Oregon Energy Strategy Executive Summary

Why Develop an Energy Strategy?

Oregon policymakers have enacted recent and decades-old laws, programs, and regulations to support a shift to cleaner, more sustainable sources of energy. 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.

Legislative Direction: HB 3630 (2023) directed the Oregon Department of Energy to develop a state energy strategy and submit a final report to the Governor and Legislature that:

1. summarizes the state energy strategy and pathways to achieving Oregon's energy policy objectives;
2. describes ODOE's engagement process and how perspectives informed the energy strategy; and
3. recommends legislation or changes to policy necessary to implement the state energy strategy.

HB 3630 does not define Oregon's "energy policy objectives." After consultation with other state agencies, experts, and interested parties, ODOE determined that key clean energy policy drivers include statutory and regulatory directives like HB 2021, the Climate Protection Program, and Executive Order 20-04. Through these and other policies and programs, the legislature and executive branch are helping transition Oregon to a cleaner energy future.

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. ODOE considered affordability and reliability as essential energy policy objectives, and the Energy Strategy looks not at *whether* Oregon can meet its objectives but *how* it can do so while maintaining an affordable, reliable system.

The Energy Strategy comes at a pivotal moment and transition in the energy sector. Many rapid changes have occurred in the last 5 years – including during the development of the Energy Strategy. These include rising electric loads, increasing energy bills and energy cost burdens, and an increase in extreme weather events that impact Oregonians. Until recently, unprecedented opportunities, bolstered by new policies and federal support, had been driving historic levels of investment in clean energy technologies including renewable energy, electric vehicles, and energy efficiency. Over the last nine months, there has been a stark reversal of federal policy as clean energy, energy efficiency, and even basic infrastructure projects have seen tax credits and funding eliminated or reduced.

The Energy Strategy evaluates these trends in the context of Oregon's energy policy objectives and recommends five pathways to guide Oregon.

Five Pathways to Guide Oregon

The following pathways are the result of two years of technical analysis and policy discussions. They have been optimized to advance a least-cost economy-wide trajectory for Oregon while supporting reliability and affordability in the clean energy transition. They are the starting point to identify how to

reduce costs while maximizing benefits, and to pursue affordability, considering burdens and benefits to environmental justice communities. They serve as guiding strategies for policy discussions and decisions.

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. Clean Electricity. Secure reliable, affordable, and clean electricity by expanding the electricity system and incorporating load flexibility.

3. Electrification. Increase electrification of end uses across transportation, buildings, and industry, while safeguarding reliability, promoting affordability, and maximizing opportunities to use load flexibility as a resource.

4. Low-Carbon Fuels. Advance the use of low-carbon fuels in the hardest-to-electrify end uses and to maintain a reliable electric 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 represent a portfolio of solutions that must be advanced together. 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 demand that must be served by clean energy sources. Energy efficiency is a least-cost resource that can lower energy bills for consumers while supporting reliability. The second pathway, **clean electricity**, is expected to power a growing share of our energy system. As electricity demand increases and many end-uses electrify, the modeling conducted for the energy strategy found that the electricity system must grow significantly. This elevates the need to build and upgrade transmission, generation, and distribution infrastructure. The third pathway, **electrification**, involves adoption of electric technologies to replace fossil fuels in many end uses over the next 25 years, 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 fourth pathway, **low-carbon fuels**, is essential in areas where in the near or longer term, electrification is not feasible and to support reliable electricity. 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.

