



OREGON
DEPARTMENT OF
ENERGY

Energy Advisory Work Group

Meeting Materials
October 3, 2019



Oregon

Kate Brown, Governor



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AGENDA

Energy Advisory Work Group

Thursday, Oct 3, 2019

1:00 p.m. to 2:10 p.m.

Meitner Conference Room

Welcome and Director's Update Recent Activities Update from the Governor's office	Janine Benner, Director Kristen Sheeran, Energy and Climate Change Policy Advisor	20 min
EAWG Roundtable: Introductions and Updates	All	15 min
HB 2618 Bill Implementation : Solar and Solar+Storage Rebate Program	John Hobbs	10 min
Feedback from EAWG: Next Biennial Energy Report	All	20 min
Closing Comments	Janine Benner	5 min

Items and times listed on the agenda are approximate and may change.



Oregon

Kate Brown, Governor



To: Energy Advisory Work Group Members

From: Janine Benner, Director

Date: September 26, 2019

Re: Materials for Oct 3, 2019 Meeting

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I am looking forward to our Energy Advisory Work Group meeting on October 3, 2019. Our agenda is shorter than usual to reserve time for you to meet separately with the Coraggio Group, our strategic planning consultant, after the public portion of the meeting.

At our last EAWG meeting, we ran out of time to cover your review and recommendations on the Biennial Energy Report, so we have included more time on the agenda to discuss the BER. We have re-attached the Biennial Energy Report Summary document in this meeting packet and have included specific questions in the summary document to help guide your thinking and feedback. ODOE staff will also provide an update on the new Oregon Solar + Storage Rebate Program that the agency is implementing following HB 2618, which passed the Oregon Legislature earlier this year.

As always, I'm looking forward to hearing from you during the roundtable. I hope you come prepared to share information about current and upcoming projects you're working on that ODOE and fellow EAWG members should know about.

In this meeting packet, we have included the following materials:

- Meeting Agenda
- Materials for Director's Update:
 - Governor's Letter regarding Oregon Statewide Transportation Strategy (STS)
 - Summary on Boardman to Hemingway (B2H) transmission line project
 - Summary on DoD Grant for Renewable Energy Study
 - Summary on Energy Efficiency in Oregon
 - Summary on Electric Vehicles in Oregon
 - Summary on Western Energy Imbalance Market
 - Summary on Oregon's Fuel Action Plan
 - Announcement on Renewable Energy Development (RED) Grant Awards
 - Summary on Oregon Guidebook for Local Energy Resilience
 - Summary on Renewable Natural Gas / Biogas
 - Letter to Oregon Delegation on Hanford
- Update on HB 2618: Summary of Solar and Solar + Storage Rebate Program
- Feedback from EAWG: Next Biennial Energy Report Document for Review/Recommendations

Please don't hesitate to reach out with questions. See you next week.

Janine Benner
Director, Oregon Department of Energy

Materials

For

Director's

Update



KATE BROWN
Governor

September 23, 2019

Bob Van Brocklin
Oregon Transportation Commission
Kris Strickler
Oregon Department of Transportation
355 Capitol St. NE
Salem, OR 97301

Jerry Lidz, Robin McArthur
Land Conservation and Development Commission
Jim Rue, Director
Department of Land Conservation & Development
635 Capitol St. NE # 150
Salem, OR 97301

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

Kathleen George
Environmental Quality Commission
Richard Whitman, Director
Oregon Department of Environmental Quality
700 NE Multnomah St., Suite #600
Portland, OR 97232-4100

Dear Colleagues,

I urge your Commissions and agencies to combat the impacts of climate change by implementing the Statewide Transportation Strategy (STS) as adopted by the Oregon Transportation Commission.

One of the most cost effective strategies to reduce greenhouse gas (GHG) emissions from the transportation sector in Oregon is to integrate land use and transportation planning in ways that reduce the frequency and distance that people must drive. Compact, mixed-use cities with plenty of options for walking, cycling, and public transit not only reduce per capita GHG emissions but also provide the most equitable transportation access for every resident.

By adopting the STS in 2018, the Oregon Transportation Commission provided the tools that every metropolitan jurisdiction needs in order to develop and implement land use and transportation plans that will reduce GHG emissions from the transportation sector. It is now time for your four agencies to organize an implementation plan for the STS.

Like the Department of Environmental Quality and the Department of Energy, DLCD and ODOT are climate change agencies, and going forward all state and metropolitan transportation planning work needs to be designed to support achieving the state's GHG reduction goals.



September 23, 2019
Page 2

As you begin this work, I would like to propose the following:

- The establishment of GHG emissions reduction performance measures.
- Implementing a Transportation Planning Rule that directs transportation plans of metropolitan jurisdictions to meet their GHG reduction targets.
- That ODOT identifies options for financial and technical assistance to the metropolitan jurisdictions to utilize in crafting transportation/land use scenario plan(s) that meets their GHG reduction target.
- That responsibility for the implementation and integration of the STS be at the highest level of the agency, with regular and direct reporting to the Governor's Office and respective commissions.

Please be assured that the Governor's office will be closely involved in this effort. I welcome your feedback and appreciate the enthusiasm you and the agencies you oversee have expressed to begin this work. Now is the time.

Sincerely,

A handwritten signature in black ink that reads "Kate Brown" with a horizontal line extending from the end of the name.

Governor Kate Brown

KB, bf, ejhr

cc: Karmen Fore, Director, Oregon Solutions

Boardman to Hemingway Transmission Line

The Boardman to Hemingway Transmission Line Project (B2H) is a proposed 300-mile, 500-kilovolt (kV) transmission line that would extend between southwest Idaho and Boardman, Oregon. The applicant is Idaho Power Company.

Background

Idaho Power Company first proposed B2H in 2007. PacifiCorp and Bonneville Power Administration (BPA) joined the project as funding partners with Idaho Power in 2012. Idaho Power's 2017 Integrated Resource Plan identified B2H as part of the preferred portfolio of resources to serve customer demand. The Oregon Public Utility Commission acknowledged Idaho Power's 2017 IRP, including both the continued permitting as well as construction and operation of B2H. The proposed route would cross both federal, state, and private land and as such, requires approvals from both the federal government and state government.

Federal Siting

The Bureau of Land Management is the lead federal agency. In 2017, after review through the National Environmental Policy Act process, the BLM granted authorization for Idaho Power to place the B2H line on BLM-administered lands. In 2018, the U.S. Forest Service authorized the project to cross USFS-administered land. Additional review is still ongoing by the Department of the Navy, as a short segment of the project is proposed on Navy-owned land in Morrow County, Oregon.

State of Oregon Role

The governor-appointed Energy Facility Siting Council is responsible for administering Oregon's environmental review and permitting program. The Oregon Department of Energy's Energy Facility Siting Division provides technical and administrative staffing to EFSC. The project is currently under review by EFSC and ODOE.

In May 2019, ODOE released its draft proposed order, assessing the proposed project's compliance with Oregon rules and statutes regarding siting of high-voltage transmission lines. The release of the draft proposed order also opened a public comment period. That comment period was more than 90 days, concluding on August 22, 2019. Additionally, EFSC held five public hearings in June 2019, where members of the public were able to provide oral testimony on the proposed project and draft proposed order directly to EFSC. Those hearings occurred in each of the five Oregon counties through which the proposed project would travel.

Next Steps

Idaho Power has until September 23, 2019 to respond in writing to the public comments. Following the response by Idaho Power, ODOE staff will prepare and release its proposed order, in which it will address all issues raised in comments on the record. At the same time as the release of the proposed order, ODOE will also issue notice of a contested case, an evidentiary-based hearing process run by an independent administrative law judge serving as a hearing officer. Following conclusion of the contested case, EFSC will review the full record and make a decision on the proposed facility's compliance with Oregon's siting standards and other applicable rules and statutes. It is anticipated that this will occur near the end of 2020 or early 2021.



Department of Defense Grant Compatible Renewable Energy Project Summary

The Oregon Department of Energy (ODOE), working with the Department of Land Conservation & Development and the Institute for Natural Resources (INR), developed a renewable energy study proposal for consideration by the Department of Defense Office of Economic Adjustment (OEA). OEA considers grant applications on a rolling basis, subject to the availability of funds appropriated from Congress. Adjoining states, such as Washington and California, have received funds for similar studies on renewable energy development.

