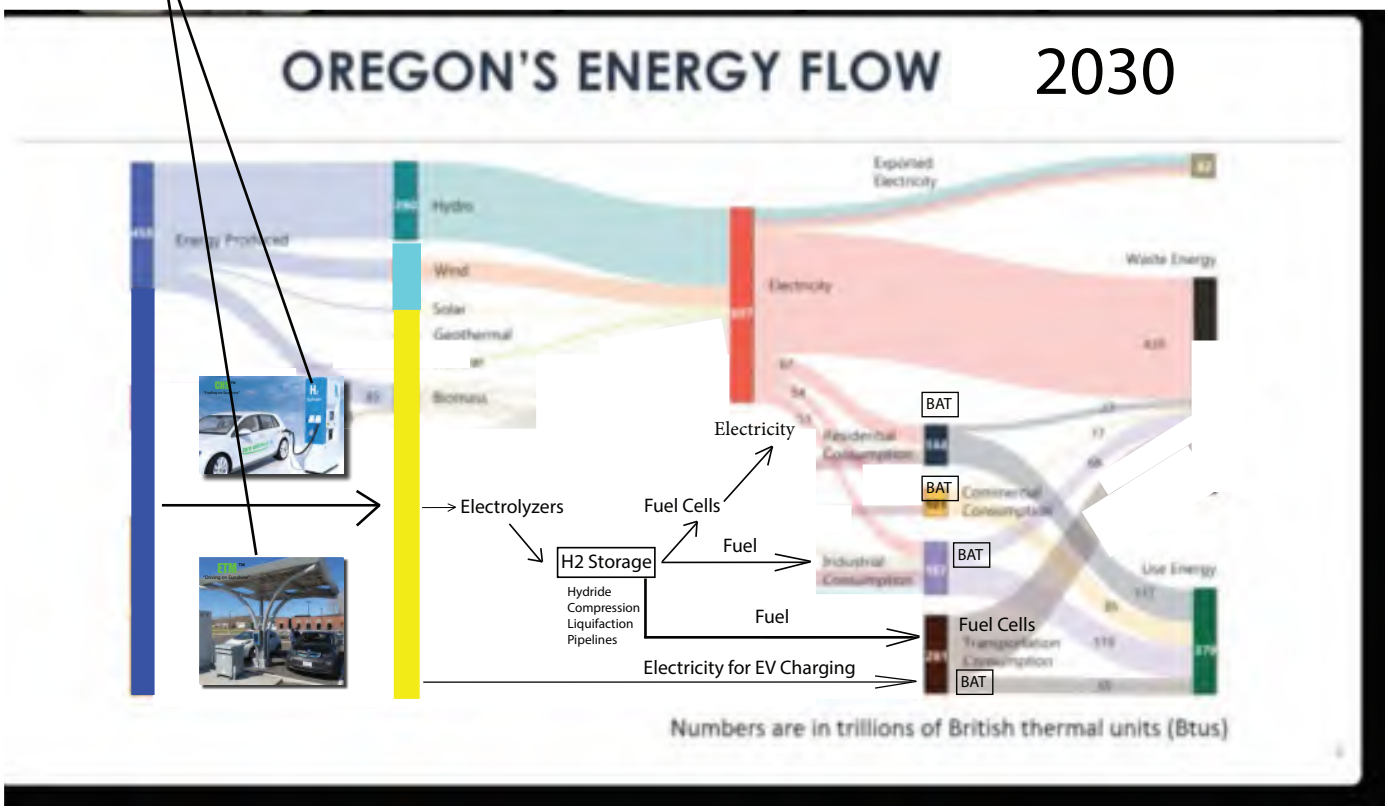
Today:



2024 ODOE

Clean H2 Fueling Stations at truck stops; and Solar/battery Charging in Parking Lots

