



Tenino grid modernization and education

Together, we're creating a better energy future

This Grid Modernization initiative, in partnership with the Washington State Department of Commerce, is another step in our continued commitment to bringing new technology to our customers. By designing, installing, and testing the first utility-scale microgrid in PSE's service area, our combined efforts will enhance services for the Tenino community and pave the way for a cleaner, better energy future for all of us.

This innovative project is possible thanks to a generous \$2.7 million grant from the Department of Commerce's Clean Energy Fund, in addition to a multi-million dollar investment from PSE. We are also very grateful to the City of Tenino and for the Tenino School District's partnership. What we learn here could eventually be scaled and adapted to benefit other communities in ways that have never been possible before. Likewise, we're thrilled that our data and project details could support local educational initiatives and benefit students of all ages.

Project details

Solar panels are a renewable energy source that can help reduce greenhouse gas. Batteries can store solar energy for later use—like when the sun doesn't shine, or during an outage. This innovative project combines both technologies to bring new, and cleaner, energy solutions to Tenino. It will also provide vital learning opportunities for PSE and the entire utility industry.

The primary installation will be an approximately 1MW/2MWh lithium-ion battery at PSE's Blumaer substation and solar array on adjacent land, complementing existing solar panels at nearby Tenino High School. Combined, the system will form a microgrid capable of providing temporary back-up power to the school during an outage.

We also plan to install a second battery in the area to enhance local reliability. The system's location will be determined by available siting and other factors.

Blumaer substation



Frequently asked questions

What's Grid Modernization?

For PSE, it means taking a holistic approach to updating and improving our infrastructure to create an energy grid that's reliable, resilient, and flexible. This means investing in new equipment, installing new software and communication platforms, testing and deploying new technology, and empowering customers with tools to make their own energy choices.

What's a microgrid?

Although microgrids can vary widely in size and design, they're essentially "mini" systems that generate and deliver energy separately from the main distribution grid. The microgrid we're building in Tenino will use a battery to store energy from connected solar panels. During an outage, that system can "island" the high school and provide temporary back-up power for critical functions—like refrigeration, heating, and interior lights.

How will this project benefit the community?

This project's benefits cover a wide range. The microgrid and additional battery will enhance local service in Tenino and provide a source of back-up power for the high school. The renewable resources we're testing will help PSE and utilities across the country determine the best ways to reduce greenhouse gas while still providing safe, reliable, and affordable service.

How could it benefit local students?

This is a complex technical project and an invaluable learning opportunity for PSE. We're thrilled that it could also provide learning opportunities for local students. We will work closely with our partners at the Tenino School District to identify ways our work can support their educational goals and programs.

How long will it take to build?

Projects like these typically unfold in a number of key phases. While it's too soon to provide exact dates, we can outline the stages of our process and their estimated time frames. Our current plan is to break ground on the microgrid installation in the third quarter of 2022.

Anticipated timeline

Summer/Fall 2020	Spring 2021	Fall 2022	Fall 2023	Through 2024
Contracting with partners and launching research phase	Launch design phase	System delivery and breaking ground on installation process	Systems integration and commissioning	Use case and performance testing by PSE and PNNL