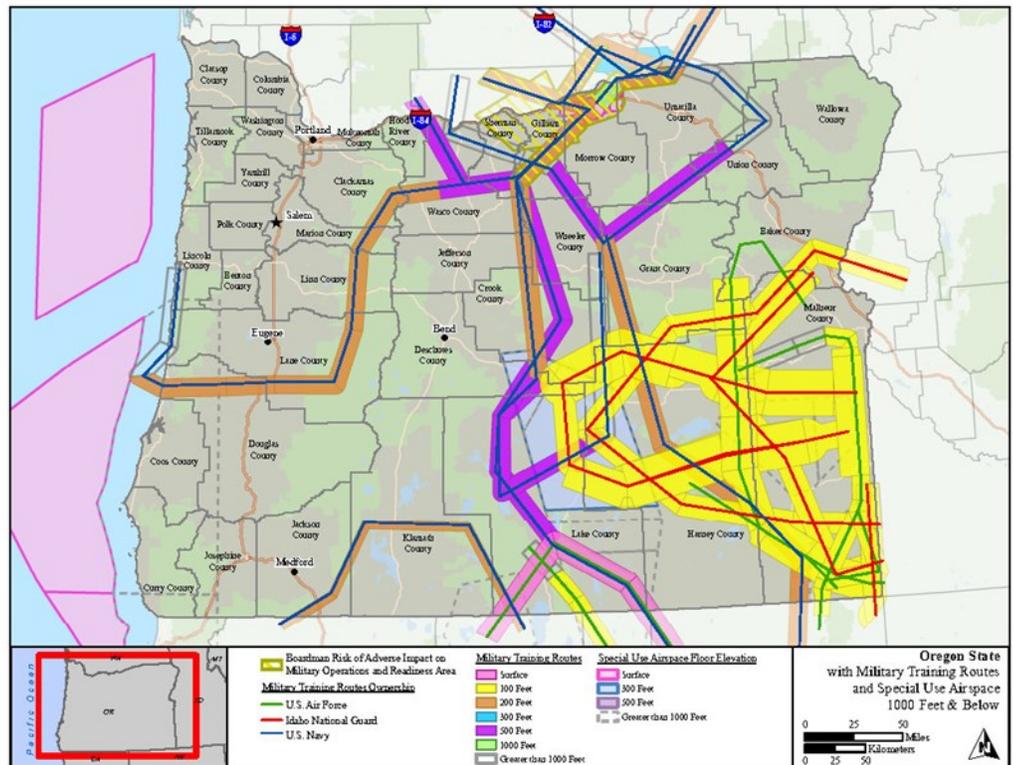
Application Timeline

ODOE submitted the grant application on July 29, 2019. On August 14, 2019, ODOE learned that the grant application was successful and that OEA supports the proposed project at the full requested federal grant amount of \$1,075,258 over an 18-month project period, with a state cost-share of \$119,473. ODOE received retroactive authorization from the legislature for these funds on September 18, 2019.

Project Need

Continued renewable energy development is anticipated in Oregon in the coming decades, particularly solar energy, wind energy, off-shore wind, and associated transmission line development (see drivers for renewable energy development in Oregon's 2018 Biennial Energy Report, Chapter 3, page 4*).

Developing these energy resources involves balancing issues related to natural resources, land use, environmental impacts, noise concerns, and cultural and archeological artifacts (among others) through processes at all levels of government – federal, state, and local.



*<https://www.oregon.gov/energy/Data-and-Reports/Documents/BER-Chapter-3-Renewable-Energy.pdf>

Industry Drivers

The federal Renewable Identification Numbers (RINs), plus either Oregon Clean Fuel Program credits or California Low Carbon Fuel Standard credits, can make RNG less expensive than buying fossil-fuel produced natural gas for fleets. Thermal gasification of commercial timber harvest residuals and agricultural residuals is not yet economically viable, but with sufficient development incentives, significant markets could be opened for waste wood from federal forest fire management and forest health actions. This newly opened market could in turn help fund fire and health management activities in federal and state forests that are underfunded now, and help accelerate measures to reduce wildfire on forest lands.

Existing Funding Mechanisms to Support RNG Development

USDA. Rural Energy for America Program Renewable Energy Systems & Energy Efficiency Improvement Guaranteed Loans & Grants (applicable to digester development).

USDOE Bioenergy Technologies Office (BETO). Will fund two research efforts in 2019; one to optimize small digester conversion of carbon and cost reduction measures, and one to support academic research in production of bioenergy from urban and suburban waste streams.

HR 4137, Renewable Electricity Tax Credit Equalization Act. A newly-introduced measure in Congress would modify IRS tax code to extend tax credits to investments in energy properties and for electricity produced from certain renewable resources such as biogas-to-electricity projects.

Oregon SB 98 (2019). This new law will allow Oregon natural gas utilities to acquire and then sell RNG to their retail customers; and will allow them to recover costs of RNG infrastructure through utility rates. SB 98 is the only state or federal program to assist in the conversion of biogas to RNG and its subsequent injection into interstate pipelines or in other forms of transportation to get it to existing markets.

Potential Federal Funding Ideas

The basic structure of any RNG/Biogas project includes: 1) transporting the raw materials to the processing plant, e.g., a pipeline; 2) an anaerobic digester to break down the raw materials or a thermal gasification facility; 3) gas clean-up equipment; and 4) a fuel station, or compression station and pipeline injection equipment.

Dairy projects can be arranged in a hub and spoke configuration, with the pipelines (the spokes) bringing low pressure biogas from digesters located on farms to a central cleaning and compression facility located near an interstate natural gas pipeline (the hub), into which the RNG can be injected. A similar but different arrangement has a cluster of dairies pump a manure slurry to a central digester, and the digester plant pumps back the residual liquid digestate for the dairies to apply on their feed crops. Current federal programs support the digester development, but not the gas clean-up, compression facilities, nor the pipeline connection/injection point.

To realize the important benefits created by RNG projects (reduced greenhouse gases, improved air quality, energy security and independence, and resilience) these projects need economic incentives. RNG/Biogas projects tend to be capital-intensive, so increased access to capital can help make many projects economically viable. This can be accomplished through various funding mechanisms, such as loan guarantees, zero or low-interest loans, grants, or tax credits.

A different funding approach would be to provide price support or production incentives (\$/kWh) for the direct conversion of biogas to electricity. Due to current low electricity market prices, production of electricity using RNG/Biogas is not cost competitive, but a production incentive explicitly for RNG/Biogas-to-electricity facilities, similar to the wind incentive, can make them economically viable projects. For example, California has a program called the BioMAT program that provides an incentive for electricity produced from either biogas (from anaerobic digestion) or syngas (from thermal gasification).

Read ODOE's 2018 RNG Report: <https://www.oregon.gov/energy/energy-oregon/Pages/Alternative-Fuels.aspx>

Renewable energy and transmission projects also have effects on military training areas in Oregon and adjoining states, and may have a potential *future* effect on necessary military uses to prepare for future threats. Potential effects could include radar interference from wind facilities; low-level flight obstructions from tall structures such as wind turbines; electromagnetic interference from high-voltage transmission lines; and glint and glare from solar photovoltaic arrays near airfields. A recent Oregon example is the Fossil radar associated with the North American Aerospace Defense Command (NORAD), which has expressed concerns about the level of impacts from new wind energy projects. Meanwhile, there are parts of the state that have substantial renewable energy resources and facility potential. Local governments have benefitted from increased tax base and local economic growth through renewable energy project development.

Oregon has an opportunity to collect information about locations for current and future renewable energy and transmission development, and build an understanding of the constraints and opportunities that come with specific locations. The state can use this information to continue to support compatible renewable energy growth and economic development.

Project Proposal

The project area covers the entire state of Oregon, including marine waters. The key elements of the project involve:

- Establishing technical groups incorporating expertise from several agencies, such as the Oregon Military Department, Public Utility Commission, Department of State Lands, State Historic Preservation Office, and Department of Fish & Wildlife (among others).
- Completing compatibility assessments on military needs, renewable energy markets, and development constraints and opportunities that incorporate stakeholder, tribal, and local government feedback. Assessments would be supported by consulting services secured via state procurement processes.
- Reviewing and analyzing relevant state and local siting and permitting requirements and processes as they relate to military coordination and notification procedures.
- INR leading the development of a renewable energy siting mapping tool through GIS, which will layer relevant compatibility data (like environmental or military considerations). The mapping tool will be part of the “Oregon Explorer” online resource.
- Sharing the assessment and mapping tool with military personnel, renewable energy developers, utilities, Tribes, local governments, state agencies, stakeholders, and the public.

Key Deliverables

- Oregon Compatible Renewable Energy Siting Assessment Report
- Oregon Compatible Renewable Energy Siting Mapping Tool and associated GIS data layers (hosted by INR)

These deliverables will raise awareness of renewable energy compatibility needs, and will provide educational tools to identify potential project areas that have less conflict and that could support economic development.



Energy Efficiency in Oregon

Energy efficiency – doing the same work while using less energy – is the cornerstone of Oregon energy policy.