- Into -



Oregon's Clean Hydrogen, Solar/battery Energy

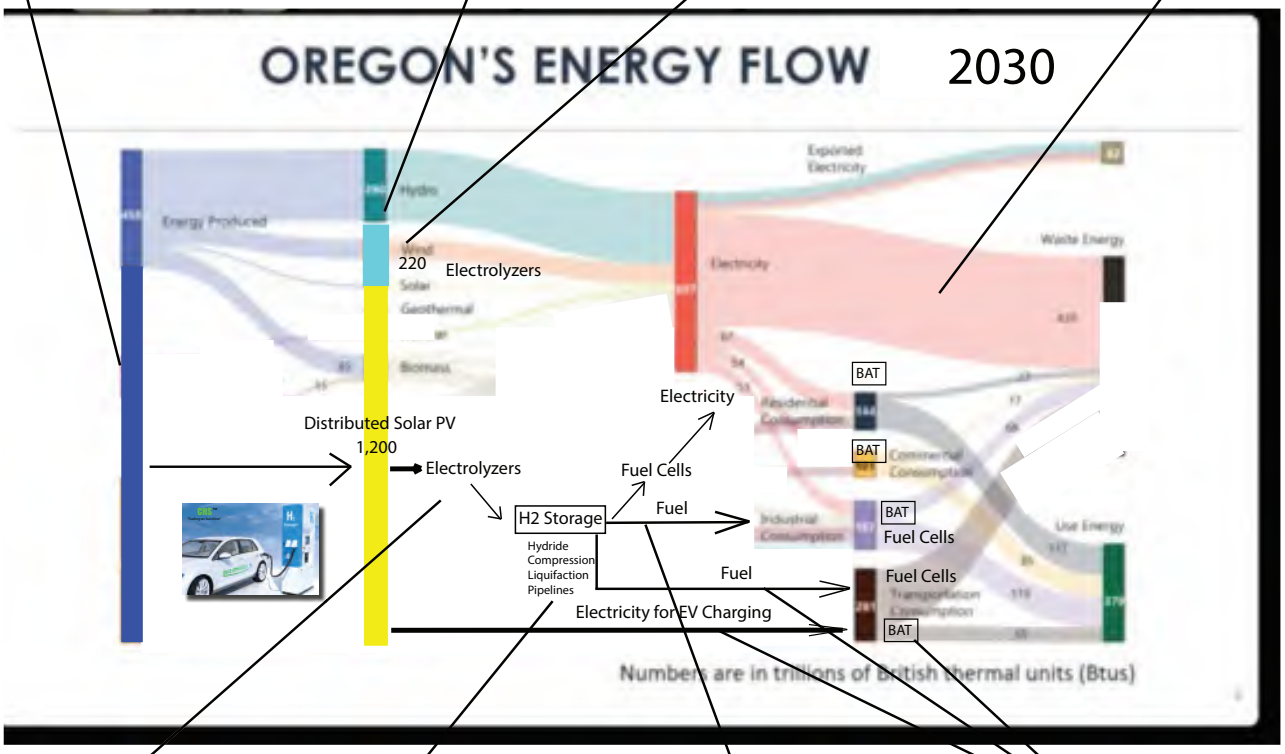
All energy produced in Oregon

Produce clean H2 using electrolyzers at night using abundant surplus Renewable Energy

Wind expanded with all excess energy used to produce clean H2 using electrolyzers

Replace Natural Gas consumption with electric appliances i.e. heat-pumps (HVAC), induction cooking with high efficiency

Repurpose Natural Gas pipelines for clean H2



Electrolyzers convert electricity and water into Oxygen, heat and Hydrogen Fuel.

Dedicated solar arrays power electrolyzers directly and use Nighttime abundant curtailed clean energy around 16 Twh per year.

Energy storage is vital to bridge power and energy on-demand 24/7 365 d/yr, and during emergencies.

H2 stores about 60X more energy than LiON batteries.

Stable, safe, long-lived, H2 is used to produce electricity through onsite Fuel Cells and distributed directly as Fuel for use by all vehicle types i.e. LDV, MDV, HVD, Construction and Agriclture. Pipelines provide mass storage and distribution.

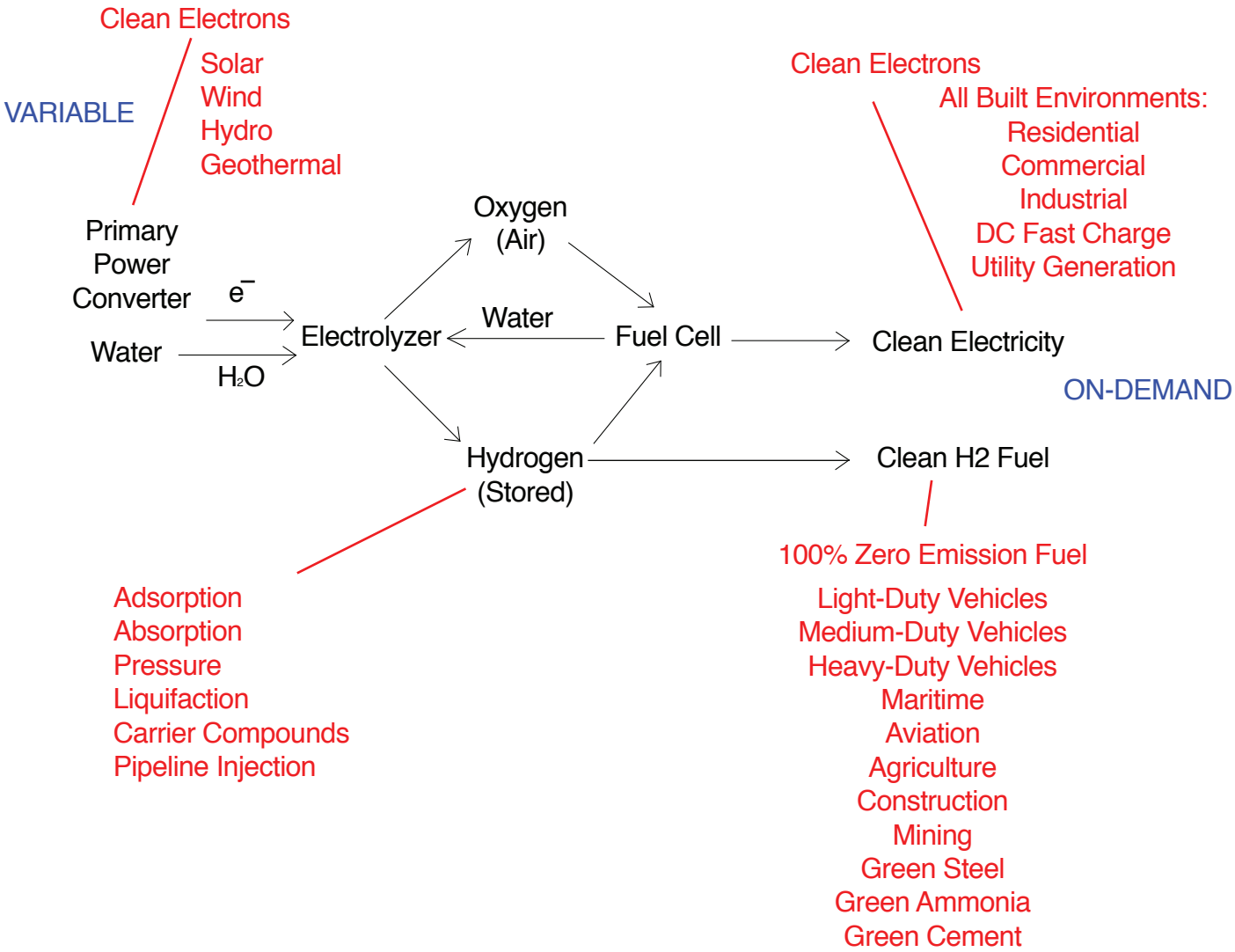
Fuel Cells, fueled from Natural Gas pipelines converted to Hydrogen, provide electrical power on-demand for all buildings onsite.