Key Modeling Takeaways

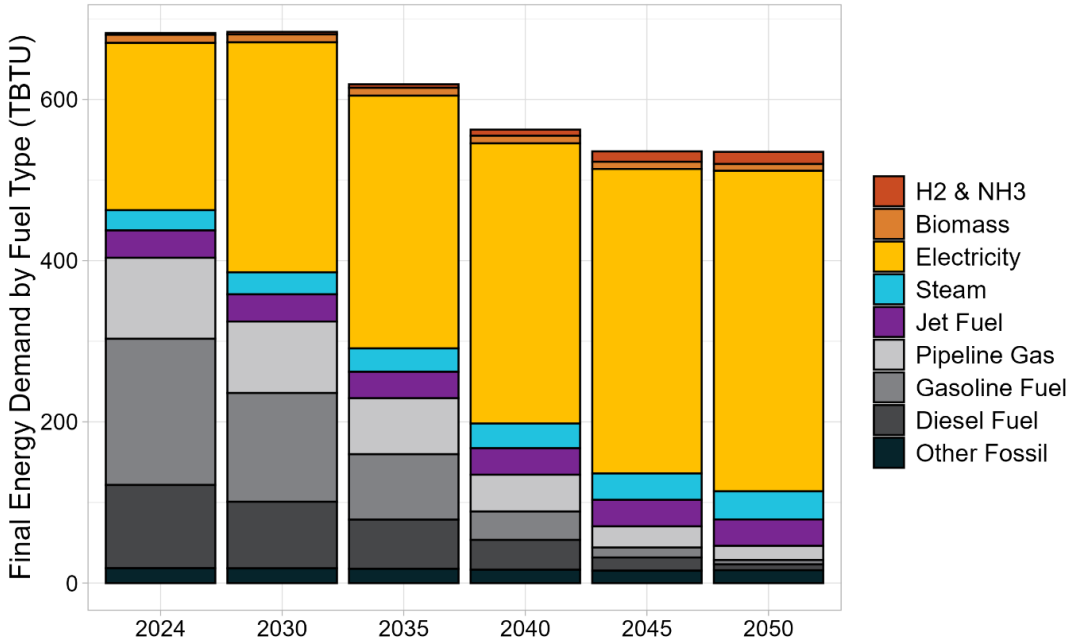
The energy strategy looks at expected trends, and at the elements of a least-cost pathway to meeting Oregon's energy policy objectives. To inform the energy strategy, the Oregon Department of Energy contracted with the Clean Energy Transition Institute and Evolved Energy Research to undertake a modeling exercise that considers different approaches to meeting Oregon's energy policy objectives for the period 2024 to 2050. That exercise informed policy discussions, and ultimately the five pathways.

Much of the agency's engagement around the modeling focused on selecting the best available data for modeling inputs and assumptions to create a Reference Scenario that would serve as a point of comparison for other alternative scenarios. Unlike studies that model emissions levels associated with different scenarios, the energy strategy Reference Scenario was structured to help understand what a least-cost pathway to achieving Oregon's goals might look like. It incorporates high levels of demand-side energy efficiency measures and electrification of end-uses, based on an evaluation of the least-cost actions identified in numerous other energy transition studies.

The results of the modeling showed that energy efficiency and electrification can help reduce the amount of energy needed to fuel the economy and can significantly reduce Oregon's overall demand for energy while its population and economy grow. In 2050, energy demand was 22 percent lower than in 2024 due to high levels of energy efficiency and electrification, particularly in the transportation sector. This is represented by the descending columns in Figure 1.

Another key takeaway from the modeling is that electricity loads increase significantly, doubling by 2050. In the very near term, tech/data center loads are the greatest driver of growing electricity demand; after 2030, electric vehicles drive electricity demand growth, followed by demand growth across the commercial, industrial, and agricultural sectors. Electrification is therefore an important driver of growth in *electricity* demand, while at the same time reducing overall *energy* demand.

Figure 1: Energy Demand by Fuel Type in Oregon, 2024 Actuals and Modeled Future



The modeling also looked at alternative scenarios and sensitivities, each of which changed one key aspect of the Reference Scenario and held everything else constant.[1] This helped to isolate the impact of the change and draw out lessons learned.

Scenarios and sensitivities explored what would happen if there were lower levels of energy efficiency and/or slower rates of electrification to test the hypothesis that these were key elements for ensuring Oregon's energy transition follows a least-cost pathway. This hypothesis was correct. Scenarios that delayed action on energy efficiency and building electrification, transportation electrification, and

[1] Alternative scenarios were defined earlier in the process, while sensitivities were added to test additional questions that emerged toward the end of the modeling process as scenario results began to emerge. There were six alternative scenarios and four sensitivities that we modeled. The results of the energy pathways analysis are available online.

demand response led to higher overall costs to the economy, as did scenarios that included less in-state generation and more imported renewable resources or constrained transmission compared to the Reference Scenario. Another scenario showed increased costs if the power system cannot rely on a combination of fossil and low-carbon gas for reliability.

This exercise also resulted in a deeper understanding of interactions across the transportation, buildings, industrial, and electricity sectors in Oregon. It provided valuable insights into the direction the state must take to achieve its energy policy objectives.

The Cost of Inaction

Through most of the Oregon Department of Energy's 50 years of public service, Oregon's energy system has been in transition – from the 1970s oil crises to the challenges we face today as we've developed the Oregon Energy Strategy. Energy costs have been rising for many consumers, increasing energy burdens and contributing to record disconnection rates. Even expanded consumer protections and programs have struggled to keep pace with growing need. High levels of growth in electricity demand threaten to outpace construction of resources to meet that demand. And federal funding cuts and policy changes in critical areas, including support for energy resource development, energy efficiency, and low-income assistance programs, threaten to further raise costs for Oregonians. This makes Oregon's goals of reliable, affordable, clean energy more important than ever. It also emphasizes how vital the direction set by Oregon policies – and bolstered by this energy strategy – is for affordability and economic growth in our state.

