



TO: Megan Walseth Decker, Chair
Letha Tawney, Commissioner
Mark Thompson, Commissioner

FROM: Engineers for a Sustainable Future (ESF)
OLCV Metro Climate Action Team (MCAT)

DATE: 28 October 2020

TOPIC: PUC'S Proposed EO 20-04 Work Plans

Dear Commissioners,

Engineers for a Sustainable Future (ESF) is a nonprofit organization whose members are engineers and scientists that have extensive work experience in the energy industry, including utilities, oil and gas, and renewables. The OLCV Metro Climate Action Team is a community of experienced volunteers working to steward significant greenhouse gas reduction legislation into law in Oregon.

ESF and OLCV Metro Climate Action Team (MCAT) respectfully submit our comments on the Oregon Public Utility Commission (PUC) work plans to implement Governor Brown's Executive Order (EO) 20-04, published on March 10, 2020.

The focus of our comments are on reducing Oregon's greenhouse gas emissions by accelerating the development of new renewable energy projects, like wind, solar, and geothermal projects to replace fossil fuel power facilities. We recognize the PUC's role is to ensure the safe, reliable, and secure operation of electric power, as well as minimizing the cost to the consumer.

The key factors not addressed in the PUC's work plans are as follows:

1. **What is Oregon's renewable energy resource potential?** ESF's analysis of public domain data ^{1,2,3} indicates that *Oregon has current and potential renewable resources to generate over 750% of the state's 2018 electricity requirements*⁴. The assessment of potential renewable energy resources only considered the state's wind, solar and geothermal potential using proven technology.

¹ U.S. Department of Energy (DOE)

² U.S. Energy Information Agency (EIA)

³ National Renewable Energy Laboratory

⁴ *ENERGY IN OREGON – Past, Present & Future Potential* by Jack Kerfoot, September 2020

2. **Why haven't Oregon utilities moved faster to develop low-cost renewable energy resources?** Levelized cost of energy studies⁵ of all fuel types (fossil fuels, nuclear, and renewables) document that utility scale onshore wind and solar are the cheapest form of Power in the United States.

A major barrier to any new power project is the cycle time to permit the plant sites and critical power lines. The Bonneville Power Administration (BPA) decision to suspend attempts to permit the 79 mile “I-5 Corridor Project” highlights the permitting challenges, complexities, and expense utilities must undertake to bring additional renewable energy into Oregon’s power grid. The permitting challenges faced by BPA are not unique and are a major barrier that Oregon must address, if we are serious about taking tangible action to address climate change.

We Recommend Streamlining Renewable Plant Site And Powerline Permitting Processes –

1. *The PUC must exercise its full influence and authority to streamline and expedite renewable energy site and power line permitting approvals. Oregon’s complex and sometimes antiquated land access and permitting processes are the primary barriers to Oregon fully developing our state’s renewable energy potential.*
2. The PUC should hold an annual meeting with all state utilities to discuss and prioritize future power lines. The PUC should encourage and facilitate the shared development and maintenance of future power lines. Joint development of power lines should reduce development and operating costs.
3. The PUC must exercise its authority to eliminate antiquated renewable energy restrictions. Local restrictions against utility scale renewable energy projects are based on paradigms that projects like solar farms tie-up valuable land from productive farming⁶. Agrivoltaic systems have proven to optimize valuable farmland in Europe and in the United States.

We Recommend Increasing Risk Mitigation Programs For All State Power Lines –

1. The PUC should hold a joint annual meeting with all state utilities that own and/or operate major power lines. Each utility would present an in-depth review of all current power lines in the state.
2. Each utility will provide a quantitative risk assessment for each major power line to the state’s power grid, including major power outages, wildfires, etc. The review will include lessons learned and planned work programs to mitigate future risks to the power grid.
3. An annual review will provide the PUC insight into potential critical weaknesses in the state’s power grid.