24/7 and through emergency situations Fuel Cells are twice as efficient as Internal Combustion Engines being potent, safe, long-lived, and using clean H2 100% non-toxic. Waste-heat can be used directly. Fuel Cells can replace all fossil fuel power trains.

Distributed solar PV arrays deployed in parking lots across Oregon charge batteries onsite for DC Fast Charge (DCFC) with no grid impacts or electric bill. Absorbs energy production at night from excess hydro and wind to charge distributed batteries. DC Fast Charge, using onsite Batteries and/or Fuel Cells provide high power fast charging - with no grid impacts or grid upgrade costs for near Zero-Emission transportation.

22.0 Clean Hydrogen is front and center in European, Asian, Australian, and other countries and trading blocks' respective energy strategies, because they understand the Clean Hydrogen Ecosystem. Oregon needs to become active in this technology - if we wish to compete and trade with these entities. These countries are serious about developing truely Sustainable economies, and Oregon should too. It begins with the following energy truth: carbon is not needed at all. Water is the future of energy as an energy cycle: the feedstock is water, and the waste product is water. The sooner ODOE embraces this technology - the better for Oregon's citizens.

Clean Hydrogen Ecosystem



Clean Hydrogen Fuel produced in Oregon
- for Oregon

23.0 Recommendations:

(1) Declare a more specific Objective for Oregon's Energy Strategy. I suggest the formation and fostering of a "Zero Emission Economy," with such a goal we can have a clear focus on clean energy powering Oregon's sustainable economy.

Result: reliable, robust, and low cost sources of clean energy for Oregon's modern economy, produced in Oregon for Oregon.

(2) Focus on Peak-Shaving all structures in Oregon which have an electric bill using onsite, outdoor battery box providing the buildings power and energy during peak hours (5pm-10pm) recharged from excess renewable energy at night.

Result: Lowers Peak load on the grid without grid expansion

(3) Focus on BEV electrification using distributed Solar/Storage (EV4 technology) deployed in Parking lots throughout all Oregon Counties.

Result: EV charging infrastructure network with no grid expansion or electric bill providing 100% clean transportation at much lower cost with increased accessibility.

(4) Focus on Oregon's Clean Hydrogen Highway providing a pilot of at least 7 clean hydrogen stations distributed along I-84 and I-5 corridors to provide clean fuel for Heavy Trucking fleets.

Result: clean transporation backbone converting abundant clean energy at night into clean fuel for Oregon fleets both public and private - with minimal grid impacts or electric bills.

(5) Focus on Oregon Counties infrastructure using clean energy technology solutions onsite.

Result: a Sustainable Economy for the citizens of Oregon.

(6) Stop investing billions of dollars on DC Fast Charge grid expansion and T&D expansion (except for reconductoring of existing T&D), and claw back $500 Million each year given to PGE for grid expansion and pay for the infrastructure described above.

Result: a more reliable, sustainable, and lower cost energy paradigm for Oregon with no new taxes or rate increases (other than minimal). Maximizes Value-Added, not chasing least-cost, which is never least cost in reality.

(7) Promote jobs across All Oregon Counties with the program objectives listed above.

(8) Focus on Oregon's young people by putting solar/storage solutions at Each School in Oregon to demonstrate that clean energy can do real work and with inspiration for their future. In other words, offer Oregon's youth an actual world to inherit instead of pollution everywhere they step, or breath. Let's offer Oregon's children a real future - not just empty promises, more pollution in their air, soil, water and biology, and higher costs, which is all they get now.

Thank you for the opportunity to Comment, Yours Truly, Toby Kinkaid, Portland, Oregon, 9/22/25, tobykinkaid@gmail.com

TONIA L MORO
ATTORNEY AT LAW PC

106 Talent Ave., Ste.6
Talent, OR
(541) 973-2063
Tonia@ToniaMoro.com

September 22, 2025

Via comment portal
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Re: Comments on Draft Oregon Energy Strategy

Greetings,

I had the privilege of serving on the transportation electrification work group and my participation was informed by my role as a board member and chair of the Rogue Valley Transportation District (RVTD) over the last 10 years. These comments are similarly informed but, as with my participation in the work group, they do not represent the position of RVTD; they are solely my own.