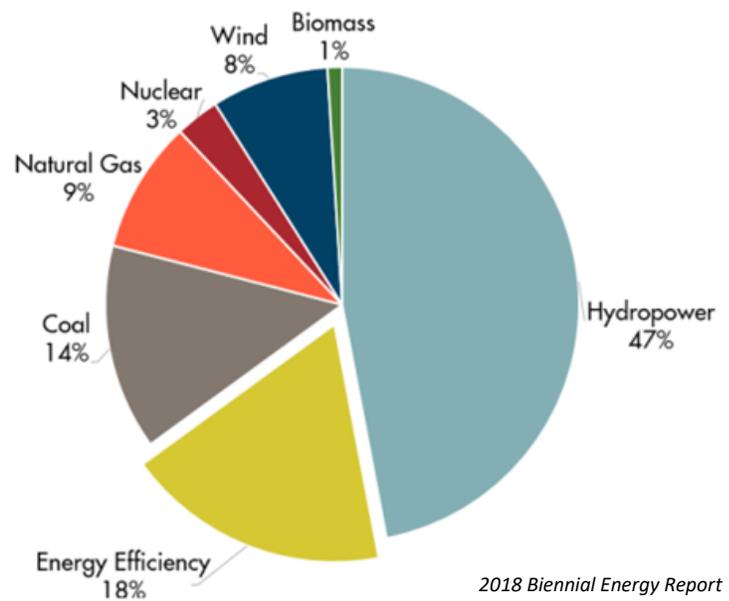
Oregon's efforts include a wide variety of methods to improve energy efficiency, including state programs, utility programs, codes, standards, and market transformation efforts. Energy efficiency has added benefits, including boosting resilience, fighting climate change, and promoting equity among energy consumers.

Energy Efficiency in Oregon

Efficiency is the second largest electricity resource in Oregon behind hydropower. In most cases, electric energy efficiency costs less than electricity generated by wind, solar, coal, nuclear, and natural gas. It is also inherently environmentally-friendly.

Energy efficiency is the priority resource to meet future load growth. It is relied on heavily in utility integrated resource planning, and is expected to cover about 85 percent of all regional load growth through 2030. In 2017, Oregon utility and public benefits programs invested more than \$182 million dollars in efficiency measures, including \$12.7 million in low-income energy efficiency programs.

Oregon Electricity Resources



How Oregon Compares

For 12 years in a row, Oregon has ranked among the top 10 most energy efficient states in the country, according to the American Council for an Energy-Efficient Economy (ACEEE). ACEEE's 2018 scorecard ranked Oregon at number seven. Oregon is joined in the top 10 by its west coast neighbors, with California in second and Washington at number nine.



Each year, the ACEEE releases its *State Energy Efficiency Scorecard*, which compares states based on six categories: utility and public benefit programs and policies, transportation policies, building energy codes, combined heat and power policies, state government-led initiatives around energy efficiency, and appliance and equipment standards. For the most part, scores are unaffected by legacy or prior activities, and each year is considered for the accomplishments in that year. Oregon expects another top 10 finish for 2019.

Energy Efficiency Programs

The Oregon Department of Energy leads Oregon's energy efficiency efforts through a variety of state programs and initiatives. A few highlights:

State Government Leading by Example

ODOE is working to implement Governor Brown's Executive Order 17-20, which included directives to improve energy efficiency, boost electric vehicle adoption, and support actions to reduce greenhouse gas emissions in the state.

Several directives are focused on state buildings, including establishing energy use intensity targets for all existing state-owned buildings and actions to meet the targets, identifying buildings that need retrofiting, and tracking overall energy use in state-owned building, among other directives.

Oregon Building Codes

Oregon's building codes are administered by the state Building Codes Division, including Energy Efficiency Specialty Code and Residential Specialty Code. ODOE staff provides technical expertise, outreach, and training to building and construction industry professionals about Oregon's codes, which are being updated to meet the goals in the Governor's EO 17-20.

Residential

- Oregon was one of the first states to have statewide building energy codes. According to Pacific Northwest National Laboratories, Oregon has one of the strongest codes — even better than national model codes.
- A 2020 code change will align Oregon code to equivalent building requirements in USDOE's Zero Energy Ready Home program.

Commercial

- Oregon is a historic leader in commercial building code. A 2019 code change will align Oregon code with the most recent and advanced national model energy code.
- Working toward an electric vehicle-ready building code, where parking structures for all newly-constructed buildings will be ready to support EV charging infrastructure by October 1, 2022.
- Working toward solar-ready building construction, where all newly-constructed buildings will be built to accommodate solar panel installations by October 1, 2020.

Home Energy Scoring

Home Energy Scoring helps homeowners and homebuyers better understand a home's energy use, and how even small improvements can make a big difference in energy savings. The Oregon Department of Energy developed a standard home energy scoring system, modeled after USDOE's system, to illustrate a home's energy efficiency and energy use.

In 2018, 11,714 Home Energy Scores were issued to new and existing Oregon homes.

Energy Efficient Schools

ODOE facilitates Public Purpose Charge funds from Oregon's largest investor-owned utilities. The funds support energy efficiency improvements in public schools, including new windows, upgraded heating and cooling, efficient lighting, and more.

A 2019 law will now allow public purpose charge funding to pay for electric school bus fleet conversions, charging infrastructure, and installation costs.

STATE CELEBRATES HALFWAY MARK TO 50,000 ELECTRIC VEHICLES ON OREGON ROADS

August 21, 2019

Contacts:

[Jennifer Kalez](#) (ODOE), 503-480-9239

[Susan Mills](#) (DEQ), 503-956-9648

[Tom Fuller](#) (ODOT), 503-480-5143

SALEM — The State of Oregon is celebrating a significant milestone today, as Oregon has reached 25,000 registered electric vehicles on our roads. This marks the halfway point to the state’s goal of at least 50,000 registered EVs by the end of 2020.

As of August 1, Oregon had 26,218 registered EVs, from plug-in hybrids to all-electric models. The Oregon Department of Transportation reports that of the registered EVs, the most popular rides for Oregonians are the Nissan LEAF, Tesla Model 3, and Chevrolet Volt.



Every Oregon county is helping to drive the change—Multnomah, Washington, and Clackamas counties represent about three-quarters of Oregon’s EV drivers. But less-populated counties are also plugging in. Counties with fewer than 100,000 residents represent more than 3,000 of the state’s registered EVs.

“More Oregonians are choosing electric vehicles, and with 25,000 EVs on Oregon’s roads, we are gaining momentum,” said Janine Benner, Director of the Oregon Department of Energy and happy EV owner. “We look forward to celebrating when we reach 50,000.”

The [50K by 2020](#) goal was identified by Governor Brown in Executive Order 17-21, signed in November 2017. The executive order detailed a series of responsibilities for state agencies to encourage and support the electrification of Oregon’s transportation system. “Transportation is the largest source of greenhouse gas emissions in Oregon, and EVs are a critical piece of the long-term solution to meeting our reduction goals,” said Richard Whitman, Director of the Oregon Department of Environmental Quality.

“ODOT has long supported electric vehicles as a way to improve sustainability, and we hope others around the nation will follow suit in promoting innovative approaches to electrifying transportation,” added Paul Mather, Deputy Director of the Oregon Department of Transportation.

With an array of [financial incentives and rebates](#), Oregonians can save big by making the switch to an EV. The Department of Environmental Quality’s Clean Vehicle Rebate Program offers savings of up to \$5,000 for qualifying EVs. Combined with a federal tax credit of up to \$7,500 and other local incentives, buyers can save about a third of the cost of some EV models. As of July 25, 2019, DEQ has awarded 2,401 rebates totaling about \$5 million.

Visit goelectric.oregon.gov to join the electric vehicle revolution, find available incentives, and discover how to charge at home and on the go.



