



PSE started an ISEM wastewater treatment plant cohort in November 2019. Puyallup Water Pollution Control Plant joined in early 2021 so that they could learn how to operate more efficiently and earn incentives.

Puyallup water treatment plant cuts more than \$50k from annual energy bill

A case study of PSE's Industrial Strategic Energy Management Program

Customer background

Puyallup Water Pollution Control Plant (WPCP) serves the Puyallup, Wash., area and processes 5 million gallons of water every day. The plant has operated continuously for more than 75 years.

Energy challenges and opportunities

While several capital upgrades have been made in Puyallup WPCP's history, most recently in 2000 to add biological waste-removal capabilities, the plant's age almost guaranteed that energy-efficiency improvements were needed.

The plant joined an Industrial Strategic Energy Management (ISEM) cohort offered by PSE because it was an opportunity to reduce energy usage without making a big investment in upgrades. ISEM's primary focus is on low- and no-cost changes that save energy. For Puyallup WPCP, those small changes added up to significant savings.

Energy savings at a glance



ELECTRIC SAVINGS

922,707 kWh

That's enough to power 77 homes for a year.



PSE INCENTIVES PAID

\$20,545



ENERGY COST SAVINGS

\$52,594

* Metrics are annual, based on savings realized February 2021 through January 2022.

We partnered with PSE's ISEM program because it was a great opportunity to look at our plant's efficiency and see what we could do better. The fact that it requires little to no capital investment, plus we could earn incentives, was a huge selling point for us.

Dan Messier
Puyallup WPCP manager

How PSE helped

In ISEM, our objective is training facility staff to save energy in daily operations, maintenance and behavior. At Puyallup WPCP's energy-assessment event, which comes at the beginning of the ISEM experience, our engineers identified 45 site-wide energy-saving measures that could be implemented. These low- and no-cost actions included optimization of blowers, reduction of fan speeds, adjusting building HVAC set points, sludge pump improvements, reducing run time of equipment and turning equipment off at night. With ongoing coaching from our engineers, Puyallup WPCP implemented all of these changes.

We used to run certain equipment 24 hours a day. Now, it runs just four hours a day with no negative impact on operation. All we notice is energy savings, which shows up as a lower bill. We never would have known we could do that without ISEM.

Dan Messier
Puyallup WPCP manager

Through ISEM training seminars and networking with cohort members, Puyallup WPCP also learned that they could apply for PSE energy-conservation grants to offset costs for several capital projects. One of the completed projects replaced about 700 fluorescent lightbulbs with efficient LED bulbs.

We created the ISEM wastewater cohort specifically for industrial facilities in the wastewater treatment field. Placing customers in a cohort of similar facilities allows them to gain expertise not only from our energy-management engineers but also from cohort peers. We've found this is beneficial in many ways for our ISEM participants.

Every plant is different, but there's still so much to learn from our peers in the industry. Hearing what they're doing to be more efficient is helpful as we learn how to improve our own operations.

Dan Messier
Puyallup WPCP manager



Through ISEM, Puyallup WPCP learned that they could reduce the run time of these channel blowers from 24 hours a day to just four hours a day, which saves a significant amount of energy.



Adjustments to run times and set points for equipment and machinery throughout Puyallup WPCP had no negative impact on operation, and energy efficiency is greatly increased.

Results

In Puyallup WPCP's first year in the ISEM cohort, they saved 922,707 kilowatt-hours of electricity — that equates to more than \$50,000 in annual energy costs. As they progress through their three-year cohort, savings are expected to increase. A big reason is that current plant staff are now trained to integrate energy-saving practices into daily operations, maintenance and behavior. As new staff come on, that knowledge will be part of routine training.

Additionally, Puyallup WPCP has earned more than \$20,000 thus far in incentives through ISEM. That money allows for future investments in capital energy-efficiency improvements.

Start your energy-management journey

Learn more about PSE's Industrial Strategic Energy Management program at pse.com/isem. Or get in touch with the program directly by emailing industrialem@pse.com.



pse.com/isem