There are many drivers of rising energy costs today. In recent years, higher wholesale power costs, wildfire risk reduction and insurance costs, the cost of maintenance and upgrades to aging infrastructure compounded by inflation, and responses to severe weather events have been primary contributors. Global events, like the COVID-19 pandemic, Russia's war against Ukraine, periods of high inflation, and political unrest have caused large fluctuations in fuel prices that affect transportation, heating, and electricity costs. Oregon's decarbonization policies and goals have not been the primary driver of recent price increases, though over time they will require significant investment.

The scale of expected demand growth in the electricity sector is historic. But it is not the only sector where investments are expected to occur. Many of the measures identified in the energy strategy, including energy efficiency and electrification, require investment. In many cases, these are investments that were going to happen anyway. Cars, furnaces, and boilers will eventually need to be replaced, and the modeling did not assume any accelerated replacement of these items. Rather, the Energy Strategy helped identify low-carbon replacement options that generated the least overall energy system costs across the economy and complied with Oregon policies like HB 2021, the Climate Protection Program, and Advanced Clean Cars II.

Across the energy sector, the question posed in the energy strategy – and the choice facing Oregon – is not whether to invest in our energy system; it is *how* to direct and resource that investment to maximize benefits to Oregonians, minimize harms, avoid disproportionate impacts to environmental justice and energy burdened communities, and advance key priorities like energy affordability, public health, and economic development. This was a key question asked in the technical and modeling analysis, and discussed in working groups to identify policy gaps and solutions.

A key backdrop to this discussion is the growing cost of climate change in Oregon. Even as energy costs are rising, climate change is driving additional costs for Oregon households, businesses, industries, and government. Responding to, recovering from, and adapting to extreme heat waves, widespread drought conditions, severe wildfires, flooding, coastal erosion, and other extreme weather events are

increasingly hitting Oregonians' bottom lines. Events like the 2018 wildfire season, 2020 Labor Day fires, and the 2021 Pacific Northwest heatwave cost Oregonians hundreds of lives and billions of dollars. In the coming decades, it is estimated that the average Oregonian could lose about $12,000 in income each year from the effects of greenhouse gas emissions.

Climate change is also affecting the electricity sector. Changing precipitation patterns and drought are affecting the timing and availability of hydropower electricity, which provides some of the most affordable energy for Oregonians. These factors, along with rising temperatures, are also exacerbating stress on fish, further increasing costs to mitigate those effects. Wildfires are threatening homes and businesses. Wildfire risk is also a growing source of utility costs due to infrastructure and maintenance investments necessary to mitigate the risk of igniting wildfires, rising insurance costs, infrastructure rebuilds after damaging fires, and growing liability risk. The increasing frequency and duration of extreme summer and winter weather is further straining electricity systems, creating extreme prices during peak events. Hotter summers are driving higher air conditioning demand, and analysts project the confluence of severe winter weather and lower hydropower availability in drought years could create capacity shortfalls in the near future.

Unless global emissions decline considerably, these impacts will happen at a faster pace and intensify over time, committing Oregonians and the rest of the world to increasingly higher costs from climate inaction. Costs will continue to accrue the longer it takes to reduce emissions. While Oregon cannot reduce global emissions alone, it is in a position to lead as a state, and as part of a region driving solutions that reduce emissions and provide economic opportunities associated with the energy transition. Oregon's energy production and use account for over 80 percent of the state's greenhouse gas emissions, making it one of the focal points for mitigating climate change and meeting statewide greenhouse gas reduction goals.

Many of the measures identified in the energy strategy can deliver benefits on top of mitigating climate change. Energy efficiency can shrink the overall size of the "energy pie," reducing investments that would otherwise be needed across the energy system, and alleviating impacts of development on land and water. Complementary analysis, conducted for the energy strategy to explore air quality, affordability, and employment effects of meeting Oregon's energy policy objectives, provides additional insights. The analysis finds air quality and public health benefits across the state resulting from decarbonization measures, including electrification of cars and trucks and reduced fossil fuel combustion in power plants. The jobs study finds significant opportunities for employment growth across much of the energy sector. The Energy Wallet illustrates the potential cost savings to many households of purchasing an electric vehicle or electric heat pump. Finally, many of the measures that are part of a least-cost pathway, such as weatherization, distributed resources, and heat pumps for cooling can strengthen resilience to the effects of climate change.

