

2024

BIENNIAL ENERGY REPORT

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2024 BIENNIAL ENERGY REPORT

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Executive Summary

In 2017, the Oregon Department of Energy introduced House Bill 2343 to the Legislature. The bill charged the department with developing a new Biennial Energy Report to inform local, state, regional, and federal energy policy development and energy planning and investments. The report – based on analysis of data and information collected and compiled by the Oregon Department of Energy – provides a comprehensive review of energy resources, policies, trends, and forecasts, and what they mean for Oregon.

What You Can Expect to See in the 2024 Biennial Energy Report

The 2024 report is divided into several sections, focusing on where Oregon is today in the clean energy transition and what energy options exist to forge ahead on the path to a cleaner, low-carbon future. Data and examples included in the report illustrate how the energy sector is evolving, with more renewable energy available than ever before, new clean and renewable technologies on the horizon, and more resources to help Oregonians make informed decisions about their energy choices.

The report begins by looking at **Energy by the Numbers** – detailed information on how energy flows through Oregon, from production and imports to use and exports, the state’s overall and sector-based energy use, energy production and generation, energy expenditures, and the strategies Oregon has employed to meet growing energy needs.

Next up is a snapshot of the **Timeline of Energy History in Oregon**. This interactive tool enables readers to move through the years and learn more about what has shaped the state’s energy history. Photos, videos, and audio clips accompany the timeline events. View the history timeline online: <https://energyinfo.oregon.gov/timeline>

The **Resource and Technology Reviews** section covers new and innovative technologies that could play a role in Oregon’s energy future, and in this edition of the report include enhanced geothermal electricity generation and fusion power. The topics covered are prevalent in Oregon or of interest to ODOE’s various stakeholders.

The **Energy 101** section aims to help readers understand the basics: how energy is produced, used, and transformed. Information is meant to provide a foundation for those new to energy and those who are already steeped in the sector. Topics this year range from home energy scoring and utility rate increase drivers to energy resilience and the nexus between energy and water.

The final section includes more detailed **Project Updates** that provide information about ODOE’s Energy Security Plan and Oregon Energy Strategy.

The focus of the 2024 report is to cover relevant aspects of Oregon’s clean energy transition. Even as we work to move to cleaner energy resources, climate change is increasingly taking a toll on our energy systems. At the same time, energy demand is growing faster than it has in several decades, led by the proliferation of data centers and industrial growth. It will require innovative technologies, economies, and investments to meet these challenges, many of which are highlighted in this or previous reports.

The report also provides information on how meeting these challenges also comes with opportunities. Home Energy Scoring gives buyers more certainty about future energy costs and creates more local jobs. Installing more solar and wind generation helps Oregon meet climate goals and uses less water. Reducing waste energy through energy efficiency and conservation also reduces energy costs, makes resilience measures more efficient, and reduces greenhouse gas emissions.

While the challenges are great, this report empowers Oregonians with data and information to make informed energy choices to address these challenges and take advantage of opportunities to create a safe, equitable, clean, and sustainable energy future.

The Biennial Energy Report may be found in its entirety at

<https://energyinfo.oregon.gov/ber>

or

<https://www.oregon.gov/energy/Data-and-Reports/Pages/Biennial-Energy-Report.aspx>

The Department of Energy welcomes comments, questions, and requests for presentations or webinars on report topics. Visit <https://odoe.powerappsportals.us/en-US/ber-comment/>.





We are in the midst of a significant energy transition. Energy technology and the way that energy consumers interact with it is rapidly developing. Oregon has bold clean energy targets, including 100 percent clean electricity by 2040, achieving greenhouse gas emissions levels that are 45 percent below 1990 levels by 2030, a 100 percent zero emission vehicle sales target by 2035, and others. At the same time we are working to achieve these ambitious goals, Oregon is already experiencing the effects of climate change, from extreme weather to natural disasters like wildfires made worse by climate change. Transitioning our energy systems while adapting to climate change is a daunting task, and the state has choices to make about how we will do it. What are the best pathways that we can take to reach these big goals while ensuring that all Oregonians can be part of an equitable and affordable clean energy future? What steps do we need to take now to position us for future success?

Two years ago, when the Oregon Department of Energy last published this Biennial Energy Report, we left readers with an idea:

“The state would benefit from an energy strategy to align policy development, regulation, financial investment, and technical assistance in support of an intentional transition to a clean energy economy. This strategy could identify specific pathways to meet the state’s policy goals that maintain affordability and reliability, strengthen the economy, and prioritize equity while balancing tradeoffs to maximize benefits and minimize harms. Ultimately, this strategy could be used to make informed decisions and motivate action.”