While I appreciate the efficaciousness of a climate focused Transportation Funding Task Force, Action 7's goals should not wait. I urge the Department to use resources to immediately identify additional opportunities to expand local governmental authority to generate revenue for climate focused infrastructure. Simple legislative or rules amendments should be identified as soon as possible. They could include, among other things: 1) identifying additional categories of system development charges; 2) enacting limitations on pass-though gas tax funding that will require long term maintenance planning/funding for any new roads built; 3) incentivizing great street development through the gas tax pass through; 4) better prioritize federal Congestion Mitigation and Air Quality Improvement program funds to foster transit and stand alone multi-modal infrastructure and eliminating or limiting use of the funds for new or expanding road projects (i.e., essentially requiring them to fully fund the active transportation aspects - sidewalks, culverts, bike lanes - of new road development without the use of CMAQ funds); 5) identify and address any other preempting state legislation that limits local authority to foster climate-aligned transportation infrastructure but also limiting such to climate-aligned infrastructure; 6) permitting increased opportunities for securitization of projects; and 6) creating consulting services and pooled resources within ODOT to aid local jurisdictions with technical expertise for revenue generation, development of climate SDC enactment and administration, like the legal development of local improvement districts or bonding authority (similar to the level of technical expertise ODOT provides for road building).

I appreciate the comment in Action 7 that new funding sources should include income-based exemptions (styled as infrastructure development as understood) and urge that a similar concern be identified regarding Action 3. Given Oregon's housing crisis, it may be that lower income households need to travel greater distances for work

and commerce and while they currently pay relative gas taxes if driving, they also currently have the ability to chose efficient vehicles to off-set those costs. To the extent our OreGO program has not yet identified ways to address transportation burden, I think Action 3 should call out low-income based exemptions infrastructure development as well.

I fully support the actions that can provide leverage by use of public resources to help move the adoption of electrification and low-carbon fuels forward. Investing in public fleets and transit to transition, has the added benefit of spurring the development of private infrastructure/investment. For instance, should clean hydrogen prove safe and sustainable, fostering adoption by public fleets - those which have battery electrification range/weather-limitations - of hydrogen-electric vehicles (transit purchases which are usually funded by federal dollars with a match) could result in investment in fueling infrastructure that may be accessed by the public and even provide a source of revenue. Similarly, investment in renewable energy and electrolysis by state and local agencies will also help the adoption of the technology. Another example is public investment in technical expertise related to battery-electric vehicles, as is identified in Action 9. Transit agencies have and are adopting battery-electric vehicles (to run on routes not range restricted) but do not have the capacity, at least initially, to have full time qualify staff.

Finally, for similar reasons, low-carbon fuels should be targeted to public fleets. As an example, renewable gas can support CNG vehicles and foster some short term infrastructure (like the life-span for fueling stations 12 -15 years) while no-carbon fuels (green hydrogen if safe and sustainable) and battery electric technology develops and matures. So, Oregon should not permit renewable gas to service households and appliances or at least not until transportation needs in Oregon and elsewhere can be met. RVTD had to invest in a CNG fleet 30 years ago due to air quality issues and currently purchases renewable RECs. An example of the type of project that should be considered would include trucking the the actual renewable molecules from the local landfill to RVTD (after capture and cleaning, of course) and the public fueling station in White City. The hope would be that this would support private fleets to develop to use low-carbon fuels while the transition no-carbon technology develops for heavy duty vehicles.

Thank you for your consideration of these comments.

Best Wishes,

Tonia Moro

Dear Director Benner,

My name is Twila Jacobsen, and I live in Eugene. I am commenting today because I want energy efficiency and smart investment strategies implemented as quickly as possible

It's essential to pass an Energy Strategy that:

- Designs an actionable pathway to meet the state's 100% clean energy goals,
- Prioritize actions that maximize benefits for environmental justice communities.

I am a retiree on a fixed income. The increasing costs of living have a large impact on me and other seniors. Also, a 2024 ACEEE study found that households that identify as low-income, African American, Latinx, or Native are more likely to be energy burdened, paying a higher amount of household income to energy bills than the average household. Households in rural communities are also more likely to be energy burdened.

I purchased a heat pump last year for my house utilizing federal and state benefits. It has made my home safer, and my electric bills decreased. I also rent a home to my daughter and family in rural Douglas County. I was able to replace a very inefficient heating system with a heat pump, and it has lowered their electric bills substantially. Rebates for heat-pumps are a win-win for renters and landlords. Renters get lower utility bills, cleaner air, and comfortable heating and cooling throughout the year.

Every Oregonian should have access to life-saving home upgrades that lower energy bills, improve health, and protect us from extreme heat and wildfire smoke. We must make it easier for people of all incomes and abilities to stay in their homes and withstand extreme weather.

Oregon will only be able to meet our state goal of 100% clean energy outlined in HB 2021 by rapidly increasing the amount of renewable energy being deployed in communities across the state. As Oregon takes action towards this transition, it is crucial that it is developed equitably, increasing the affordability, reliability and resilience of our energy systems. The draft Energy Strategy shows that the greatest cost of this transition is inaction and delay. I urge ODOE to take swift and thoughtful action to implement the strategy in a way that benefits environmental justice and rural communities.

Thank you for your consideration as you put together the final recommendations for the Oregon Energy Strategy.