The technical analysis and engagement also identified challenges that will need to be considered in implementing the energy strategy. For example, the jobs study found displacement in jobs at fueling stations and in vehicle maintenance. While job growth in other sectors significantly outpaced this displacement, the results signal a need to address potential job losses and create options for displaced workers. The energy wallet found that some households may see increased energy costs when switching to an electric heat pump, indicating that support may be needed to help overcome cost barriers to heat pump technology adoption. Just as policies are needed to drive uptake of clean energy technologies and deliver their benefits, policies will also be important to address costs and to ensure that those costs do not disproportionately impact environmental justice and energy burdened communities.

The costs of climate change and our current energy system are not borne equally. An intentional approach is needed to ensure that historic and current inequities are not perpetuated as we advance

along the five pathways, and that low-income and marginalized groups have access to the benefits of the energy transition. In developing the energy strategy, the Oregon Department of Energy convened an environmental justice and equity working group to help understand the challenges facing different communities and to identify policy gaps and opportunities. This engagement informed the technical analysis and policy recommendations. It led to the development of the equity and justice framework, and to specific legislative and policy actions that aim to advance meaningful engagement and equitable and just outcomes.

The pathways, policies, and actions in the Energy Strategy come at a time when, in the very near term, there are competing priorities for limited funding. State and local governments play an important role in funding and supporting the policies and programs needed to meet our energy challenges intentionally and equitably. This has become significantly harder in the last nine months as the federal government has cut, rescinded, defunded, or dismantled programs that provided critical assistance for many Americans. This includes reductions in energy assistance programs that are lifelines for low-income and rural Oregonians, especially those living in areas of the state that experience colder winters and hotter summers.

At the same time, Oregon has tremendous opportunities. Access to reliable, affordable, and clean energy can promote economic growth across sectors. Through activities such as the buildout of new electricity resources, development of energy efficient technologies, and expanded use of low-carbon fuels, the transition to clean energy offers potential for bringing new business opportunities and jobs to Oregon. For example, Oregon is a leader in research and development, including two projects testing cutting-edge electricity generation technologies: the Mazama Energy Enhanced Geothermal Systems demonstration project and PacWave test facility off Oregon's coast. Oregon also has deep experience with energy efficiency and distributed energy programs, such as those implemented by the Energy Trust of Oregon, consumer-owned utilities, and state agencies that provide a strong foundation to lower bills and increase the competitiveness of Oregon industries.

It is important to prioritize funding where it can advance the strongest near-term needs, including affordability and reliability, as outlined in the section on Implementing the Energy Strategy. And over time, as more funds become available, it will be important to continue to shape equitable policies and programs to deliver benefits of a clean, affordable, reliable energy system to homes and businesses. The energy strategy serves to guide that vision, advancing Oregon's clean energy policies, and providing a foundation for increased cooperation across government agencies, utilities, businesses, non-profit organizations, and Oregonians.

Input and Engagement

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), and a written comment period on the Draft Report from August 2025 – September 2025. 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 comprehensive summaries of the input received during Phase 1 technical modeling, Phase 2 policy discussions, and written comments of the strategy development, reflecting input on the technical modeling, policy discussions, and draft Energy Strategy report. Copies of public comments and recordings from public meetings are available on ODOE's website.

The robust engagement of partners and the public throughout both phases of the strategy's development significantly contributed to its shape and content. Public engagement informed the design and focus of the technical analyses. Conversations with interested parties supported policy discussions, including evaluation of current progress, barriers, and options to advancing Oregon's energy policy objectives. Dialogue and feedback helped define priorities in the Equity and Justice Framework. Partner and public input considered the merits of proposed legislative and policy actions and contributed to the recommendations and organization of this report.

ODOE heard throughout the strategy's development that partner perspectives should be considered critically and that dissenting voices be visible in the report. ODOE is committed to presenting an evenhanded, realistic view of the direction Oregon needs to follow to meet its energy policy objectives, and has incorporated information about barriers and challenges to the section on Pathways and Policies in the main report – heard during Phase 2 discussions. The written comment summary is a compilation of Phase 2 discussions and written comments, structured to match the organization of the August draft of the energy strategy to facilitate review of what ODOE heard concerning each report section. This approach highlights where and how the Energy Strategy reflects partner input and where partners and members of the public expressed dissenting opinions.

Nine Federally Recognized Tribes: Feedback and Themes

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.

In the 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 synthesized feedback and reflected what was heard through these conversations 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 below should be considered and incorporated into the design of programs and regulations.

