

Oregon Clean Energy Pathways Analysis

Background

Oregon is currently among a handful of states in the West that has yet to make a commitment to fully decarbonizing its electricity sector. Despite early investments in wind and solar, Oregon still relies on fossil fuel generation to meet 46% of its load.

States across the West are committing to achieve 100% completely decarbonized electricity sectors while Oregon has a 50% clean grid mandate. While the state’s largest utility, Portland General Electric (PGE), recently committed to achieve net zero emissions by 2040,¹ Oregon’s regulatory structure provides little support for ensuring PGE can meet that goal.

The table below provides an overview of western states’ clean energy mandates and goals.

Oregon Electricity Use Resource Mix Over Time

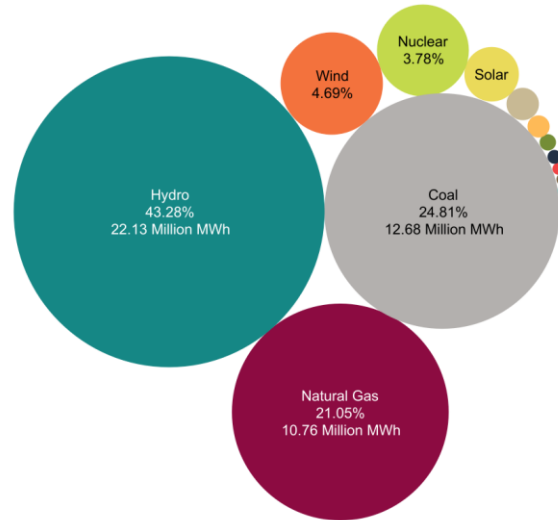


Table 1. Western States Clean Energy Mandates and Goals		
WA 100% by 2045(CES) *	MT 15% by 2015 (RPS)	CO 100% by 2050 (CES)
OR 50% by 2040 (RPS) **	ID 100% by 2045 (goal)	AZ 100% by 2050 (CES)
CA 60% by 2030 (RPS) 100% by 2045 (CES)	NV 50% by 2030 (RPS), 100% by 2050 (goal)	NM 50% by 2030 (RPS) 100% by 2045 (CES)
* (CES) = Clean Energy Standard ** (RPS) Renewable Portfolio Standard		

For Oregon to continue its path towards decarbonization and ensure that clean energy investments benefit Oregon customers and businesses, the state needs to pass legislation to require a fully decarbonized electricity sector.

Renewable Northwest believes the most logical next step is for Oregon to enact a 100% Clean Energy Standard that directs Oregon utilities to rely on renewable and non-emitting generation solely to serve Oregon customers.

¹<https://tinyurl.com/yxrm55gd>

100% Clean Modelling Study

To inform effective, reasonably achievable 100% clean electricity policy in the state, analysis around timing, costs, and constraints is necessary. Renewable Northwest has partnered with GridLab and the Clean Energy Transition Institute to conduct a study to look at a variety of decarbonization scenarios. Acting as project leads, Gridlab and the Clean Energy Transition Institute will oversee the modelling work of Evolved Energy Research.

The study will kick off in early December and will aim to have preliminary results in early February; draft results by the end of March; and a final report by May. Below is a list of questions we hope to gain insight into:

- **What if Oregon were to move to a net zero emissions target at some point in the future?** How might near-term policy decisions guard against higher costs from such a move in future?
- **What if Oregon is limited by siting or permitting constraints on building grid scale renewables?** What alternative solutions are least cost and how important is siting in-state renewables to cost containment? For example, would Oregon develop smaller parcel and rooftop solar projects?
- **What if Oregon and the West are unable to expand existing transmission networks?** Wildfire risk will increase in the future and new transmission corridors are already notoriously difficult to site, permit, and construct. How would electricity resource decisions and overall costs to Oregon be impacted by limiting transmission expansion?
- **What if Oregon has constraints on both siting renewables and transmission, as well as sets a net zero emissions goal in future?** Siting challenges for transmission and renewables are both plausible future outcomes and may be correlated. Paired with 100% emissions reductions, Oregon may face challenges in procuring enough energy to meet load.
- **What if Oregon sets a net zero emissions target but doesn't rapidly electrify loads?** The loss of efficiency improvements from electrification may drive greater loads on the electricity grid and more imported energy in the form of clean fuels for Oregon, driving up costs.
- **What if Oregon requires emissions and electricity targets to be met by in-state resources only?** This is a bookend case on regulation requiring in-state resource procurement. How much wind and rooftop solar becomes part of the least cost strategy?
- **What interim emissions targets achieve Oregon's climate policy goals while minimizing economic impact?** Impactful emissions reductions measures, such as electrification and efficiency improvements of energy-consuming technology stocks in the economy, have limits on how fast they can be implemented. Other studies show these are least-cost strategies to decarbonization, but stocks of vehicles and appliances take time to roll over as technology is replaced at the end of its lifetime. Emissions reductions in the near term that are too rapid when compared to the rate of electrification and efficiency can drive significantly higher decarbonization costs by requiring near-term clean fuels production or carbon sequestration. The level set for Oregon's interim emissions targets may therefore be very impactful on total decarbonization costs.

GridLab will facilitate a Technical Review Committee (TRC) made up of stakeholders from a variety of organizations to provide feedback on scenario development and study results.

Technical Review Committee

The proposed member organizations to participate in the TRC are listed in Table 2.

Renewable Northwest	Oregon Municipal Electric Utilities Association
Lewis and Clark Green Energy Institute	PacifiCorp
Community Renewables Energy Association	Portland General Electric
Oregon Department of Energy	Northwest Energy Coalition
Blue Green Alliance	Climate Solutions
Northwest Intermountain Power Producers Coalition	Bonneville Power Administration
Oregon Solar Energy Industries Association	Citizens Utility Board
Verde	Oregon Coast Energy Alliance Network
Public Generating Pool	Northwest Power Conservation Council
Moment Energy Insights	Oregon Public Utility Commission
PNGC Power	Oregon Environmental Council
Natural Resources Defense Council	Oregon Rural Electric Coop Association

While the study is not aimed at determining a specific policy, the results are intended to inform policy development and the study used to examine different policy options for how Oregon might accelerate deep decarbonization during the legislative session and beyond.

About the Project Team

Renewable Northwest's mission is to decarbonize the region by accelerating the transition to renewable electricity.

GridLab provides technical grid expertise to enhance policy decision making and to ensure a rapid transition to a reliable, cost effective, and low-carbon future.

Clean Energy Transition Institute is an independent, nonpartisan Northwest research and analysis nonprofit organization dedicated to accelerating the clean energy transition in the Northwest.

Evolved Energy Research was founded to address key energy sector questions accelerated by policy goals and new technology development.

Contact: Nicole Hughes, Executive Director, Renewable Northwest: nicole@renewablenw.org