Sincerely,

Twila Jacobsen

September 22, 20258

UA Local 290 Plumbers and Steamfitters

Comments on Oregon Energy Plan Report

TO: Oregon Department of Energy

RE: Oregon Statewide Energy Plan Report

The UA Local 290 Represents over 5,000 men and women in the plumbing, HVAC and fitting industry across Oregon, SW Washington, and California. For decades our members have been at the cutting edge of our industry for energy and transmission construction and maintenance, and we see firsthand how policies around energy development impact projects around the State, and the Oregonians who rely on this fundamental infrastructure.

In considering a statewide energy plan, there are several key criteria that should be the foundation of policies:

- Energy Resiliency/Redundancy
- Responsible Workforce Development

As we look at how the State should proceed in a thoughtful plan for energy development, ensuring that there is reliable, and affordable, energy for Oregonian's year-round is essential. We have seen electrical grid failures across the state during extreme weather events including ice storms, heat waves, and fires, and these have deadly impacts – especially on low-income Oregonians.

It is absolutely critical that when planning for energy needs the State ensures redundancy in the system, and an 'all of the above' approach to energy sources. Redundancy in the system helps ensure that there is not a total loss of energy during extreme events. Sources including renewable natural gas, geo-thermal, small modular nuclear, and hydrogen help protect a more resilient and stable grid across the board. Statewide planning *must* ensure that exciting new energy technology is encouraged and developed and not shelved in favor of a strict wind and solar model, and that current critical infrastructure is maintained and strengthened.

Looking to how these needs are met in actual projects, workforce development has continued to be a topic of conversation. UA Local 290, and Oregon's Union Trades as a whole, have spent a century developing premier training and apprenticeship

programs. Over the decades we have trained Oregon's workforce for the energy industry and ensured the timely and safe construction/maintenance of the critical infrastructure Oregonians rely on every day. Our programs have worked with our contractor partners and the larger industry to scale for economic changes and consumer demands. We continue to provide this workforce across sectors, whether the demand is higher or lower.

It is essential for the reliability, resiliency, and safety of Oregon's infrastructure and energy projects that in an effort to ramp up workforce development, we *do not* undermine the licensing, codes, training, safety, or wage standards that have been developed by responsible members of the industry for over 100 years. We often see poorly conceived ideas emerge for creating new classes of low-cost narrowly skilled workers when there is concern over the workforce demands for increased development of essential certain industries – such as energy, transmission, and housing.

We know that these types of short-sighted training concepts can lead to dead-end jobs, and harm the industry and Oregon as a whole. We know that real, sustainable workforce development comes from supporting the programs with a proven history of tangible investment in their students and projects. It is important that planning for our statewide energy strategy does not look to prop up or create unproven programs that primarily attempt to turn around the cheapest workforce in the quickest manner possible but rather supports the high-road programs that are invested in the state and the workforce.

Oregon has been a leader in setting standards for clean energy development, and the workforce that builds and maintains it. As we set a framework for how our state structure looks at these issues, we are faced with certain foundational choices.

UA Local 290 believes that addressing the challenges Oregon faces in creating a successful energy strategy requires the inclusion of energy resilience and energy optionality, openness to new technology, and a highly trained workforce as foundational elements that will set our State apart and ahead in energy development and planning for the decades ahead.

Sincerely,

W. Paul Elder

Business Manager, UA Local 290

WSPA
Antonio Machado
Senior Manager, Northwest Regulatory Affairs and Fuels

September 22, 2025

Sent via upload to: Oregon Energy Strategy - Public Comment Portal

Mr. Michael Freels
Senior Policy Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Re: WSPA Comments on Draft 2025 Oregon Energy Strategy

Dear Mr. Freels:

The Western States Petroleum Association (WSPA) appreciates the opportunity to provide comments on the Oregon Department of Energy's (ODOE) Draft 2025 Oregon Energy Strategy[1] (Draft Strategy). WSPA is a trade association that represents companies that provide diverse sources of transportation energy throughout the West, including Oregon. This includes the transporting and marketing of petroleum, petroleum products, renewable liquid fuels, natural gas, and other energy supplies.

WSPA commends ODOE for undertaking the important and complex task of developing an energy roadmap for the state. However, we believe that several of the foundational assumptions and conclusions presented in the Draft Strategy warrant closer scrutiny. The comments below highlight areas where the Draft Strategy may overestimate feasibility, underestimate costs, and insufficiently address critical issues related to energy reliability and equity, particularly in light of Oregon's diverse geography and economic sectors. Note that we have included references to the California Air Resources Board (CARB) Mobile Source Strategy (MSS) which faced several of the same Draft Strategy areas of focus.

General Comments

Overambitious Electrification Assumptions (Draft Strategy pp. 14-15)

WSPA urges ODOE to more explicitly account for technical barriers, infrastructure limitations, and cost implications in its electrification timeline. A phased transition should be prioritized to ensure both reliability and affordability are maintained throughout the process.

The Draft Strategy sets a target of reducing non-electrical transportation energy use by 27% by 2050. While the timeline allows for a 25-year implementation horizon, this goal requires sustained annual reductions exceeding 1%, a rate that appears inconsistent with the current state of grid readiness, consumer adoption trends, and Oregon's historical capacity to fund and permit infrastructure at the necessary scale. Achieving this level of reduction will require Oregon not only to meet but likely to surpass the electric vehicle (EV) sales trajectories mandated under the Advanced Clean Cars II (ACC II) and Advanced Clean Trucks (ACT) programs. Without significant acceleration in consumer adoption, rapid charging infrastructure deployment, and supply chain development, these targets are unlikely to be met.