- Energy Independence & Sovereignty
- Affordable Energy Options
- Access to Decision Making
- Stabilization of Funding Cycles
- Consultation, Cultural, and Natural Resources Values

Equity and Justice Framework

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. Factors including age and income can affect vulnerability to climate impacts. Of the 116 confirmed deaths from the 2021 heat dome, the majority of people were older than 60, living alone, and without access to air conditioning in their homes. The 2020 Labor Day fires destroyed or damaged 4,000 homes. These wildfires devastated Talent and Phoenix in particular, destroying more than 1,700 mobile or manufactured homes and the financial security of community members, many of whom still do not have permanent replacement housing five years later.

As part of the Oregon Energy Strategy, the Equity and Justice Framework serves to guide decision-making processes and deliver improved outcomes by reducing burdens and expanding access to benefits. This includes reducing the disproportionate costs of energy burden, negative health effects from energy-related pollution, and impacts of infrastructure development on natural and working lands, rivers, lakes, and coastal waters. It also serves to improve resilience against extreme weather, broaden access to technologies that improve resilience, health, and safety, and ensure access to workforce training and jobs.

The Equity and Justice Framework presents six key approaches for decisionmakers to consider that advance meaningful involvement and equity when crafting and implementing energy policy. These were developed in consultation with an Environmental Justice and Equity Working Group. They build on existing efforts and identify needs to ensure meaningful participation and outcomes for environmental justice communities.

- Provide equitable access to decision-making processes.
- Ensure equitable access to infrastructure development processes.
- Invest in long-term incentive programs for environmental justice communities.
- Promote holistic workforce development in environmental justice communities.
- Develop partnerships and resources in environmental justice communities.
- Consider the effects of energy policies on natural and working lands, cultural resources, and the broader environment.

Five Pathways and Policies

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.

Following the technical analysis/modeling and public engagement, ODOE has put forth five pathways representing the direction Oregon needs to go to meet its energy policy objectives – including an energy transition that will deliver clean, reliable, and affordable energy to all Oregonians. While the pathways work together to define high-level direction for the state, more specificity is required to set a framework for action. Policies serve to advance the five pathways by providing more detailed direction for Oregon. Similar to pathways, the policies are meant to provide a long-term framework for the development of near-term actions.

The pathways and policies are listed below; the full report elaborates on both, including why and how the policies will advance the pathways.

1. Energy Efficiency. Advance energy efficiency across buildings, industry, and transportation sectors, including expanding access to and appeal of multimodal transportation options, to deliver the benefits of a more efficient energy system.

ENERGY EFFICIENCY 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.
1b. Evaluate, promote, and allocate funding to opportunities to improve energy efficiency in large commercial and industrial sectors.
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.

2. Clean Electricity. Secure reliable, affordable, and clean electricity by expanding the electricity system and incorporating load flexibility.

CLEAN ELECTRICITY POLICIES
2a. Facilitate energy infrastructure enhancement and expansion while avoiding, minimizing, and mitigating negative impacts on energy burden, natural and working lands, Tribal cultural resources, and communities.
2b. Enable consumers to support grid needs by shifting the timing of electricity consumption for distributed flexible loads like EVs or water heaters and larger commercial and industrial loads.
2c. 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.
2d. Collaborate with the Bonneville Power Administration, neighboring states and other regional entities to address Oregon's needs as part of a regional grid.

3. Electrification. Increase electrification of end uses across transportation, buildings, and industry, while safeguarding reliability, promoting affordability, and maximizing opportunities to use load flexibility as a resource.

ELECTRIFICATION POLICIES
3a. Advance and expand efforts to electrify transportation, with a focus on removing barriers to ensure the state meets its zero-emission vehicle goals.
3b. 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.

3c. Promote strategic electrification across the residential, commercial, and industrial sectors to align policies and investment to deliver affordable, reliable, and clean energy.

4. Low-Carbon Fuels. Advance the use of low-carbon fuels in the hardest-to-electrify end uses and to maintain a reliable electric grid.

LOW-CARBON FUELS 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.
4b. Support low-carbon fuel adoption in the hardest-to-electrify sectors including aviation, rail, marine transport, long-haul trucking, agricultural and off-road equipment, high-heat industrial processes and resources that support electric system reliability.
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.

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.

RESILIENCE 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.
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.
5c. Maintain emergency response capabilities, including the adaptability and readiness of vehicles, supply of fuels, and fuel storage needs during the energy transition.

Implementing the Oregon Energy Strategy

The Energy Strategy includes 42 near-term actions that build on existing policy frameworks, serve to overcome barriers, and lay a foundation for continued progress over time. These actions will require partnership among many organizations and individuals within Oregon to accomplish. Each action advances one or more pathways and policies, and requires application of one or more approaches from the equity and justice framework.

