About the Report

The Oregon Department of Energy is pleased to present the 2026 Biennial Energy Report – the fifth iteration since the inaugural report was published in 2018.

The primary purpose of the report, as directed in ORS 469.059, is to inform local, state, regional, and federal energy policy development, planning, and investments, and to identify opportunities to further the energy policies of the state. To do this, ODOE, the state's dedicated energy office, collects critical energy data and information and analyzes what they mean for Oregon.

The report evolves based on Oregonians' current interests and inquiries about energy resources, policies, trends, and forecasts across the state. The biennial nature of the report provides a "go-to" document and reliable agency process that is timely and responsive to external partners, Tribes, communities, and the public. Ultimately, the Biennial Energy Report is meant to serve as a trusted, data-driven platform for conversations on emerging issues and policies, informing energy goals and strategies for the future.

Scoping & Development

As directed by statute, ODOE "shall seek public input and provide opportunities for public comment during the development of the report." The agency conducts broad outreach to collect feedback from diverse audiences and perspectives, which is intentionally done early in the scoping process to inform content development. In addition, other agency programs and projects reach out and collect feedback that can inform the Biennial Energy Report, allowing for those questions and ideas to be explored through infographics, Energy 101 articles, and more. The development of the Biennial Energy Report process also aligns with ODOE's Strategic Plan strategy to conduct proactive, inclusive collaboration and communication.

Development of the report also includes process objectives:

- Meet statutory requirements while engaging with new people and organizations, including historically and currently underserved populations and communities.
- Focus on content that is relevant and timely to stakeholder interests and responds to questions from Oregonians across the state.
- Ensure collection of stakeholder input and data is integrated with and complementary to other agency engagement and activities.

This year, Oregon Department of Energy developed content for this report bearing in mind the findings and recommendations from recently or soon-to-be-released agency work products. These included the 2025 Oregon Energy Strategy and Energy Security Plan, as well as the development of the most recent Transformative Integrated Greenhouse Gas Emission Reduction, or TIGHGER, forecast. These agency products serve as guiding documents for energy and climate policy development taking

into consideration outcomes for Oregonians and Oregon's economy. In addition to gathering input specifically about what people and organizations wanted to see in the Biennial Energy Report, ODOE leveraged extensive outreach and engagement supporting these other projects to identify key questions about energy policy that informed the topics for the 2026 report.

The 2026 report includes new assessments of emerging clean energy technologies that could support Oregon's transition to a clean energy future. This addition is responsive to Governor Tina Kotek's Executive Order 25-29, which directed ODOE to evaluate opportunities and risks associated with nascent technologies and propose cross-agency frameworks to support technologies that can help Oregon maintain affordable, safe, and reliable resources. The EO designated ODOE to produce this information in this Biennial Energy Report, and to continue to assess progress in emerging energy technologies in future reports.

ODOE used Artificial Intelligence, or AI, as a tool in the development of the report. AI resources were used for research, primarily identifying data and information resources. AI was also used in developing rough drafts of information, which authors used as a starting point for drafting material. ODOE limited its use of energy-intensive AI requests, such as drawing pictures, wherever possible. AI was not used to directly produce any of the content in this report. All written content and numerical data analysis was collected, developed, and validated by ODOE staff.

Drafting & Implementation

Beyond topic selection, the agency's strategic plan informed decisions on content scoping for drafting the report.

Proactive, Inclusive Collaboration and Communication: The project team incorporated stakeholder feedback and inquiries from prior engagement efforts during development, including:

- **Equity considerations**: What unique equity implications arise with each policy topic?
- **Partner needs**: What questions are our agency partners asking about energy policies and potential approaches?
- **Information gaps**: Which energy concepts require foundational context, and which demand deeper policy analysis?
- **Legislative foresight**: What energy policy issues are likely to emerge in the next legislative session?

To answer these, ODOE used targeted outreach and public input, supplemented by insights gathered during legislative hearings, in media coverage, from energy and community experts, and within the energy forums in which the agency participates. These efforts ensured that collaboration was not only proactive and inclusive—but deeply informed by the community's voices.

Reliable, Responsive Data and Analysis: Every biennium, the Biennial Energy Report project team evaluates opportunities to enhance the report's data reliability and analytical rigor. This assessment focuses on ensuring objective reporting and delivering high-quality data, including the adoption of modern data management, analysis, and visualization technologies. To maintain data integrity, the process includes multi-tiered oversight and review:

- Agency narratives undergo **internal accuracy checks** and external review by partner agency and university experts.
- Numerical datasets are **validated against source data**, with internal verification of calculations to uphold report accuracy and quality.
- Any decision to add new data sources or modify inputs is scrutinized by internal data analysts and **approved by the project team**.

Additionally, the report development process strengthens internal capacity—enhancing staff expertise in data management, analytics, and modern reporting methods—with direct benefits for ODOE's organizational resilience.