The Oregon Legislature agreed, and in 2023 directed ODOE to develop an Oregon Energy Strategy. We are well underway on the project, engaging with other state agencies, energy experts, community partners, Tribes, and the public as we dive into data and policy analysis. Over the next year, we’ll review different energy scenarios, modeling results, and potential actions Oregon can take to achieve an equitable clean energy future. We look forward to presenting the new energy strategy in November 2025.

Our agency also recently looked at energy security in the state and published a new Oregon Energy Security Plan in September. The plan outlines the state’s current energy infrastructure, quantifies threats and hazards that cause energy insecurity, and identifies potential measures the state and our partners can implement to manage risk and strengthen Oregon’s energy security.

With these significant projects in mind, ODOE considered topics for this year’s Biennial Energy Report that could support discussions and planning for an equitable and secure clean energy transition. We chose emerging technologies and resources that could contribute to clean energy goals, such as enhanced geothermal electricity generation and fusion power. Building on the foundation of past reports’ Energy 101s, we identified new topics like advancements in clean hydrogen, agrivoltaics, day-ahead markets, and other

areas that Oregon’s energy experts and leaders are thinking about as we forge ahead. We tried to answer questions like what is driving recent electricity rate increases and what options do we have that could reduce the need to build new transmission lines, which can be expensive, time-consuming, and have effects on ratepayers, the environment, and local communities.

As with past reports, we start with Energy by the Numbers – a section that lays out data, trends, and indicators that illustrate Oregon’s current energy landscape. One trend that the report reflects this year is a rise in electricity use – as Oregon’s population grows, new industrial loads like data centers are introduced, and extreme weather leads to increased installation and use of air conditioning and heating. We also take a look back, with new moments of interest on our interactive Energy History Timeline, including a modernized Oregon Climate Action Commission, a significant federal investment in Pacific Northwest clean hydrogen, and other new milestones.

In service of our mission, ODOE provides a venue for problem-solving Oregon’s energy challenges – like developing a new Oregon Energy Strategy – and we act as a central repository for energy data, information, and analysis. We’re proud to serve in this role – and to produce this biennial report to help keep Oregon on the leading edge of energy policies, technologies, and trends.

We hope you will use this information to engage in discussions and consider options for addressing the energy challenges we face today. Join us for discussions in 2025 as we continue working toward a new Oregon Energy Strategy. Reach out to us anytime to have a conversation, explore solutions, or request a workshop or presentation on an energy topic for your organization or community.

In 2025, the Oregon Department of Energy will celebrate its 50th year of public service — and we’re already looking ahead to the next 50. Let’s work together to chart a course to a safe, equitable, clean, and sustainable energy future.



Director Janine Benner
Oregon Department of Energy



Tribal Land Acknowledgement

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. We would like to express our respect to the First Peoples of this land, the nine federally recognized Tribes of Oregon: 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.

It is important that we recognize and honor the ongoing legal and spiritual relationship between the land, plants, animals, and people indigenous to this place we now call Oregon. The interconnectedness of the people, the land, and the natural environment cannot be overstated; the health of one is necessary for the health of all. We recognize the pre-existing and continued sovereignty of the nine federally recognized Tribes who have ties to this place and thank them for continuing to share their traditional ecological knowledge and perspective on how we might care for one another and the land, so it can take care of us.

We commit to engaging in a respectful and successful partnership as stewards of these lands. As we are obliged by state law and policy, we will uphold government-to-government relations to advance strong governance outcomes supportive of Tribal self-determination and sovereignty.

About the Oregon Department of Energy

Our Mission

The Oregon Department of Energy helps Oregonians make informed decisions and maintain a resilient and affordable energy system. We advance solutions to shape an equitable clean energy transition, protect the environment and public health, and responsibly balance energy needs and impacts for current and future generations.

Our Values

- We listen and aspire to be inclusive and equitable in our work.
- We are ethical and conduct our work with integrity.
- We are accountable and fiscally responsible in our work and the decisions of our agency.
- We are innovative and focus on problem-solving to address the challenges and opportunities in Oregon's energy sector.
- We conduct our agency practices and processes in a transparent and fair way.

Our Position

On behalf of Oregonians across the state, we achieve our mission by providing:

- A Central Repository of Energy Data, Information, and Analysis
- A Venue for Problem-Solving Oregon's Energy Challenges
- Energy Education and Technical Assistance
- Regulation and Oversight
- Energy Programs and Activities

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