After the Oregon Energy Strategy is published, ODOE will work with partner agencies, the Governor's office, and other interested parties to plan for how to advance these actions and determine next steps. In some cases, this will involve agencies advancing actions that are within their authority and resources. In others, implementation may require legislation to support agency resources or to create new programs, policies, or authorities. Recent developments have made certain actions more urgent. While ODOE considers each of the 42 actions important, the energy strategy includes a smaller set of actions that would contribute to addressing near term, immediate challenges such as reliability and affordability.

Actions Focused on Electricity System Reliability and Resilience

Electricity system reliability and resilience are increasingly urgent as load growth threatens to outpace construction of new resources and severe weather increasingly strains the electricity system. The power system has already come close to having insufficient resources in recent years. Events that disrupt reliability cause widespread economic harm, adverse health effects, the loss of human life, and disproportionately impact people of color, low-income households, and people who are medically vulnerable. The actions here focus on advancing reliability now and accelerating resource development in the next 5-10 years.

- The Oregon Public Utility Commission, in coordination with the Department of Energy, should commission an expert review of balanced wildfire utility liability solutions that enable both utility accountability and ongoing customer cost containment, reliability, and decarbonization investments.

  Increasingly frequent and intense wildfires have affected many Oregonians and represent a growing risk for households and businesses. They further threaten utilities' ability to finance and build utility-scale electricity infrastructure, which raises reliability and cost concerns for ratepayers. It is important to consider policy options to mitigate these impacts.

- Review and share key findings with the Legislature regarding near-term transmission needs and opportunities, and identify opportunities for the state to support transmission. ODOE would lead this work and build on it to inform the role that a state transmission entity may play in enabling investment.

  The pace of transmission expansion along existing and new corridors is creating a critical bottleneck to meeting reliability, affordability, and clean energy goals. This action would consider ways to advance siting and investment, and identify changes to policy that might be needed.

- 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, rooftop solar and storage, and expand demand flexibility.

  Oregon has utility and state programs supporting energy efficiency and demand response. This action serves to double-down on these efforts as the fastest way to secure system reliability. Progress on this action will also save money for many energy consumers.

- 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.

  If current trends continue, it is likely that some communities will lose power at some point in the next four years due to extreme weather, causing events like downed power lines and public safety

power shutoffs. Rural and coastal communities in particular face more frequent and longer duration outages. Oregon must remain focused on resilience to protect communities throughout the state.

- Facilitate the sharing of data and joint planning to enhance energy resilience and reliability. The Oregon Department of Energy should identify relevant actions that support the Oregon Energy Security Plan.

  One of the keys to energy reliability is ensuring coordination between electricity and gas systems around extreme weather events. As the 2024 ice storm illustrated, coordination in this area must be a priority.

Actions Focused on Protecting Affordability and Access to Clean Technologies

Record disconnections and the loss of federal support for heating assistance and basic needs are deepening an affordability crisis, which disproportionately affects environmental justice communities. Energy efficiency measures can reduce costs for consumers, increase their resilience, and deliver benefits to the electric grid. It is essential to prioritize programs that provide the needed upgrades and technologies to improve health and affordability for Oregon's most vulnerable residents.

- 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.

  The energy transition will require significant investment in new technologies and infrastructure. A revolving loan fund can provide a stable and growing pool of money to support the adoption of clean energy technologies that reduce energy demand, such as electric vehicles and heat pumps, particularly for low- and moderate-income households. It can complement areas where direct funding support continues to be needed.

- Prioritize existing incentive programs offering essential energy efficiency and weatherization improvements, particularly those focused on low- and moderate- income households.

  Continue utility ratepayer-funded programs and restore or expand state programs that provide essential support for household energy efficiency, weatherization, emergency appliance replacement, and installation of high efficiency equipment and appliances.

- Earmark flexible funding for deferred maintenance measures necessary to enable low- and moderate- income homes to install efficiency and weatherization technologies and measures.

  The need to address deferred maintenance measures, such as a new roof or replacing rotting walls, is often a prerequisite to weatherization or other energy efficiency improvements. There is a lack of funding for these kinds of upgrades, including in owner-occupied and rental housing, creating a barrier to new technologies. Supporting these measures is essential to ensuring equitable access to health- and bill- saving energy efficiency measures.

- Update energy efficiency and demand response programs to promote strategic electrification.

  This action is essential to provide access to efficient electric technologies, particularly among low- and moderate- income households, while helping to reduce household bills and support reliability.

