



Portland General Electric's ambitious Smart Grid Test Bed launches

July 15, 2019

Bringing the future of the smart grid forward to today

PORTLAND, Ore., July 15, 2019 /PRNewswire/ -- Portland General Electric Company (NYSE: POR) today announced the launch of its [Smart Grid Test Bed](#), a first-of-its-kind-project that will integrate smart grid technology on a scale never before attempted in the United States. The project aims to accelerate PGE's vision for a clean energy future through partnering with customers in entirely new ways to decarbonize the grid.

"We're using our Smart Grid Test Bed to deliver simple, seamless solutions and working with customers to drive carbon out of our system," said Maria Pope, president and CEO of PGE. "We're determined to meet our shared climate and equity goals."

PGE's test bed spans three distinct neighborhoods within its service area. Through the test bed, the company is preparing more than 20,000 customers to take advantage of special demand-response signals as well as incentives for using smart-home technologies, giving them greater control over their energy use and carbon footprint.

With this pilot, PGE is building the roadmap to a virtual power plant — one powered by customer devices and behaviors rather than traditional generation — that will help address climate change, empower communities in how they consume energy and create a more resilient power system, all while saving customers money.

PGE will make this a seamless experience for customers by helping them automate their smart devices, such as thermostats, water heaters, electric vehicle chargers and batteries, to work in concert with PGE as it operates the grid. During times when demand for electricity is especially high in the region, customers will be able to decide on an event-by-event basis if they want to participate in reducing or shifting their energy consumption. Additionally, the entire region will benefit as PGE integrates even more renewable energy resources into its power supply without compromising grid safety, security or reliability.

Customers in the test bed are all-in

Earlier this week, residents in the test bed neighborhoods were automatically enrolled into PGE's Peak Time Rebates, a demand-response program that rewards customers for shifting their energy use during times when temperatures are particularly hot or cold.

Auto-enrollment will help PGE achieve its target participation rate of at least 66% — approximately ten times the national average for similar programs. This will provide valuable insight into customer interactions with the programs and opportunities to demonstrate the benefits of adopting smart grid technologies at an unprecedented scale. PGE will share these learnings broadly for the benefit of the entire energy community.

Removing barriers to participation

Throughout this multi-year pilot, PGE will offer different programs and incentives to understand how best to partner with all types of customers, and how to offer more equitable solutions. The pilot will explore topics including:

- Structuring programs that best fit varying customer needs.
- Automating programs so they're convenient for customers.
- Working with partners on next-generation offerings.

Background on the project

PGE will leverage advanced communications capabilities and distribution system upgrades within three Oregon cities: Hillsboro, Portland and Milwaukie. Three substations in these cities will also be equipped with other smart grid technologies such as new remote controls that increase system reliability and enhanced safety and cyber security.

The test bed will accelerate the development of distributed resources, which include customer-hosted renewables like rooftop solar; flexible resources like batteries, thermostats and water heaters; and electric vehicle charging. The project will rely on PGE's unique ability to partner with customers.

The project was conceived and is being overseen by energy regulators in Oregon. To accelerate the concept, PGE developed the pilot with guidance from the Rocky Mountain Institute, one of nation's top sustainability consultants. The project is being steered by an advisory committee of local and national subject matter experts from the public and private sectors.

Quotes from mayors in support of PGE's Smart Grid Test Bed:

"PGE's leadership in reducing energy consumption aligns perfectly with our community's sustainability goals. This visionary project at the Roseway substation serving the South Hillsboro neighborhood will also aid our Smart City strategy by leveraging innovation and technology for our daily lives. Residents and businesses can make the most of smart thermostats, water heaters and appliances, rooftop solar energy generation, electric vehicles and energy storage." —Steve Callaway, mayor of Hillsboro

"The urgency of rolling out cutting-edge technology that aims for a carbon free near-future is critical. Milwaukie looks forward to exploring how this technology not only moves us toward our goal of being a net zero city by 2040, but creates resiliency in the face of more and more violent storms. We are thrilled with the visionary attitude that our partner PGE has embraced." —Mark Gamba, mayor of Milwaukie

"Partnership and collaboration with Portland General Electric is a critical part of our efforts to combat climate change and to make our electricity grid and neighborhoods more resilient, livable and efficient. The City of Portland is excited to learn about smart grid implementation alongside PGE in this important pilot program." —Ted Wheeler, mayor of Portland

For more information, visit PortlandGeneral.com/SGTB.

About Portland General Electric Company:Portland General Electric (NYSE: POR) is a fully integrated energy company based in Portland, Oregon, serving approximately 887,000 customers in 51 cities. For 130 years, PGE has been delivering safe, affordable and reliable energy to Oregonians. Together with its customers, PGE has the No. 1 voluntary renewable energy program in the U.S. With approximately 3,000 employees across the state, PGE is committed to helping its customers and the communities it serves build a clean energy future. For more information, visit PortlandGeneral.com/CleanVision.

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