News release emailed and posted online:

<https://energyinfo.oregon.gov/blog/2019/8/21/state-celebrates-halfway-mark-to-50000-electric-vehicles-on-oregon-roads>

Western Energy Imbalance Market (EIM)

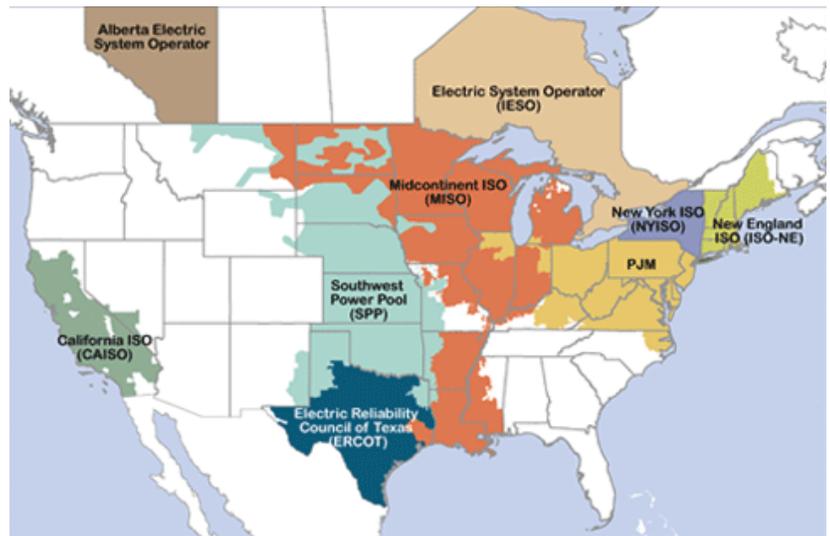
PacifiCorp (joined 2014), PGE (2017), BPA (evaluating)

Utility Resource Planning

- **Utility Resource Planning:** Electric utilities are constantly evaluating the availability of electric generating resources to meet their expected future demand for electricity
 - *Long-term:* Utilities will build their own generating resources or sign long-term contracts
 - *Short and medium-term:* Utilities will rely on shorter-term contracts of months or years, or will rely on spot market transactions to meet shortfalls in resources available to meet demand
- **Market Exposure:** Some utilities have more generating resources than they need to meet their demands and look to sell or export to others, while others rely more on the market to meet needs

Bilateral Markets vs. Organized Markets

- **Organized Markets:** Most areas of the United States are served by organized markets (administered by Independent System Operators, or ISOs—image at right) that centrally manage the least-cost economic dispatch of available electric generating resources on day-ahead and intra-hour (or real-time) time intervals
- **Bilateral Markets:** Most transactions for power in the Northwest, by contrast, occur via utility-to-utility bilateral transactions



Day-Ahead vs. Intra-hour (or real-time)

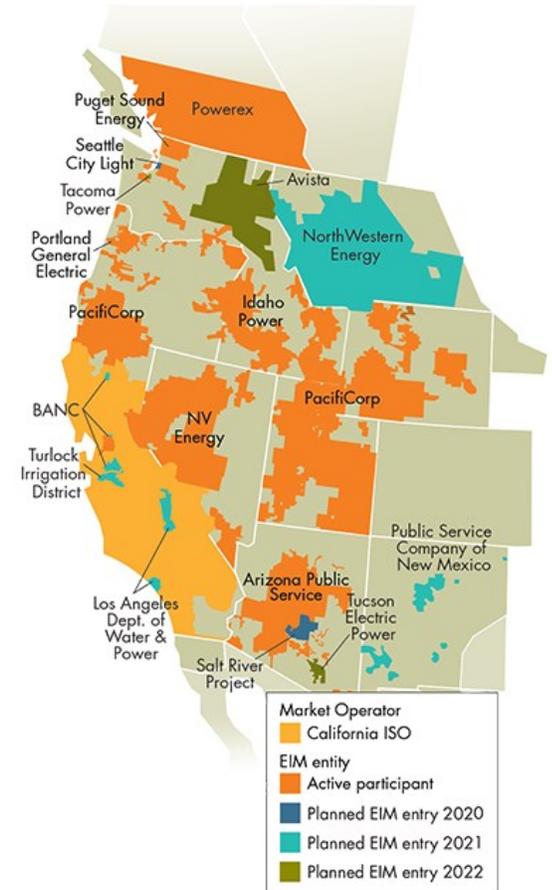
- **Day-Ahead:** Whether operating in an organized or bilateral market, utilities will forecast their demand for each hour of the day the following day and then will schedule resources (e.g., utility-owned resources or via an organized market) on a day-ahead basis to meet that demand.
- **Intra-hour (Real-time):** Utilities continually revise their expected load forecasts as they approach the hour. To the extent that utilities own generation, they may be able to ramp their generators up or down incrementally to match expected variations in demand. If utilities are short on available generation, they may look to buy energy in the real-time markets. On the flipside, if utilities have excess generation going into the hour, they may look to sell that energy in the real-time markets.

Western Energy Imbalance Market (EIM)

PacifiCorp (joined 2014), PGE (joined 2017), BPA (evaluating)

What is the Western Energy Imbalance Market (EIM)?

- An **intra-hour (or real-time) market** that dispatches resources on the basis of least-cost to meet participant needs for resources within the hour.
- The EIM dispatches resources across both **15-minute and 5-minute intervals**.
- An **EIM Governing Board** consisting of five members (nominated by a committee of stakeholders across the west) provides oversight, while the market physically operates out of the CAISO's real-time dispatch center in Folsom, California.



Benefits of EIM Participation

- Reduces costs for participants by serving intra-hour imbalances from the most economic resources across a wide area.
- Enhances reliability by improving system visibility.
- Results in more optimized dispatch of resources within and between utility control areas.
- Leverages geographical diversity of loads and resources.
- Helps to better manage transmission congestion.
- **Gross benefits of EIM participation as reported by the utilities (as of July 2019):**
 - PGE: \$53.03 million
 - PacifiCorp: \$214.43 million

What's Next for the EIM in the Northwest?

- **Bonneville Power Administration:** BPA has been evaluating the costs and benefits of joining EIM and released a letter to the region on the topic in Summer 2019. (Membership not expected until 2022.)
- **Governance Review Committee:** The EIM is currently assembling the GRC to engage stakeholders across the region to identify potential changes to EIM governance. ODOE has advocated for specific representation of the Northwest as a region and/or of public power interests on the EIM Board.
- **Extended Day-Ahead Market (EDAM):** There is an ongoing process to evaluate the potential to extend CAISO's Day-Ahead Market to the Western EIM. (Implementation not expected until 2022.)

Oregon Fuel Action Plan

As the designated lead State of Oregon agency on *Emergency Support Function 12: Energy*, which oversees the liquid fuels sector, the Oregon Department of Energy developed the nation's first all-hazards Fuel Action Plan, which ensures the state is ready to respond to any situation or emergency that threatens the fuel supply and distribution system in Oregon.

The Threat

Oregon imports 100 percent of the refined petroleum products used in the state — an estimated three billion gallons of fuel each year. More than 90 percent of Oregon's refined petroleum product comes from four refineries located in the Puget Sound area of Washington State, and is transported from the Washington refineries to Oregon via the 400-mile Olympic Pipeline and by barge to seven petroleum distribution terminals located near the Port of Portland. Oregon receives the remaining less than 10 percent of the state's refined petroleum products from refineries in Salt Lake City and the California Bay Area, which serve southern and eastern Oregon.



Since Oregon has no oil refinery capabilities, our petroleum distribution system is at risk of disruption in the event of a severe emergency like a Cascadia Subduction Zone earthquake. The Cascadia Subduction Zone stretches from Cape Mendocino in northern California to Brooks Peninsula on Vancouver Island in British Columbia, a distance of about 700 miles. Oregon is expected to experience a 9.0 earthquake with ground shaking for 4–6 minutes, which will cause massive critical infrastructure damage and a tsunami reaching some parts of the Oregon coast within 15 minutes of the quake.

Fuel Outlook Post-Cascadia

This event would devastate the region's petroleum supply and distribution system. Seismic studies anticipate moderate to significant damage to the region's refineries and petroleum distribution terminals. There will be widespread tank farm failures, marine dock collapses, pipeline system breaks, hazardous material spills, fires, and structural damage. Restoring the region's petroleum infrastructure would likely take months if not longer. In addition, the Olympic Pipeline that transports the majority of gasoline, diesel, and jet fuel to Oregon is projected to sustain as many as 250 breaks and 82 leaks. Oregon can expect to lose most of the normal incoming supply of fuel.

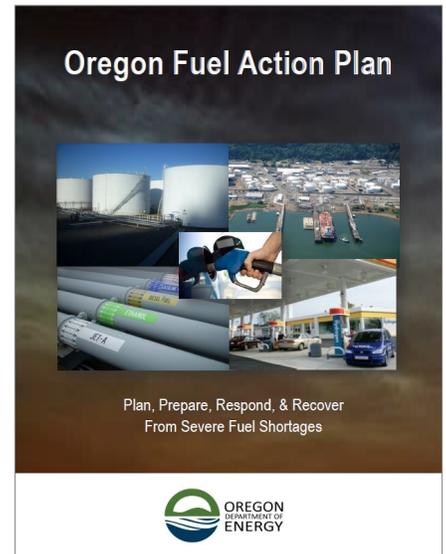
Oregon Fuel Action Plan

The Oregon Fuel Action Plan identifies nine priority actions the agency would take to acquire and deliver fuel in support of the state's response and recovery efforts in times of crisis.



It provides a framework of coordination among all levels of government, the military, and the petroleum industry to respond to petroleum shortages or disruptions. In a Cascadia earthquake or other major disaster, the plan establishes new temporary fuel supply chains into Oregon and identifies viable delivery systems to move fuel into the affected communities to assist emergency and essential services providers to save lives, restore critical lifelines services, and to protect public health and safety.