Resources

Project Website: ODOE hosts a public website for the Biennial Energy Report: https://www.oregon.gov/energy/Data-and-Reports/Pages/Biennial-Energy-Report.aspx. The website includes a link to sign up for email updates, online comment form, and materials from past reports and presentations.

Online Comment Form: ODOE continues to provide a portal to collect feedback on the Biennial Energy Report: https://odoe.powerappsportals.us/en-US/ber-comment. Depending on the type of input and timing, the project team will continue to incorporate comments into report development processes and scoping for future reports.

Webinars and presentations: ODOE staff are available to make presentations in person and virtually on the Biennial Energy Report; an overview or on specific topics and sections. Past webinars are posted on ODOE's website and new materials are provided throughout the year. Organizations and communities interested in specific presentations can submit a request through the online comment form.

energyinfo.oregon.gov/BER

www.oregon.gov/energy/Data-and-Reports/Pages/Biennial-Energy-Report.aspx

About the Data

The Oregon Department of Energy helps Oregonians make informed decisions about their energy choices and advances solutions that will shape an equitable, clean energy transition. ODOE serves as the state's central repository of energy data, information, and analysis, and fulfills this role through rigorous data collection, production standards, and quality assurance protocols. The agency assesses the quality of data based on its relevance to Oregon, its credibility, and its comprehensiveness. In alignment with the statutory requirements for the report, common data and analyses found in the report include:

- Energy consumption, expenditures, and costs
- Generation and transmission
- Production, imports, and exports
- Energy sectors, markets, and jobs
- Technologies and resources, including facilities
- Energy efficiency and conservation
- The effects of energy use, including greenhouse gas emissions

ODOE's preference is for Oregon-specific data, supplemented with national data to fill in gaps or provide context for Oregon's place within a larger energy landscape. For example, Oregon's Electricity Resource Mix and Transportation Sector Fuel Consumption charts were developed from Oregon-specific data sources, rather than using U.S. Department of Energy estimates. ODOE relied on government agencies, academic institutions, and trusted partners with credible and peer-reviewed data and information. Finally, the most thorough and comprehensive datasets from these sources were prioritized, depending on how they could best illuminate specific sectors, markets, resources, and trends.

Common data sources used in development of the report include:

- Federal/National: U.S. Energy Information Administration (EIA); U.S. Department of Energy; the National Labs; U.S. Environmental Protection Agency, U.S. Federal Highways Administration; U.S. Census Bureau; U.S. Department of Health and Human Services; American Council for an Energy-Efficient Economy (ACEEE); Center for Neighborhood Technology (CNT); ASHRAE
- Regional: Northwest Energy Efficiency Alliance; Northwest Power and Conservation Council; Bonneville Power Administration; Energy Trust of Oregon
- State: Oregon Department of Energy; Oregon Department of Transportation; Oregon Housing and Community Services; Oregon Public Utility Commission; Oregon Department of Environmental Quality; Oregon Department of Land Conservation and Development; Oregon Health Authority; Oregon Department of Administrative Services, Oregon Department of Geology, Minerals, and Mining; Portland State University
- Utilities and energy service providers
- Energy associations and organizations

Notable changes have been made to both the methodology and collection of data used in recent iterations of the report.

The biggest change relates to U.S. Energy Information Administration State Energy Data System (often referred to as SEDS), which is the data source behind much of the Energy by the Numbers section. The EIA converts all forms of energy use into British thermal units, or Btu. This conversion helps compare and contrast energy consumption across different energy types, including electricity and fossil fuels. For electricity, this is calculated by comparing the primary fuel combusted – natural gas or coal – with the amount of electricity generated. For noncombustible generation resources, such as hydroelectric, geothermal, solar, and wind, this value must be a proxy or estimated value because there is no fuel combusted to produce the electricity. The EIA instituted a change in how this is calculated in 2023.

Prior to the publication of the 2024 Biennial Energy Report the EIA used a "fossil fuel equivalency" method, which applies a proxy value for Btu for these resources based on a calculation that averages fuel consumption for all fossil-based generating plants. This proxy value represents the energy consumed as if the electricity were generated by fossil fuels. This value changed year-to-year as combustible generation changed. Currently, EIA utilizes a "captured energy approach," which applies a constant conversion factor based on the heat content of electricity itself. This is a static value and is more consistent with international energy calculations. The value of the static captured energy approach proxy is lower than the fossil fuel equivalency value. This change in the data's methodology was first reflected in the 2024 report.

The change created some anomalies in historical renewable energy consumption data presented in the report. This is because it produces significantly lower values for total electric energy consumption, driven by the lower calculated consumption for the noncombustible hydro, solar, wind, and geothermal resources serving Oregon load. In most cases, overall trends in consumption data remain consistent with previous reporting, although anomalies can be seen in some year-to-year comparisons between data presented in the 2020 and 2022 Biennial Energy Reports. Other updates to the data analysis resulted from changes to data sources for two topics in Energy by the Numbers: the County Profiles and Oregon's Electricity Resource Mix.

