

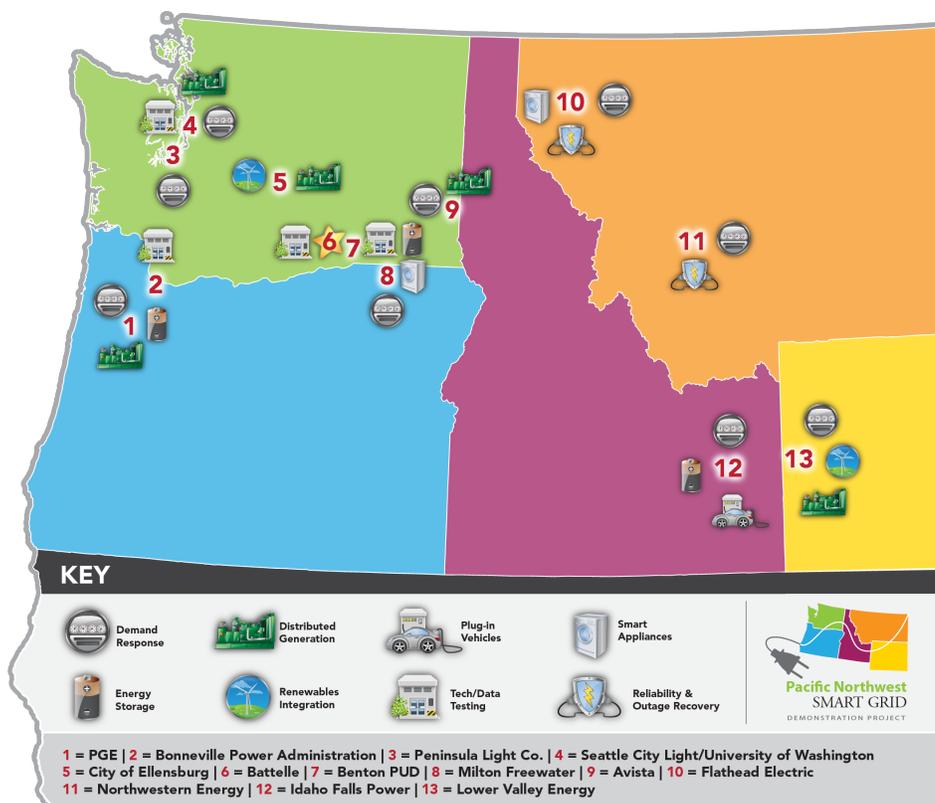
# Pacific Northwest Smart Grid Demonstration Project

The Pacific Northwest Smart Grid Demonstration Project is the largest, regional smart grid demonstration in the nation. It is an unprecedented test of new technologies and capabilities that will move the nation closer to a more efficient, sustainable and resilient power system.

The project will help spur a vibrant new smart grid industry and a more cost-effective, reliable electricity supply, both of which are drivers of U.S. economic growth and international competitiveness. It will aim to inform the business case and quantify the costs and benefits of smart grid technology in the region, and support integration of renewable energy.

## The Project, by the numbers:

- Runs five years and involves 60,000 metered customers across five states
- Involves the Bonneville Power Administration, 11 utilities, five technology partners, and will engage system electricity assets exceeding 112 megawatts
- Budget of \$178 million; paid in half by U.S. DOE funds and project participants
- At its peak, create as many as 1,500 jobs
- Includes participation from the University of Washington and Washington State University and Central Washington University



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**Project objectives.** The Pacific Northwest Smart Grid Demonstration Project will:

- Quantify smart grid costs and benefits
- Facilitate the integration of renewable resources
- Validate new smart grid technologies and business models
- Advance standards for interoperability and cyber security approaches
- Provide two-way communication between distributed generation, storage, and demand assets and the existing grid infrastructure.

By ensuring that these outcomes can be readily and flexibly adapted and widely replicated, this demonstration lays the foundation for the future of the nation's electric power grid.

**How it will be accomplished.** The project team is implementing a unique distributed communication, control and incentive system designed to bring the electric transmission system into the information age. Coined "transactive control" by researchers at the Pacific Northwest National Laboratory, this new approach to energy management will combine devices, software and advanced analytical tools and test how to help consumers and producers of energy save money and support renewable energy integration. The project expands upon the region's experience in the 2006 DOE-funded Pacific

Northwest GridWise™ Demonstration Project on the Olympic Peninsula, which successfully tested demand-response concepts and technologies.

**The team.** Battelle leads a strong collaboration that includes the Bonneville Power Administration and the following 11 utility representatives based in the Pacific Northwest:

- Avista Utilities – Spokane, Wash.
- Benton PUD – Kennewick, Wash.
- City of Ellensburg – Ellensburg, Wash.
- Flathead Electric Cooperative, Inc. – Kalispell, Mont.
- Idaho Falls Power – Idaho Falls, Idaho
- Lower Valley Energy – Afton, Wyo.
- Milton-Freewater City Light & Power – Milton-Freewater, Ore.
- NorthWestern Energy – Butte, Mont.
- Peninsula Light Company – Gig Harbor, Wash.
- Portland General Electric – Portland, Ore.
- University of Washington/Seattle City Light – Seattle, Wash.

The demonstration also involves a diverse team of technology providers including: Alstom Grid, IBM, 3TIER Inc., Netezza Corp., and Quality Logic Inc. Washington State University and Central Washington University will also be directly involved.