Actions That Can Be Advanced with Minimal Additional State Budget Allocation

The state budget is facing an immediate multi-million dollar funding gap, which is expected to worsen as the state loses billions of dollars in federal funding. This gap is the result of changes in federal policy, which have been evolving throughout the development of the energy strategy. The following is a subset of actions for which undertaking first steps would have minimal budget impact, and that are likely to advance Oregon's energy policy objectives over time. They aim to ensure that as Oregon invests in its

energy future, it supports clean, affordable, reliable solutions that improve public health and generate economic opportunities.

- Review Oregon's transportation funding mechanisms, recommend strategies for alignment with the state's energy and climate policy priorities, and identify new revenue sources – particularly to support the deployment of ZEVs and ZEV infrastructure – through a Climate Aligned Transportation Funding Task Force.

  The Task Force is essential to enabling Oregon's transportation system to meet the demands of the 21st century, including addressing climate change. The state must maintain reliable funding for system maintenance and operations while increasing investments in transportation electrification and multimodal infrastructure. The Task Force will evaluate these dual priorities and offer recommendations for legislative or administrative measures that align transportation funding with climate goals and expand resources for climate-focused investments.

- Expand local governments' authority to generate and direct transportation revenues toward climate-aligned transportation infrastructure that meets local needs and priorities.

  Many local governments are constrained by limited authority to raise and direct transportation revenue for transportation infrastructure. Expanding authority gives communities the flexibility to meet the scale and urgency of climate and equity-driven transportation challenges. With greater autonomy, localities could accelerate investments in multimodal, zero-emission, and equity-focused transportation infrastructure and target resources toward local priorities.

- Align the Oregon Economic Development Strategy and the Oregon Energy Strategy through collaboration between Business Oregon and the Oregon Department of Energy to foster decarbonization and economic growth through consideration of industrial symbiosis, clean energy innovation, emerging technologies, and incentives.

  Oregon will only achieve its energy policy objectives if they are paired with a focus on economic development and quality jobs and careers. This action would strengthen cooperation between the Oregon Department of Energy and Business Oregon to grow our economy and build on opportunities that new, clean technologies, and innovation offer.

- Require investor-owned utilities 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.

  Consistent, accessible, and regularly updated information on distribution grid capacity is essential for accelerating the deployment of clean energy technologies, particularly EV charging stations. This action supports informed planning and strategic investment decisions and builds on existing efforts to establish uniform standards and processes for IOUs to regularly publish feeder-level data on grid hosting capacity. Any process developed should identify the minimum essential information to advance clean energy and electrification projects, carefully balancing the level and frequency of data with potential impacts on ratepayers.

While these actions represent immediate next steps in implementing the energy strategy, ODOE recommends advancing all 42 actions over the next four years. All actions represent important priorities to realize Oregon's energy policy objectives. As these immediate next steps are considered, it will be necessary for policy makers to use the Equity and Justice Framework as a guide to ensure meaningful engagement and equitable outcomes. The Oregon Department of Energy will work to advance actions that are within its authority and resources. It will further work and collaborate with Tribes, other state

agencies, Legislators, the Governor's Office, and public partners to support development of details on how to take actions forward.

Full List of Legislative and Policy Actions

Cross-cutting Actions

1. Impose registration and reporting requirements upon all new large electric loads to inform greenhouse gas emissions analyses, and evaluate whether policy changes are needed to bring emissions in line with state policies. This would require an action from the Environmental Quality Commission.
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. Facilitate the sharing of data and joint planning to enhance energy resilience and reliability. The Oregon Department of Energy should identify actions that support the Oregon Energy Security Plan.
7. Identify gaps in current and estimated occupation-level employment to meet Oregon's future energy needs. ODOE should recommend actions to support and expand workforce development efforts that complement existing efforts.
8. Advocate for federal policies that support advancement of state energy objectives.
9. Increase coordination between state agencies and community-based organizations, utilities, Energy Trust of Oregon, and other partners to advance consumer education and facilitate delivery of energy related services.
10. Align the Oregon Economic Development Strategy and the Oregon Energy Strategy through collaboration between Business Oregon and the Oregon Department of Energy to foster decarbonization and economic growth through consideration of industrial symbiosis, clean energy innovation, emerging technologies, and incentives.
11. Increase resources, funding, and staff levels at agencies as needed, and as funding becomes available, to implement actions necessary to advance Oregon's energy policy objectives.
12. Develop a community benefits framework at the Oregon Department of Energy that can be used as appropriate across the agency to address outreach and engagement, workforce needs, prioritizing environmental justice communities, and equitable practices.