Prior to the 2024 report, ODOE used Oregon Department of Housing and Community Services' County Profiles Dashboard as the data source for home energy burden costs. The data provided in the OHCS dashboard is necessarily focused on housing accessibility and affordability. Because the purpose of the Biennial Energy Report is to provide key information on the accessibility and affordability of energy services, ODOE analyzed the primary data sources that inform the OHCS dashboard to produce energy-specific information with county-level demographic data. In addition, we previously used the Home Energy Affordability Gap analysis (developed by the public finance & general economics firm, Fisher Sheehan & Colton) to provide data on the estimated number of households experiencing energy burden by county. Fisher Sheehan & Colton discontinued annual updates for this source data, so ODOE developed a similar energy burden analysis using a mix of federal and state data sources. These include: demographic, median income, housing characteristics, and housing tenure data from the U.S. Census Bureau; utility statistics data from the Oregon Public Utility Commission; federal poverty thresholds from the U.S. Department of Health and Human

Services; and the Housing and Transportation Affordability Index from the Center for Neighborhood Technology.

The data presented in Oregon's Electricity Resource Mix also changed, affecting how electricity market purchases are presented. Prior to 2024, ODOE contracted with the State of Washington to assess the electricity generating resources that contribute to wholesale electricity purchases in the region. However, the expansion of west wide wholesale markets in the last several years added a degree of complexity to the analysis, and ODOE determined that the assumptions used previously were no longer viable. Beginning in 2024, ODOE uses data on electricity produced for Oregon consumers from the Oregon Department of Environmental Quality's Greenhouse Gas Reporting Program. This process ensures consistency of energy data across state agencies and eliminates duplicative reporting requests for utilities. While this change to the production of the ERM is more efficient and consistent, it does not include data on a specific resource mix for utility market purchases. Therefore, market purchases are listed as a total amount and labeled as "Unspecified," rather than split into a specific mix of resources.

Data presented on in-state electricity generation facilities continue to be modified and improved. Data were updated to not only include new facilities and remove resources that were retired, but ODOE also conducted an audit of the data and identified several generators serving the same facility that were listed as separate facilities. The data now align with the U.S. EIA in how it identifies generators at the same facility – with unique identifiers assigned based on how the site was permitted and installed. Where ODOE found generators at the same site and with the same unique EIA identifier listed separately, the information was consolidated under a single facility. This process led to a reduction in hydropower sites since the last report.

ODOE does not use EIA data for reporting total electricity generation capacity. Instead, we determined the best available data was our energy facilities database, which includes information on specific resources provided by utilities, developers, and the Energy Facility Siting Council. This information was also used to validate the EIA Power Plant Operations Report for measuring total annual generation of Oregon electricity generation facilities by energy resource and total number of resources. This process provided the most consistency in data availability across the various electricity generating resources used in-state.

Data sources were updated in the production of two summation charts that are featured prominently in Energy By the Numbers: 'Consumption by Sector' and 'Consumption by Source.' In previous reports, we utilized ODOE's internal Transportation Fuels Dashboard total consumption value for the Transportation sector value in the 'Consumption by Sector' chart and the Transportation fuels consumption value in the 'Consumption by Source.' We also used the annual total consumption value from our Electricity Resource Mix to represent Electricity's contribution to the 'Consumption by Source' chart. For this report, we sourced the Transportation consumption values and the Electricity value from the EIA State Energy Database System, which provides the total consumption values for the other energy sectors. This was done to provide consistency between energy consumption sector and end use sector values broadly. However, data presented for more granular breakouts of specific fuels use data from DEQ's Clean Fuels Program and ODOT's Aviation Fuel Tax program. Prior to the

2028 report, ODOE will assess the potential to include the state-provided data into the higher sector-wide data sets.

ODOE chose to report data from 2024 because it is the most recent data available from the EIA, and we attempt to match that year's data for all data sources. However, because 2024 data was not yet available from Oregon DEQ's greenhouse gas emissions inventory, ODOE used the 2023 data from that program. Federal emissions data was used in a small number of places in the report, and in these instances 2024 data was used. These are denoted in the report narrative.

It's important to note that data reported between 2020 and 2022 were influenced by changes in energy consumption resulting from the response to the COVID-19 pandemic. This led to many data points for these years that do not align with prior trends. With this report, more information is known about if and how energy trends have rebounded since the pandemic, which are described in more detail in the narrative.

We are proud of this report and how the data have been presented. ODOE is a steward of accurate, reliable, and credible data, which we achieve through attention to detail, standardized data management practices, and continual efforts to improve and expand our data capabilities. This is crucial to a data-driven report about Oregon's energy resources, activities, trends, and forecasts, and the data and analysis presented is foundational to making energy decisions that affect all Oregonians. If you identify any potential data quality issues or know of more representative or complete data sets that can be used in future reports, please reach out to us: https://odoe.powerappsportals.us/en-US/ber-comment/.

The agency, in collaboration with our many data partners, will continue to strive to be a central resource for sound and objective energy information and ensure the report reflects the most accurate and relevant data for Oregon.

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