While the Fuel Action Plan is designed to address a Cascadia event, all strategies in the plan are flexible and can be scaled down in response to a wide range of events with potential effects to Oregon's fuel supply and distribution system like winter storms, fire season, industry accidents, and others:



2019 Spring Snow Storm: widespread power outages resulted from record-setting snow in the south Willamette Valley. Downed trees and power lines made propane deliveries to snowed-in communities and critical facilities difficult. Propane fuels backup generators at mass care shelters, hospitals, 911 centers and other critical facilities. In addition, treacherous road conditions presented many challenges to delivering propane to radio sites like Bear Mountain, which is critical to supporting the state's radio system, fire service, and other emergency responders. ODOE worked with the Propane Association, Ferrellgas, Lane County Emergency Services, OEM, and ODOT to ensure propane was delivered to affected communities and radio sites.

2017 Solar Eclipse: ODOE activated the Fuel Action Plan in preparation for an influx of visitors to Oregon to view the first total solar eclipse in the United States in 38 years. ODOE began working with the petroleum industry months prior to the August event to maximize fuel volumes in the state to meet the anticipated increase in demand. During the week of the eclipse, deliveries were made at strategic times to avoid heavy traffic congestion. ODOE also successfully secured a temporary waiver from the Oregon Department of Transportation that lifted the Hours of Service restrictions. This ensured fuel haulers were not fined if they exceeded the 11.5 hour limit to complete deliveries. Roundtrip fuel deliveries from the Portland Fuel Hub to central Oregon and some areas along the Oregon coast take 10 hours under normal traffic conditions.

2017 Fire Season: The state battled as many as 17 fires simultaneously during the summer months, wreaking havoc with fuel deliveries and stressing the supply of aviation fuel, unleaded, and diesel. In particular, the Eagle Creek Fire shut down Interstate 84 and barge traffic on the Columbia River. ODOE implemented the Fuel Action Plan and worked with the petroleum industry and the Oregon Department of Transportation to ensure fuel haulers had viable alternate routes to complete deliveries. ODOE also worked with the U.S. Coast Guard to ensure fuel barges were vetted and given priority passage despite USCG's Shutdown Order of the Columbia River. As a result, three fuel barges were cleared for passage delivering 420,000 gallons of ethanol, 900,000 gallons of aviation fuel, and 1,596,000 gallons of diesel with only minimal delay.

ODOE's Fuel Action Plan is a working document and will be updated as needed to ensure that all response strategies remain current and sync with those of our federal, military, state, local, tribal, and industry partners.

Find the Oregon Fuel Action Plan on ODOE's website:

<https://www.oregon.gov/energy/safety-resiliency/Pages/Petroleum.aspx>

OREGON DEPARTMENT OF ENERGY ANNOUNCES \$1.25 MILLION IN GRANTS FOR RENEWABLE ENERGY PROJECTS ACROSS THE STATE

July 25, 2019

Contact:

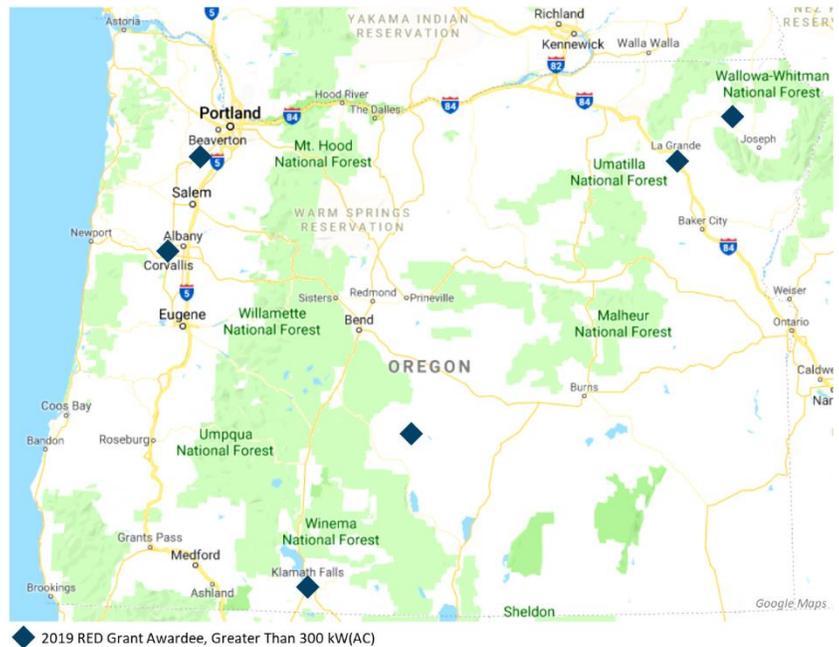
Jennifer Kalez, 503-480-9239

SALEM – The Oregon Department of Energy announced today six recipients of \$1.25 million in Renewable Energy Development Grant funds. The RED Grant program supports Oregon businesses, nonprofits, and organizations investing in renewable energy systems that use biomass, solar, geothermal, hydroelectric, wind, landfill gas, biogas, wave, tidal, or ocean energy to produce electricity.

Earlier this year, ODOE announced \$2.75 million in available grant funds divided into two tiers for large and small renewable energy

projects. ODOE received six applications for large solar projects (greater than 300 kilowatts), and the agency is able to award grant funding for all six, ranging from \$90,000 up to \$250,000. A \$250,000 grant will help fund a new utility-scale solar facility with battery storage near Christmas Valley in Lake County. A \$90,000 grant will support solar installations at housing communities serving lower-income families, older adults, and people with disabilities in La Grande. In Wallowa County, a \$250,000 grant will support a community solar installation that allows low- or moderate-income Oregonians, who may not otherwise be able to install their own solar arrays, to access renewable energy. See below for a full list of selected projects.

Applications were scored based on a number of criteria, including amount of energy generated, job creation, community benefits, and more. Points were also awarded for projects that were designed with resilience in mind. Renewable systems that are capable of supplying electricity when the larger grid is unavailable – due to extreme weather or other emergencies – earned more points.



ODOE staff expect to announce the second round of grant awardees for projects smaller than 300 kilowatts later this summer. It will be the final set of awardees under the RED Grant program, which launched in 2012.

“The Oregon Department of Energy is proud to support projects that add renewable generation across Oregon,” said Director Janine Benner. “And we were pleased to see applications this year that will help expand access to renewable energy for low-income Oregonians and other underserved communities.”

After a technical review, ODOE will finalize performance agreements with the awardees. Funds are allocated after the project is completed and operational, and once all conditions of the performance agreements are met.

For more information about the Renewable Energy Development grant program, visit [ODOE's website](#).

2019 LARGE RED GRANT AWARDEES (>300 KW):

Awardee / Grant Awarded / System & Size / Location

Cycle Powers, LLC | \$250,000 | Up to 20 Megawatts Solar | Christmas Valley, Lake County

South Suburban Sanitary District | \$250,000 | 700 Kilowatts Solar | Klamath Falls, Klamath County

Union County Solar, LLC | \$90,000 | 415 Kilowatts Solar | La Grande, Union County

Fleet Development Inc. | \$250,000 | 860 Kilowatts Solar | Wallowa, Wallowa County

City of Newberg | \$250,000 | 398 Kilowatts Solar | Newberg, Yamhill County

Hewlett-Packard Enterprises | \$160,000 | 360 Kilowatts Solar | Corvallis, Benton County

This news release was sent on July 25, 2019 and posted online:

<https://energyinfo.oregon.gov/blog/2019/7/25/oregon-department-of-energy-announces-125-million-in-grants-for-renewable-energy-projects-across-the-state>

OREGON DEPARTMENT OF ENERGY PROGRAM SUPPORTS RENEWABLE ENERGY PROJECTS FROM GOLD BEACH TO ENTERPRISE

September 10, 2019

Contact:

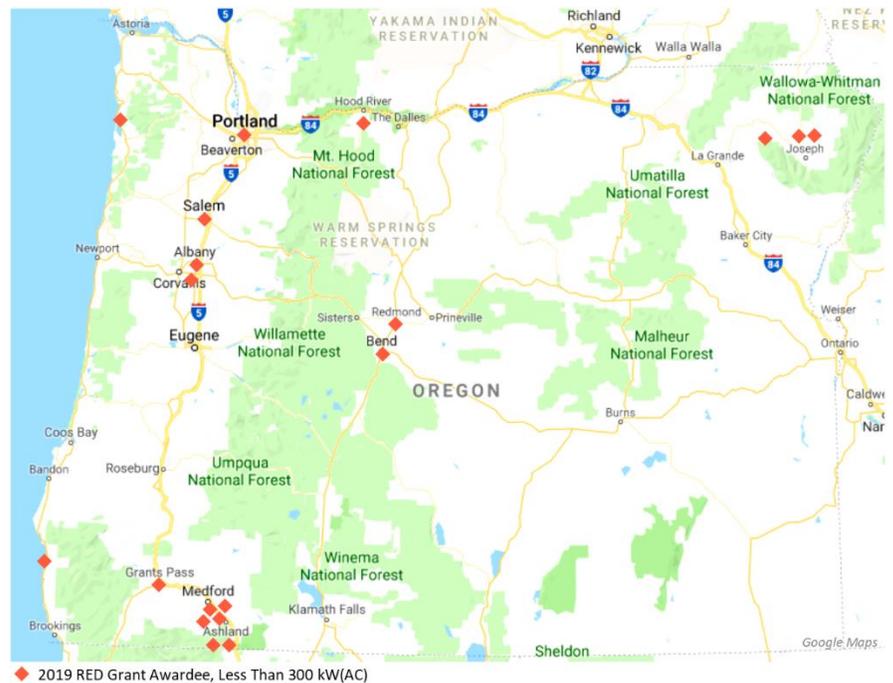
[Jennifer Kalez](#), 503-480-9239

SALEM — The Oregon Department of Energy announced today 19 recipients of about \$1.6 million in Renewable Energy Development Grant funds. The RED Grant program supports Oregon businesses, nonprofits, and organizations investing in renewable energy systems that use biomass, solar, geothermal, hydroelectric, wind, landfill gas, biogas, wave, tidal, or ocean energy to produce electricity.

Two awarded projects are for small hydropower projects – the remaining 17 are for solar.

Grants awarded range from about \$27,000 up to \$200,000. A \$200,000 grant will support capturing hydro energy at Crystal Springs Water District in Hood River. In Talent, a \$68,828 grant will fund a solar installation with battery storage for the Oregon Shakespeare Festival, while a \$27,000 grant will support solar for Gold Beach’s public library expansion. A grant of about \$35,000 will allow low- and moderate-income renters to access renewable energy in Enterprise. See the complete list of selected projects below.

Applications were scored based on a number of criteria, including amount of energy generated, job creation, community benefits, and more. Energy incentives can help stimulate local economies, so points were awarded for systems in low-density areas in Eastern Oregon and areas with high unemployment rates. Points were also awarded for projects that were designed with resilience in mind. Renewable systems that are capable of supplying electricity when the larger grid is unavailable – due to extreme weather or other emergencies – earned more points.



In July, ODOE announced [six grant awardees](#) for renewable energy projects greater than 300 kilowatts. This is the final set of awardees under the RED Grant program, which launched in 2012.

“Oregon is an energy leader, in part because businesses, nonprofits, and local governments are stepping up to make the switch to renewable energy,” said ODOE Director Janine Benner. “Projects like these are important for helping Oregon reach our climate goals and boost community resilience.”

ODOE will finalize performance agreements with the awardees over the next few months. Funds are allocated after the project is completed and operational, and once all conditions of the performance agreements are met.

For more information about the Renewable Energy Development grant program, [visit ODOE’s website](#).

2019 SMALL RED GRANT AWARDEES (<300 KW):

Awardee / Grant Awarded / System & Size / Location

Crystal Springs Water District | \$200,000 | 75 kilowatt hydropower | Odell, Hood River County

CCS Solar PV LLC | \$48,437 | 173 kilowatt solar | Bend, Deschutes County

Boys & Girls Club of Albany | \$40,000 | 142 kilowatt solar | Albany, Linn County

Oregon Shakespeare Festival | \$68,828 | 100 kilowatt solar plus battery storage | Talent, Jackson County

Arrowhead Pipeline Association | \$97,007 | 61 kilowatt hydropower | Enterprise, Wallowa County

Jackson County Fire District | \$39,887 | 70 kilowatt solar | Phoenix, Jackson County

Curry Public Library | \$27,007 | 15 kilowatt solar | Gold Beach, Curry County

City of Talent/Oregon Clean Power Cooperative | \$40,941 | 68 kilowatt solar plus battery storage | Talent, Jackson County

Jackson County School District | \$131,058 | 200 kilowatt solar | Phoenix, Jackson County

Neah-Kah-Nie School District | \$34,020 | 50 kilowatt solar plus battery storage | Garibaldi, Tillamook County

SnoTemp Cold Storage | \$82,313 | 200 kilowatt solar | Redmond, Deschutes County
Open Door Churches | \$53,732 | 131 kilowatt solar | Salem/Keizer, Marion County
Wallowa Assembly of God Church | \$33,492 | 51 kilowatt solar | Wallowa, Wallowa County
Ashland Community Solar 2 | \$108,885 | 174 kilowatt solar | Ashland, Jackson County
PAE Living Building, LLC | \$228,750 | 243 kilowatt solar | Portland, Multnomah County
Ashland Community Solar 1 | \$45,808 | 30 kilowatt solar | Ashland, Jackson County
Mid Valley Farms | \$157,826 | 208 kilowatt solar | Tangent, Linn County
Grants Pass Self Storage | \$159,869 | 200 kilowatt solar | Grants Pass, Josephine County
Park Street Apartments | \$35,766 | 56 kilowatt solar | Enterprise, Wallowa County

This news release was sent on September 10, 2019 and posted online:

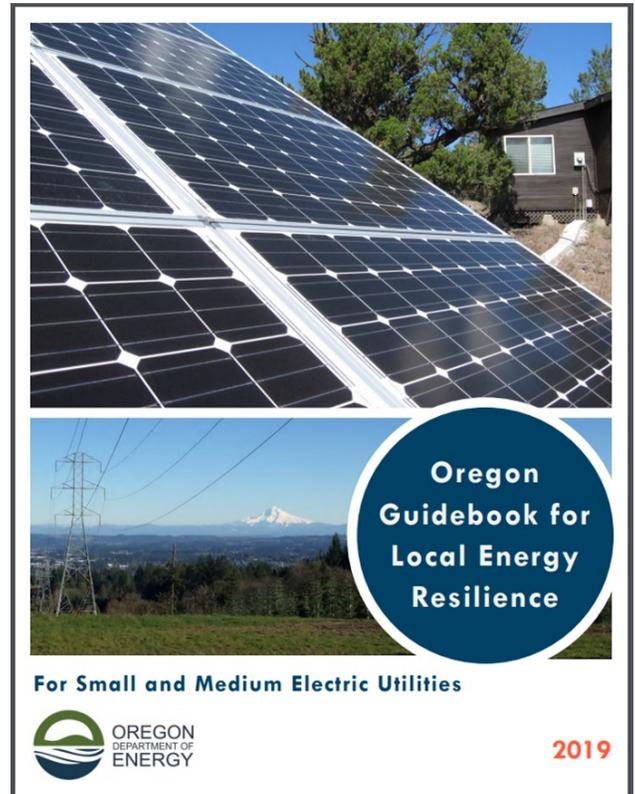
<https://energyinfo.oregon.gov/blog/2019/9/10/oregon-department-of-energy-program-supports-renewable-energy-projects-from-gold-beach-to-enterprise>

Oregon Guidebook for Local Energy Resilience

For Small & Medium Electric Utilities

Guidebook Development and Purpose

- ODOE staff collaborated with Central Lincoln People's Utility District, a public electric utility serving Oregon's central coastline, to develop the *Guidebook* as a resource for staff working at the state's 36 small and medium public electric utilities.
- The purpose of the *Guidebook* is to create a **centralized resource** to help these utilities identify steps ranging in complexity and cost that they can take to improve energy resilience at the local level.
- Designed to encourage a **location-specific evaluation** of threats, resources, and opportunities in recognition that there are no one-size-fits-all solutions to improving energy resilience.
- The actions are **framed in consideration of a wide range of threats** posed by severe winter storms, catastrophic wildfires, cyberattacks, and the impending Cascadia Subduction Zone earthquake.



Organization of the *Guidebook*

The *Oregon Guidebook for Local Energy Resilience* is divided into three core sections:

- **Business Continuity Planning:** Drawing on examples from a half-dozen COUs and from national sources, identifies incremental actions that utilities can take to make their organizations more resilient in the areas of people, facilities, infrastructure, and communications.
- **Community Energy Resilience:** Identification of areas where utilities, local governments, and critical service providers (e.g., first responders and healthcare providers) can collaborate to improve community energy resilience through the deployment of distributed energy resources.
- **Federal and State Emergency Planning:** An overview of federal and state emergency management planning efforts; how the utility fits into those processes; and an identification of potential federal funding opportunities for resilience investments (e.g., FEMA, USDA, etc.).