California's experience under the CARB Mobile Source Strategy (MSS) demonstrates the risks of

[1]Oregon Department of Energy. Draft 2025 Oregon Energy Strategy, August 2025.

setting timelines that outpace market and infrastructure capacity. Grid instability, higher compliance costs, and slower-than-expected adoption have all emerged as barriers.

WSPA raised these same concerns in its November 22, 2024 comment letter[2] to CARB, regarding the CARB 2025 MSS Discussion Draft. In that letter, WSPA recommended adjusting the scenarios to reflect practical implementation challenges and incorporating a broader portfolio of low-carbon technologies with fewer deployment constraints. Oregon should adopt a similarly balanced approach. As highlighted in the earlier comments:

> *The 2025 MSS and scenarios developed under this strategy must account for known implementation barriers (e.g., local power availability, charging infrastructure, vehicle/equipment availability, etc.). CARB should adjust its "baseline" scenario to account for these barriers by realistically modeling affected implementation timelines and incorporating additional technology/fuel options that have lower implementation barriers into the modeled scenarios.*

Oregon can benefit from the California experience by modeling more gradual, phased scenarios that reflect permitting timelines, workforce capacity, and real-world adoption rates rather than assuming a best-case trajectory.

Unsustainable 70% Decline in Fuel Use (Draft Strategy - p. 16)

The Draft Strategy anticipates a 70% decline in fuel use across Oregon's economy by 2050. This assumption underestimates the essential role of liquid fuels in sectors where electrification is not technically feasible or commercially viable, including aviation, marine transport, long-haul trucking, and high-heat industrial applications. Such an assumption risks creating stranded infrastructure, reducing resilience, and undermining Oregon's economic competitiveness.

WSPA recommends that ODOE adopt a more balanced and technology-neutral approach that leverages existing infrastructure while supporting lower-carbon fuel development. To support this, WSPA encourages ODOE to analyze data published by the Oregon DEQ on the Clean Fuels Program (CFP), which shows that, since the program's inception in 2015, there has not been a significant change in the demand for liquid fuels such as gasoline and diesel. This historical trend should be considered when forecasting future fuel demand to ensure that policy assumptions align with observed market behavior.

Overreliance on Least-Cost Modeling (Draft Strategy – pp. 10-11)

WSPA is concerned that the Draft Strategy places too much reliance on least-cost modeling outputs while overlooking practical barriers to implementation. The modeling does not adequately account for real-world challenges such as permitting delays, land use conflicts, workforce shortages, and supply chain constraints. These factors have historically slowed infrastructure development and will likely continue to do so. WSPA recommends that ODOE pair its modeling with feasibility assessments that reflect realistic deployment timelines and constraints.

Energy Affordability Risks (Draft Strategy – pp. 11 and 15)

While the Draft Strategy identifies affordability as a guiding principle, the proposed actions are likely to impose significant new costs on consumers. The Draft Strategy projects up to a 40% increase in electricity demand by 2030, which will require unprecedented capital investment in generation,

[2] Western States Petroleum Association. "WSPA Comments on the CARB 2025 Mobile Source Strategy Discussion Draft", November 22, 2024.

transmission, and distribution. These costs will likely be passed on to households and businesses.

The Draft Strategy's own *"Household Energy Wallet"* analysis acknowledges that electrification, particularly heat pump adoption, can increase energy costs for some households, especially in older housing stock or in regions with higher electricity rates. WSPA recommends that ODOE more fully analyze these risks and ensure that affordable liquid fuel options remain available.

California's well-known affordability challenges (under its electrification programs) underscore that disadvantaged and rural communities are disproportionately burdened when policy costs exceed what consumers can bear. In the previously referenced November 22, 2024 WSPA comment letter regarding the CARB 2025 MSS Discussion Draft, several studies[3,4,5] were cited showing that:

> *"…a technology-neutral approach that considers a full suite of low-emitting technologies/fuels (as opposed to a technology forcing approach) can not only achieve the State's emission reduction targets but do so more cost-effectively."*

Further, WSPA recommended that:

> *"CARB must not underestimate the impacts this (infeasible control strategies) could impose on communities already experiencing higher living costs."*

Oregon should ensure its equity objectives are matched with robust affordability analysis, including sensitivity testing for households in regions with higher electricity rates or housing stock that is costly to retrofit.

Lack of Practical Fuel Transition Planning (Draft Strategy – pp. 16-17)

WSPA recommends that ODOE develop clear pathways for utilizing infrastructure to support a diverse and reliable energy mix. The Draft Strategy outlines a *"managed fuels transition"* but provides little detail on how Oregon will avoid stranded assets or maintain energy security during the transition. Liquid fuels remain the backbone of Oregon's energy system, particularly in rural areas and freight corridors. Existing infrastructure such as fueling stations, pipelines, and storage facilities represent significant economic value and must be integrated into transition planning.

Resilience Underrepresented (Draft Strategy – p. 16)

WSPA recommends that ODOE explicitly recognize the ongoing role of fuels in resilience planning The Draft Strategy highlights resilience but underrepresents the role that liquid fuels play in disaster recovery, wildfire response, and backup energy supply. Unlike electricity, which is highly vulnerable to transmission disruptions, fuels can be stored and mobilized quickly during emergencies. A resilience strategy that sidelines fuels risks leaving Oregon communities more vulnerable during extreme weather and natural disasters.