Transportation

1. Review Oregon's transportation funding mechanisms, recommend strategies for alignment with the state's energy and climate policy priorities, and identify new revenue sources – particularly to support the deployment of ZEVs and ZEV infrastructure – through a Climate Aligned Transportation Funding Task Force.
2. Implement a Road Usage Charge program for all light-duty passenger vehicles to stabilize transportation funding and support accelerated adoption of zero emission vehicles.

3. 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.
4. Expand local governments' authority to generate and direct transportation revenues toward climate-aligned transportation infrastructure that meets local needs and priorities.
5. Require investor-owned utilities 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.
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. Establish a statewide technical assistance program to support public and private fleets in planning and executing a successful transition to zero-emission vehicles (ZEVs).
8. Develop a MHD ZEV Roadmap to guide and accelerate the deployment of medium- and heavy-duty zero emission vehicles across the state. The Roadmap should provide actionable insights to inform state policy and investment, support fleet decision-making, and ensure alignment with climate, air quality, and equity goals.
9. Amend DEQ's Clean Fuels Program to extend Advance Crediting eligibility to high-mileage private fleet operators whose vehicles operate predominantly in Oregon.
10. Develop regulations and minimum standards for public heavy-duty hydrogen refueling infrastructure in Oregon. A working group could 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.

Buildings

1. Prioritize existing incentive programs offering essential energy efficiency and weatherization improvements, particularly those focused on low- and moderate- income households.
2. Earmark flexible funding for deferred maintenance measures necessary to enable low- and moderate- income homes to install efficiency and weatherization technologies and measures.
3. 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.
4. 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, rooftop solar and storage, and expand demand flexibility.
5. Advance strategic electrification in buildings in conjunction with other measures that support state decarbonization and resilience goals reliably, affordably, and equitably. Develop a building decarbonization roadmap, led by the Oregon Department of Energy, 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.
6. Update energy efficiency and demand response programs to promote strategic electrification.
7. Continue to update the Oregon Residential Specialty Code and Oregon Energy Efficiency Specialty Code as outlined in HB 3409. Continue progress on energy efficiency and decarbonization requirements for new buildings that complement other actions in this document

and include consideration of lower carbon materials and quantification of global warming potential values to realize embodied carbon savings in new construction and existing buildings. The Reach Code should reflect goals for economy wide decarbonization

Electricity

1. 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.
2. The Oregon Public Utility Commission, in coordination with the Department of Energy, should commission an expert review of balanced wildfire utility liability solutions that enable both utility accountability and ongoing customer cost containment, reliability, and decarbonization investments.
3. Review and share key findings with the Legislature regarding near-term transmission needs and opportunities, and identify opportunities for the state to support transmission. ODOE would lead this work and build on it to inform the role that a state transmission entity may play in enabling investment.
4. Update and enhance the Oregon Renewable Energy Siting Assessment Tool, with a goal of providing a robust database of lands that may be suitable for various types of electricity infrastructure projects.
5. Conduct a study on barriers preventing construction and interconnection of permitted projects and recommend actions to overcome barriers.
6. Report on developments in emerging technologies, including long-duration storage options, enhanced geothermal, floating offshore wind, marine energy, and advanced nuclear options, to identify the role they can play in meeting the state's electricity needs; also explore opportunities for pilot programs in the near-term.
7. Study government incentives for local electricity generation investments and identify opportunities for the state to better advance infrastructure needs, economic development and energy justice objectives.
8. Investigate opportunities to modify utility business models and ratemaking practices to enhance marketplace competition and thereby lower costs in utility planning and resource procurements.

Industry

1. Identify and evaluate short and long term decarbonization options for large industrial entities in Oregon.
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. Expand access to low-carbon fuels, including assessing opportunities for in-state production, identifying strategies for regional coordination, and establishing safeguards to protect communities and natural resources, through coordination between the Oregon Department of Energy, Oregon Department of Land Conservation and Development, Oregon Department of Environmental Quality, and Business Oregon.
2. Support strategic planning and investment by Oregon businesses through a low-carbon fuels deployment roadmap, led by the Oregon Department of Energy, and informed by existing studies, data, analysis, and public partner information and guidance.

3. Research and forecast fuel needs for emergency preparedness to ensure these needs are met as technologies evolve throughout the energy transition. ODOE would work in collaboration with Tribes and public partners across the state.

The energy strategy can be found in its entirety at

https://energystrategy.oregon.gov
or
https://www.oregon.gov/energy/Data-and-Reports/Pages/Energy-Strategy.aspx

The Oregon Department of Energy welcomes comments, questions, and requests for presentations or webinars on the energy strategy: https://odoe.powerappsportals.us/en-US/energy-strategy/