Find the Guidebook and other resilience information online: www.oregon.gov/energy/resilience



Renewable Natural Gas / Biogas Development and Funding Briefing Paper

In 2018, the Oregon Department of Energy published a Biogas/Renewable Natural Gas (RNG) inventory, which quantifies opportunities to convert persistent, long-term waste streams into useful energy. As they break down in the environment, municipal waste streams like garbage, wastewater, and waste food, as well as agricultural waste streams like manure, all generate methane, a powerful greenhouse gas. Redirecting these waste streams into controlled processes for optimization, capture, and utilization of the methane can be economically, socially, and environmentally beneficial to Oregon and the country.

The Inventory

Greenhouse gas emissions and air pollutants can be significantly reduced when RNG is substituted for fossil fuels in our transportation and stationary fuels sectors. If Oregon’s potential volume of RNG could be captured and used to displace fossil-based natural gas for stationary combustion, we would prevent the release of approximately two million metric tons of greenhouse gases into the atmosphere. In addition to air quality benefits and greenhouse gas reductions, redirecting this fuel source into these sectors could also result in increased economic benefits for communities, and provide energy security and resilience.

The gross potential for RNG production in Oregon when using anaerobic digestion technology is around 10 billion cubic feet of methane per year, which is about 4.6 percent of Oregon’s total yearly use of natural gas. The gross potential for RNG production when using thermal gasification technology is nearly 40 billion cubic feet per year (cf/yr) of methane, which is about 17.5 percent of Oregon’s total yearly use of natural gas. The table below summarizes the gross potential from Anaerobic Digestion at 10.3 billion cf/yr, and from Thermal Gasification at 39.7 billion cf/yr, for a total of 50 billion cf/yr in Oregon. This 50 billion cf/yr represents about 22 percent of Oregon’s total statewide natural gas consumption in 2016.

Biogas/RNG Fuel Production Pathways and Potential Quantities					
Anaerobic Digestion	Food Waste	Landfill	Animal Manure	Wastewater	Total
Quantity (billion cf/year)	0.14	4.3	4.6	1.2	10.3
Thermal Gasification	Forest Residuals	Agricultural Residuals			Total
Quantity (billion cf/year)	16.9	22.6			39.7

Notes About the Data — The estimated gas volumes in the report represent the theoretical maximum production (or technical potential). Gas production for each type of feedstock is limited by the economical feasibility of transportation and preprocessing costs. Thermal gasification, which converts woody materials into methane, involves a two-stage process of first creating syngas, and then methanizing it to create RNG. Due to the existing economics of production, the existing plants in the U.S. stop at the syngas stage and burn the syngas for process heat and to generate electricity, and therefore there are currently no commercial RNG thermal gasification plants in the U.S.



Renewable energy and transmission projects also have effects on military training areas in Oregon and adjoining states, and may have a potential *future* effect on necessary military uses to prepare for future threats. Potential effects could include radar interference from wind facilities; low-level flight obstructions from tall structures such as wind turbines; electromagnetic interference from high-voltage transmission lines; and glint and glare from solar photovoltaic arrays near airfields. A recent Oregon example is the Fossil radar associated with the North American Aerospace Defense Command (NORAD), which has expressed concerns about the level of impacts from new wind energy projects. Meanwhile, there are parts of the state that have substantial renewable energy resources and facility potential. Local governments have benefitted from increased tax base and local economic growth through renewable energy project development.

Oregon has an opportunity to collect information about locations for current and future renewable energy and transmission development, and build an understanding of the constraints and opportunities that come with specific locations. The state can use this information to continue to support compatible renewable energy growth and economic development.

Project Proposal

The project area covers the entire state of Oregon, including marine waters. The key elements of the project involve:

- Establishing technical groups incorporating expertise from several agencies, such as the Oregon Military Department, Public Utility Commission, Department of State Lands, State Historic Preservation Office, and Department of Fish & Wildlife (among others).
- Completing compatibility assessments on military needs, renewable energy markets, and development constraints and opportunities that incorporate stakeholder, tribal, and local government feedback. Assessments would be supported by consulting services secured via state procurement processes.
- Reviewing and analyzing relevant state and local siting and permitting requirements and processes as they relate to military coordination and notification procedures.
- INR leading the development of a renewable energy siting mapping tool through GIS, which will layer relevant compatibility data (like environmental or military considerations). The mapping tool will be part of the “Oregon Explorer” online resource.
- Sharing the assessment and mapping tool with military personnel, renewable energy developers, utilities, Tribes, local governments, state agencies, stakeholders, and the public.

Key Deliverables

- Oregon Compatible Renewable Energy Siting Assessment Report
- Oregon Compatible Renewable Energy Siting Mapping Tool and associated GIS data layers (hosted by INR)

These deliverables will raise awareness of renewable energy compatibility needs, and will provide educational tools to identify potential project areas that have less conflict and that could support economic development.





Oregon

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www.oregon.gov/energy

Date: September 2019

To: Oregon Congressional Delegation

From: Janine Benner, Director, Oregon Department of Energy
Ken Niles, Assistant Director for Nuclear Safety and Emergency Preparedness

Subject: Hanford Update

While the Hanford Nuclear Site may be within three years of finally beginning to immobilize some of its tank waste, overall plans for treating Hanford's most highly radioactive waste seem as uncertain today as they have at any time during the last 30 years of Hanford cleanup. This waste stream is the most complex and expensive of all the wastes to deal with at Hanford and is the main reason cleanup may not be completed until 2080 or later. Funding needs will ramp up very quickly to support tank waste treatment and that could come at the expense of necessary funding for cleanup elsewhere on site. Recent new "lifecycle" cost estimates for the Hanford cleanup range from \$323 billion to \$677 billion (of which \$240-\$548 billion are for tank waste treatment and tank closure).

Tank Waste Background

During Hanford's plutonium production years of 1944 through 1988, extensive amounts of radioactive and chemically hazardous waste were created. While most of the solid waste was buried and the liquid waste dumped to the soil, one waste stream was so hazardous that it was sent to underground tanks for indefinite storage. Over time, the U.S. Department of Energy (USDOE) and its predecessor agencies built 177 underground storage tanks. Those tanks – all nearing or past their design lives – currently hold about 56 million gallons of radioactive waste.

By definition, the waste is considered "high-level waste," which means it must be disposed of in a deep geologic disposal facility. That long-standing definition is now being changed by USDOE and is explained later in this document.

The Washington Department of Ecology regulates the non-radioactive chemical component of tank waste at Hanford, and issues Resource Conservation and Recovery Act (RCRA) permits to USDOE as part of the cleanup. Ecology is concerned that existing schedules laid out in both the Tri-Party Agreement (USDOE, WA Ecology, US EPA) – which governs overall cleanup schedules – and a Consent Decree modified by a Federal Court Judge in 2016 – do not reflect realistic cleanup milestones associated with the tank waste treatment mission.

The Original Plan

Almost since the beginning of Hanford cleanup, the plan has been to separate the tank waste into two waste streams. A “high-level” waste stream would contain approximately 90 percent of the radioactivity but only 10 percent of the volume of the waste. The other waste stream would contain an estimated 90 percent of the volume and only 10 percent of the radioactivity (called Low-Activity Waste, or LAW).

Both waste streams would be immobilized through a process called vitrification, mixing the waste with glass-forming materials while heated, to form a molten glass. The glass would be poured into stainless steel canisters, where it would harden. The glass would still be radioactive but would be much easier to control and contain. The high-level glass would eventually be buried in a deep geologic disposal facility (such as Yucca Mountain, if it is ever completed). The LAW would be reclassified as other than high-level waste, per a process developed in consultation with the Nuclear Regulatory Commission and buried at Hanford.

A huge complex of facilities, collectively called the Waste Treatment Plant (WTP), has been under construction at Hanford since 2002. Costs to construct the WTP have dramatically risen from about \$6 billion to about \$18 billion, with the expectation based on a recent U.S. Army Corps of Engineers evaluation that it may run as much as \$30 billion. The operating date of these facilities has also been delayed – from 2011 to now 2036 or later. Completing treatment has moved from 2047 to perhaps 2080 or later.

The New Plan

Because the full WTP will not be operational until 2036 at the earliest – and may never be fully operational as originally intended – USDOE is pursuing opening a portion of it much sooner, by 2022 or 2023. This venture is called Direct-Feed LAW. A much-simplified separation process is planned to remove most of the highly radioactive material, such as the cesium. The cesium will be retained in a resin and stored on a concrete pad for later disposition (as yet undecided). The remaining liquid will be sent to the LAW vitrification facility within the WTP. The waste will be vitrified and buried on site. USDOE has said it can have DF-LAW operational prior to a Consent Decree milestone of December 31, 2023, though Ecology has some concerns as to whether the schedule can be met. At a recent presentation to the Oregon Hanford Cleanup Board, a DOE representative said that costs to commission DF-LAW need to grow from \$15 million in the fiscal year 2019 budget to about \$450 million by 2022.