It is noteworthy that California has consistently relied on liquid fuels during power shutoffs, wildfire

[3] Ramboll. Multi-Technology Pathways to Achieve California's Air Quality and Greenhouse gas Goals: Heavy-Heavy-Duty Truck Case Study, November 2024. Available at: https://www.wspa.org/wp-content/uploads/Multi-technology-Truck-Emission-Reduction-Scenarios-White-Paper-FINAL.pdf.
[4] Ramboll. Multi-Technology Pathways to Achieve California's Greenhouse Gas Goals: Light-Duty Auto Case Study, November 2024. Available as Attachment D at: https://www.arb.ca.gov/lists/com-attach/477-accii2022-AHcAdQBxBDZSeVc2.pdf.
[5] NERA Economic Consulting. Economic Impact Analysis of California's 2022 Draft Scoping Plan's "Proposed Scenario", November 2024. Available as Attachment D at: https://www.arb.ca.gov/lists/com-attach/4416-scopingplan2022-BnEAdVQlBTdRCAZn.pdf.

evacuations, and emergency logistics. Oregon should codify the role of fuels in resilience planning to avoid overreliance on an increasingly fragile electric grid [6].

Transportation Sector Overreach (Draft Strategy – pp. 53-54)

WSPA recommends ODOE to revise its transportation assumptions to reflect real-world adoption rates, ensure that policies account for the needs of rural and freight-dependent communities, and avoid prescriptive vehicle miles traveled (VMT) reduction targets that could limit mobility. A diversified transportation strategy that maintains access to affordable liquid fuels while supporting incremental electrification will provide a more reliable and equitable pathway. The Draft Strategy calls for *"accelerated adoption of zero-emission vehicles across all vehicle classes"* and investments in EV charging to enable this transition. These assumptions overlook consumer preferences, the current pace of fleet turnover, and the lack of charging infrastructure in rural and freight corridors. The strategy proposes aggressive VMT reductions through land-use changes and multimodal options, yet Oregon lacks the density and transit infrastructure to achieve these targets without imposing significant burdens on residents.

Buildings Electrification Mandates (Draft Strategy – pp. 62-63)

The Draft Strategy recommends phasing out fossil fuel use in buildings by adopting stronger energy codes, banning natural gas in new construction, and incentivizing electrification retrofits. These proposals underestimate the cost of retrofitting older housing stock, especially in colder regions, and ignore consumer preference for fuel diversity. Furthermore, heat pump deployment at scale faces supply chain, contractor workforce, and performance limitations in certain climates.

Clean Electricity Infrastructure Challenges (Draft Strategy – pp. 68-69)

WSPA urges ODOE to recognize the permitting and siting challenges associated with large-scale transmission and avoid overreliance on distributed energy resources that remain commercially immature. A more balanced approach would maintain fuel-based generation and infrastructure as part of Oregon's reliability planning, ensuring redundancy and resilience during peak demand and emergencies. The Draft Strategy relies on large-scale transmission expansion and distributed energy resources to meet projected load growth. Yet, siting and permitting major transmission projects often take over a decade, and Oregon has historically faced strong community opposition. The assumption that transmission corridors can be rapidly approved and built is not supported by current regulatory realities. Moreover, distributed energy resources (DERs) like demand response and battery storage are still in early deployment stages and cannot yet be relied on for large-scale system reliability.

Industrial Decarbonization Unrealism (Draft Strategy – pp. 75-76)

The Draft Strategy suggests transitioning industrial sectors toward electrification and low-carbon fuels. However, many high-heat industrial processes are technologically unsuited for electrification and lack commercially available alternatives. This creates a risk of industry leakage, where manufacturers relocate to jurisdictions with more realistic energy strategies, undermining both Oregon's economy and global climate goals. Importantly, the Climate Protection Program has already recognized these challenges and has exempted the industrial sector from any compliance obligation through 2030.

[6] California Air Resources Board. (2020, January 30). Potential emissions impact of Public Safety Power Shutoff (PSPS). California Environmental Protection Agency. https://ww2.arb.ca.gov/sites/default/files/2020-01/Emissions_Inventory_Generator_Demand%20Usage_During_Power_Outage_01_30_20.pdf.

Low-Carbon Fuels: Overestimated Supply & Scalability (Draft Strategy – pp. 77-78)

Compared to widespread electrification, low-carbon liquid fuels are more readily deployable, cost-effective, and better aligned with current infrastructure. However, WSPA recommends that ODOE takes a realistic view of the pace at which low-carbon fuels can be deployed and ensure policies recognize the role of existing refined fuel infrastructure in supporting the transition. A focus on leveraging current pipelines, storage, and distribution networks will reduce costs, minimize supply risks, and enable more sustainable integration of alternative fuels over time. The Draft Strategy identifies low-carbon fuels as a bridge for "hard-to-electrify" sectors. Yet, it assumes rapid scale-up of renewable hydrogen, synthetic fuels, and biofuels without addressing the long-term market signals and investments needed to attract high quality, low-carbon fuels to the state. The Strategy also overlooks the potential role of existing refined fuel infrastructure to support blending and delivery, instead implying a wholesale shift away from conventional fuels. This approach risks both stranded assets and fuel supply insecurity.

