CITY OF HILLSBORO UNCOVERS HIDDEN OPPORTUNITY TO PRODUCE RENEWABLE ENERGY

GROUND-BREAKING IN-PIPE HYDROELECTRIC PROJECT GENERATES CLEAN ENERGY AND $11,000 IN ANNUAL SAVINGS

When it comes to hitting community sustainability goals, the City of Hillsboro is a leader. It's already ranked number one in the nation for renewable power use. Now, Hillsboro is leading in another way: It's making the most of existing infrastructure and pioneering new technology—an innovative, 30-kilowatt micro-hydropower project that's installed in the municipal water system—to generate clean, renewable energy. The project also reduces costs, builds community resilience and keeps energy dollars local.

At the 90-acre Gordon Faber Recreation Complex, home to the Hillsboro Hops Minor League baseball team, a hydro-pressure recovery valve was installed in a major water pipeline. Designed by Oregon-based InPipe Energy, this compact, turnkey technology uses excess pressure in the water system and efficiently converts it to clean, renewable energy. It generates approximately 171,000 kilowatt hours of renewable electricity annually to help offset the amount of power used by the lighting, electric-vehicle charging stations and other equipment at the site, saving the city about $11,000 a year in energy costs.

PROJECT-AT-A-GLANCE

- 30-kilowatt in-pipe micro-hydropower project

Project benefits

- Helps Hillsboro meet sustainability goals
- Makes the most of existing infrastructure
- Builds community resilience (backup source of energy)
- Keeps energy dollars local
- Generates clean, renewable energy
- Reduces energy costs
- 186,750 pounds of carbon dioxide saved

Financial analysis

- $400,000 project cost
- $85,000 cash incentive from Energy Trust
- $261,000 grant from PGE Renewable Development Fund

Estimated annual generation

- 171,000 kWh

> **To pioneer this practical new form of renewable energy allows us to meet our climate action goals, it helps us build resilience, and it helps us save the taxpayers money.**

Mayor Steve Callaway,
City of Hillsboro

EnergyTrust of Oregon

"This is a good site for this project," said Lee Lindsey, business and administration manager, City of Hillsboro Water Department. "Our engineering staff could see it really made sense. There is a lot of water flowing from our reservoirs to serve industrial businesses in the area, so there's quite a bit of pressure. We have to reduce that pressure to the right level before delivering it to businesses and homes. Now we're turning that excess pressure, which was previously wasted, into renewable energy."

In addition to generating carbon-free energy, the new equipment also serves as the new pressure-reduction valve to adjust water pressure in the pipeline to proper levels, which helps control leaks and extend the life of the infrastructure. A digital dashboard provides flow and pressure data 24/7 for precise pressure management.

Installation was easy, with the equipment located in a bypass alongside the original pressure-reduction valve. "The unit is fairly compact, so there wasn't a lot of construction. We didn't have to build a whole new vault," Lindsey said. "The original pressure valve is left in place for backup, so it's simple to switch over if we have to perform maintenance, and customers aren't impacted."

Energy Trust of Oregon provided technical assistance for the project along with $85,000 in incentives to help offset project costs. Another $261,000 in funding came from The Portland General Electric Renewable Development Fund, which is made possible by customers participating in PGE's Green Future program.

"There are really good incentives available," said Lindsey. "Communities all have energy and sustainability goals, and in-pipe hydropower is smart way to deliver on that mission."

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