⁵ <https://www.lazard.com/media/451086/lazards-levelized-cost-of-energy-version-130-vf.pdf>

⁶ <https://www.mdpi.com/2076-3298/6/6/65/htm>

4. An annual meeting will also facilitate information sharing and collaboration between state utilities. Collaboration may result in improved operating performance and cost reductions for each utility.

We Recommend Holding Regularly Scheduled Tenders For Renewable Energy Projects –

1. A review of energy policies around the world provides compelling evidence that regularly scheduled renewable energy tenders are more expedient and cost effective at reducing greenhouse gas emissions than government mandates, such as a renewable portfolio standard (RPS) date set 15 to 30 years in the future
2. The PUC in collaboration with state utilities should hold regularly scheduled tenders to qualified companies to bid long-term power purchase agreements for new renewable energy projects. The PUC and the state utilities should develop the tender criteria, including type of energy (wind, solar, geothermal, etc.), development schedule and commissioning date, general location of the renewable energy site in relation to major transmission lines, etc.
3. Renewable energy tenders have been successfully used by federal governments around the world to facilitate the development of renewable energy projects at affordable prices. In the United States, New York, New Jersey, and Maine have recently held renewable energy tenders. Maine's tender⁷ resulted in the award of multiple renewable energy projects (solar, onshore wind, etc.) that have a total capacity of 540 MW. The reported average price for 15-year power purchase agreements for all of Maine's renewable energy projects was 3.5¢ per kWh.

We Recommend The Following Action On Existing Or Closed Fossil Fuel Power Plants –

1. The PUC should encourage and if possible, facilitate the conversion of closed or existing fossil fuel plants to energy storage or renewable energy sites. Germany⁸ is actively converting coal-fueled power plants to energy storage sites. Converting an existing a natural gas or coal-fired power plant to an energy storage or a renewable energy site is more environmentally responsible and cost effective than tearing down a fossil fueled plant and building a new renewable energy facility at a new location.
2. The PUC should ensure that closed coal-fueled power plants have been thoroughly inspected and adequate financial guarantees are in place to mitigate the risk of any contamination at the site. Contamination of coal ash^{9,10} into the ground water is a major concern from coal-fired plants that have been closed for numerous years.

⁷ <https://www.kallanishenergy.com/2020/09/25/solar-dominates-maines-renewables-procurement/>

⁸ <https://energytransition.org/2019/05/coal-plants-into-renewable-energy-storage-sites/>

⁹ <https://earthjustice.org/features/map-coal-ash-contaminated-sites>

¹⁰ <https://insideclimatenews.org/news/04032019/coal-ash-groundwater-contamination-toxic-arsenic-memphis-texas-eip>

In 1890, coal passed wood as the dominant fuel type and coal mining states like Kentucky and West Virginia became energy centers or hubs in America. In 1950, oil passed coal as the dominant fuel type and states like Texas and Oklahoma became the energy centers in America.

The U.S. 2005 Energy Act started our country's move from fossil fuel to renewable energy, creating new green, renewable energy centers. Oregon has the renewable energy resources to be a new energy center, providing power to major population centers along the west coast.

We estimate that further development our states renewable energy resources will create over 30,000 permanent, good paying jobs^{11,12} on wind farms, solar parks, and geothermal plants plus hundreds of thousands of construction jobs. The sale of clean green energy will also create significant, badly needed tax revenue for the state. However, Oregon must first remove the barriers holding back the development of our state's renewable energy potential.

Sincerely,

Engineers for a Sustainable Future (ESF) Board

Mike Unger, Robert James, Carol Brown, Ed Averill, Richard Fay, Adam Ritenour and Jack Kerfoot



OCLV Metro Climate Action Team (MCAT) Steering Committee

Brett Baylor, Rick Brown, Pat DeLaquil, Daniel Frye, Debby Garman, Mark McLeod, KB Mercer, Michael Mitton, Rich Peppers, Rand Schenck, Jane Stackhouse

¹¹ <https://www.eesi.org/papers/view/fact-sheet-jobs-in-renewable-energy-energy-efficiency-and-resilience-2019>

¹² <http://www.osti.gov/servlets/purl/1022293/>