



Innovative clean energy solutions are creating a brighter future for Oregon

For over 130 years, Portland General Electric (PGE) has delivered safe, affordable, and reliable energy to Oregon residents. In line with the state's ambitious decarbonization targets, PGE is on a path to reducing greenhouse gas emissions from the electricity it serves to Oregon customers by at least 80% by 2030. While maintaining affordability and reliability for customers, the company is also committed to an aggressive goal of net zero greenhouse gas emissions across company operations by 2040.

Challenge

To add more renewable energy to the grid while maintaining reliability and reducing costs for customers, PGE worked with NextEra Energy Resources - the world's largest producer of wind and solar energy - to construct a new clean energy project in Morrow County, Oregon. Together, the two energy companies planned an innovative project site combining wind, solar, and battery storage in one location. This "trifecta" project would be called the Wheatridge Renewable Energy Facility— the first of its kind in North America.

Installing solar, wind, and battery in the same facility is a complex process requiring deep industry knowledge. The NextEra Energy Resources team needed to address intermittency — the natural ups and downs of wind and sun generated power — as well as the capacity limits of the energy grid.

Analysis

Efficiency was key when designing the Wheatridge Project. Over 100 wind turbines and 150,000 solar panels were installed by the NextEra Energy Resources team, which together produce 350 megawatts of clean energy. These renewables directly flow into the grid or into the onsite battery storage, which can store up to 30 megawatts of clean energy for four hours. This design provides flexibility and maximizes the availability of renewable resources, regardless of weather conditions or time of day.

“ With the Wheatridge project, we're accelerating Oregon's clean energy transition and the future of integrated renewable energy technologies. ”

Maria Pope
PGE president and CEO





NextEra360 is a full circle solution to guide your operational efficiency and reduce cost no matter where you are on your energy management journey. Achieve your goals, and track progress with a comprehensive carbon emissions reduction platform

The combined energy assets provide enough emissions-free energy to power approximately 100,000 Oregon homes, enabling the Wheatridge Renewable Energy Facility to meet energy demand as required.

To optimize the intermittent power generated by the Wheatridge Facility, NextEra Energy Resources utilized its signature platform, NextEra 360™. NextEra 360™ is a comprehensive energy optimization software solution comprised of four modules: integrated resource design, energy management, asset optimization and grid analytics. The tool was originally designed to help NextEra Energy optimize its own generating fleet and has been in use for more than 15 years. Organizations can use the tool for a variety of purposes, including to track carbon reduction, procure cleaner power, improve overall asset value, and dramatically reduce energy costs.

NextEra 360™ helped PGE generate optimal schedules, analyze the wind-solar-battery asset's performance, and gain real-time data to direct battery charge and discharge timing. These insights prove indispensable in managing the energy produced by the Wheatridge project, allowing PGE to store power when available and dispatch it to customers when needed.

Results

With NextEra Energy Resources and NextEra360™ software, PGE and its approximately 3,000 employees are working to build a clean energy future delivering safe, affordable, and reliable clean energy to Oregon. The Wheatridge Facility brought a significant investment to the community, as well as created hundreds of jobs and tax revenue. The innovative "trifecta" provides PGE customers with reliable power while bringing Oregon closer to its clean energy targets.

"Bringing wind, solar and energy storage together at one site is quite a significant moment for renewable technologies. We're pleased to work with Portland General Electric and help them achieve their decarbonization goals," said Rebecca Kujawa, president and CEO of NextEra Energy Resources. "These facilities generate low-cost, homegrown energy and will provide millions of dollars in additional tax revenue to Morrow County over the life of the project."

About Us

NextEra Energy Resources, together with its affiliated entities, is a clean energy leader, with approximately 27,400 MW of total net generating capacity in the U.S. and Canada, as of year-end 2022, a world leader in battery storage and is driving the development of the green hydrogen economy. We partner with businesses to develop new, creative and comprehensive energy solutions to decarbonize, lower costs and ensure economic business sustainability. NextEra Energy Resources is a subsidiary of NextEra Energy, Inc. (NYSE: NEE).

For more information, visit [NextEraEnergyResources.com](https://www.NextEraEnergyResources.com).