As indicated in the section addressing the decline in fuel use, ODOE should analyze data published by the Oregon DEQ. Specifically, the supply of renewable diesel in Oregon which has decreased significantly from Q1 2024 to Q1 2025, according to the most recent quarterly data available from DEQ. ODOE should also consider the cost-related challenges in producing renewable diesel amid limited incentives, as well as supply chain and logistical constraints.

In one of the previously referenced studies, Ramboll's life-cycle analysis of California's Advanced Clean Cars II program found that renewable and other low-carbon fuels can achieve greenhouse gas reductions comparable to or greater than all-electric pathways, particularly once upstream battery manufacturing emissions are included.[7] Oregon should base its Draft Strategy on a similar full life-cycle analysis to avoid overstating the benefits of electrification and undervaluing liquid fuel pathways.

Moreover, the Ramboll study shows that technology-neutral, multi-pathway approaches are often more cost-effective and reliable because they leverage both electrification and fuel decarbonization simultaneously. Oregon should explicitly allow liquid fuels to play a complementary role, especially in hard-to-electrify sectors.

WSPA appreciates the opportunity to provide comments on this important proposed energy strategy. We encourage ODOE to revisit its modeling assumptions, explicitly evaluate affordability and resilience risks, and adopt a more technology-neutral approach that recognizes the essential role of low-carbon fuels alongside electrification. If ODOE requires clarification regarding these comments, we welcome the opportunity to provide additional information. Please do not hesitate to contact me directly at (360) 594-1415 or via email at: amachado@wspa.org.

Sincerely,



Cc: Jessica Spiegel - WSPA

[7] Ramboll. Multi-Technology Pathways to Achieve California's Greenhouse Gas Goals: Light-Duty Auto Case Study, November 2024.

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

September 22, 2025

RE: Comments on Draft Oregon Energy Strategy

The ZERO Coalition is a statewide coalition of 52 organizations including architects, engineers, designers, community-based organizations, energy efficiency program administrators, trades professionals, and more. Together, we work to advance equitable building decarbonization and ensure that Oregon's transition away from fossil fuels delivers benefits to all communities. We appreciate the opportunity to provide comments on the Draft Oregon Energy Strategy (OES) and commend ODOE for its efforts to develop a comprehensive framework for Oregon's energy future.

General Feedback
We strongly support ODOE's conclusion that the status quo is not an option. The costs of climate inaction already fall disproportionately on frontline communities. The Energy Strategy must deliver bold, equitable, and actionable policies that make buildings part of the solution to Oregon's climate goals. Buildings are both a source of emissions and a site of resilience, health, and economic opportunity. Investments in efficiency and electrification in homes, schools, and workplaces can lower bills, improve health, and create high-quality jobs.

We encourage ODOE to strengthen the policy recommendations related to building electrification and efficiency by providing clearer, prioritized direction to policymakers. Doing so will ensure Oregon does not leave our most vulnerable communities stranded on the gas system or excluded from access to clean, efficient technologies.

Pathways Relevant to Buildings
Energy Efficiency
We support doubling down on energy efficiency as a least-cost, least-risk pathway. For buildings, this includes investments in weatherization, healthy homes programs, and efficiency upgrades that lower energy bills for low- and moderate-income households. Importantly, the Energy Strategy must connect efficient programs directly with electrification. Current barriers, such as prohibitions on using ratepayer funds for fuel-switching, lock many Oregonians into outdated, polluting appliances. The final strategy should recommend revisiting these policies so that efficiency and electrification can work hand-in-hand, especially for low-income households.

Electrification
Electrification of buildings is one of the most cost-effective and impactful climate solutions.

However, it must be managed strategically to ensure equitable outcomes. Without a thoughtful approach, low-income households' risk being left on a shrinking gas system, bearing an unfair share of its fixed costs. The OES should prioritize policies that:

- Establish clear goals and metrics for building electrification.
- Provide robust, upfront incentives and grants for low-income and energy-burdened households, rather than relying on loans.
- Support whole-home retrofits that include necessary repairs, weatherization, and upgrades alongside electrification.
- Require integrated planning between electric and gas utilities to responsibly scale down the gas system.
- These steps will ensure that electrification delivers affordability, health, and resilience benefits across Oregon.

Resilience
As climate impacts intensify, homes and community buildings will be critical sites of resilience. High-efficiency heat pumps, distributed energy resources, and battery storage can provide life-saving heating, cooling, and backup power. Prioritizing resilient building upgrades in frontline communities must be a central strategy.

Equity and Justice
We appreciate ODOE's inclusion of an equity and justice framework, but it must be more deeply woven into the body of the strategy. For buildings, this means:

- Prioritizing no-cost or grant-based programs over loans for low-income households.
- Ensuring that community-based organizations have the resources to deliver programs effectively.
- Embedding equity metrics into every building-related policy recommendation to ensure that benefits flow first and foremost to those most impacted by high energy burdens and poor housing conditions.

Failure to adequately address these issues risks widening disparities in health, affordability, and climate resilience.

Conclusion
The ZERO Coalition urges ODOE to strengthen the final Oregon Energy Strategy by prioritizing actionable, equitable policies for building efficiency and electrification. Buildings represent a key sector for achieving climate goals, and with the right policies, Oregon can ensure that this transition delivers cleaner air, lower bills, and safer, more resilient homes for all.

Thank you for the opportunity to comment. We look forward to working with ODOE and policymakers to ensure the Energy Strategy sets Oregon on a path to equitable and effective building decarbonization.

Sincerely,

The ZERO Coalition