In the past year, USDOE also briefly pursued a separate method of treatment, again removing the cesium but then mixing the waste with grout. The grouted waste would be disposed in a commercial disposal facility, likely in Texas. DOE recently decided to pull its permit application for this project with no notice, but says it is still a viable treatment method to further explore.

USDOE and others (such as a National Academies of Science committee) are also considering a far broader use of grout in lieu of vitrification. An ongoing evaluation, initiated by Congress, could potentially result in half of the LAW being disposed in grout instead of glass either at Hanford or a commercial facility (e.g., Texas). USDOE’s hope is this could save time and tens of

billions of dollars – though that is still somewhat speculative. Washington, Oregon, and others are not yet convinced that grouted waste disposed at Hanford would be as protective as vitrified waste.

Where We Are Now

After a flurry of letters between USDOE and Ecology over the past few months, it appears both parties have agreed to enter a period of finite negotiations (6-9 months) to put the two parties on a “holistic path forward that addresses all of Hanford’s tank waste through to completion of treatment.” USDOE cautioned that these negotiations must include recognition of the “substantial technical and fiscal challenges inherent in the Hanford cleanup.”

These negotiations could potentially result in significant changes to the cleanup plans and schedules. It could also lead to litigation if the parties cannot reach agreement. The US EPA, which regulates part of the Hanford cleanup though not the tanks, will also be a part of the negotiations. Those negotiations are expected to begin this fall.

High-Level Waste Definition

To further complicate matters, late last year USDOE proposed a new interpretation of the term “high-level radioactive waste.” They contend the previous definition is primarily source-based rather than indicative of the level of risk. With this new interpretation, much of Hanford’s tank waste could conceivably be designated as less than high-level waste, potentially resulting in disposal on site for waste that otherwise would go to a deep geologic disposal facility. USDOE says this process will save tens of billions of dollars and speed cleanup. The new interpretation could also affect the ultimate disposal location of other highly radioactive “orphaned” wastes on site.

Oregon was among many entities that strongly objected to USDOE’s proposed new interpretation. While we agree that final waste disposition should be determined by the true hazard of the material, USDOE’s new process basically gives them sole authority to make those determinations, with little if any independent federal or state oversight.

On June 5, USDOE moved forward with a Federal Register Notice to implement its new interpretation. The first application would be for a specific waste stream associated with USDOE’s Savannah River Site in South Carolina. We expect at some point USDOE will have specific proposals for Hanford.

Materials for HB 2618

Bill Implementation:

Solar and

Solar+STORAGE

Rebate Program.

Oregon Solar + Storage Rebate Program

About the Program

HB 2618 created a new rebate program for solar electric systems and paired solar and solar storage systems installed for residential customers and low-income service providers in Oregon. ODOE has \$2 million allocated for rebates and program administration.

Program funds will be used to issue solar and solar storage system rebates, which are paid to the installing contractor of the system. The rebate amount will be passed on to the customer as savings on the net cost of the system.

Twenty-five percent of the rebate budget to be reserved for low- and moderate-income households and low-income service providers. No more than 50 percent of the rebate budget will be used for low-income service providers.

Rebates may cover up to 40 percent of the net cost for a residential system installed for a customer that is not considered low- or moderate-income, and up to 60 percent of net cost for a low-income customer or low-income service provider. For residential projects, the maximum rebate is \$5,000 for a solar electric system and \$2,500 for an energy storage system. For low-income service providers, the caps are \$30,000 for solar electric and \$15,000 for an energy storage system.

Program Timeline

Date	Milestone
June 2019	HB 2618 passed by the Oregon Legislature
August 9, 2019	HB 2618 signed by Governor Brown
September 29, 2019	HB 2618 effective date (91 days after sine die)
Fall 2019	Program rulemaking process
January 1, 2020	Anticipated program launch date

<https://www.oregon.gov/energy/Incentives/Pages/Solar-Storage-Rebate-Program.aspx>



Rulemaking

The Oregon Department of Energy is conducting rulemaking in Fall 2019 to create Administrative Rules to govern the program, including:

- Application process
- Eligibility requirements, including definitions of low- and moderate-income and low-income service providers
- Allocating rebates
- Issuing rebates
- Compliance

Rulemaking Timeline

Subject to Change

Date	Milestone
September 2019	Information gathering
October 1, 2019 1 - 4 p.m.	Stakeholder Meeting #1: discuss questions and implementation Oregon Department of Energy Meitner Conference Room 550 Capitol St. NE in Salem
October 14, 2019 1 - 4 p.m.	Stakeholder Meeting #2: discuss draft rules ODOT Region 1 HQ Conference Room A 123 NW Flanders Blvd in Portland
October 15, 2019 1 - 4 p.m.	Stakeholder Meeting #3: discuss draft rules Oregon Department of Energy Meitner Conference Room 550 Capitol St. NE in Salem
November 1, 2019	Publish Notice of Rulemaking Hearing in the Oregon Bulletin, beginning public comment period
December 3, 2019 <i>tentative, location TBD</i>	Public hearing and end of public comment period
December 21, 2019	Target date for filing permanent rules
January 1, 2020	Operative date of program rules

<https://www.oregon.gov/energy/Get-Involved/Pages/Solar-Rebate-Program-Rulemaking.aspx>



Feedback from

EAWG:

Next Biennial

Energy Report

Biennial Energy Report (BER) – Input for 2020 BER
Energy Advisory Work Group
July 29, 2019

ODOE is seeking input from the EAWG to inform the development of the 2020 BER. In 2017, ODOE, recognizing that the energy world has changed dramatically since the 1970s, introduced [HB 2343](#). This law charged the agency with developing a BER every two years to inform local, state, regional, and federal energy policy development and energy planning and investments (see attached). The inaugural BER (2018) was based on analysis of data and information collected and compiled by ODOE staff to provide a comprehensive review of energy resources, policies, trends, and forecasts, and what they mean for Oregon. The 2018 BER is available online: <https://energyinfo.oregon.gov/ber>.

Input Requested from EAWG:

1. Have you read or used the 2018 BER? If so, in what ways have you used it? What did you like most about the 2018 BER? What would you improve?
2. What questions about energy in Oregon do you have that weren't covered in the 2018 BER? For example, are there energy facts and figures that weren't included in the previous BER that ODOE should strive to cover in the 2020 BER?
3. What do you think are the priority emerging "energy opportunities, challenges, and impacts" over the next two years? Of these priorities, what are the top five issues or policies in Oregon that need more data, information, or analysis so they are better understood?
4. What do you think are important trends in energy sectors and markets (such as policy or market drivers, new resources, or emerging technologies) that the 2020 BER should include with relevant data, information, or analysis?
5. What new or revised local, state, regional, and/or federal energy regulations, policies, and planning activities do you think should be included in the 2020 BER so they may be better understood through further data, information, or analysis?
6. ODOE used a wide range data sources, including federal government data, state government data, utility data, and data provided by associations or other organizations, to calculate and publish information on energy costs and energy consumption, generation, transmission, and production of energy (among other things). Are there additional or different sources of data that you think ODOE should consider in the 2020 BER?
7. [Chapter 8 of the 2018 BER](#) included recommendations around data gaps, equity, and energy burden, planning for the future, and assessing the need for state engagement and investment. Which recommendations do you think are the highest priority or would yield the greatest value? Do you have suggestions on moving forward with those recommendations?

For reference, topics covered in the 2018 BER:

[Introduction](#) (with Executive Summary)

1. [Energy By the Numbers](#)

- Oregon Energy Use: Electricity, Direct Use Fuels, Transportation Fuels
- Oregon Energy Production: Electricity, Direct Use Fuels, Transportation Fuels
- Energy End-use Sector Profiles
- Energy Stats and Basics

2. [Climate Change](#)

- Greenhouse Gas Reduction Goals and Climate Commitments
- Risks and Impacts
- Deep Decarbonization Pathways

3. [Renewable Energy](#)

- Renewable Energy Drivers
- What's Next for Renewable Energy
- Advances in Solar Energy Case Study

4. [Transportation](#)

- National Transportation Sector Trends
- Oregon Trends
- Policies: Cleaner Vehicles, Alternative Fuels, and Vehicle Miles Traveled
- Electric Vehicles

5. [Resilience](#)

- Defining Energy Resilience
- Identifying Threats
- Understanding Current Actions
- Climate Adaptation for Energy Systems
- Next Steps

6. [Energy Efficiency](#)

- Meeting Load Growth with Efficiency
- How Oregon Acquires Energy Efficiency
- Energy Efficiency Achievements
- Sector Energy Efficiency
- State of Oregon Programs and Initiatives
- Oregon's National Standing

7. [Protecting Consumers](#)

- Energy Burden
- Consumer Protection
- Equity

8. [Recommendations](#)