



## Klamath Falls wastewater district cleans up energy costs

- + To learn more about how new wastewater treatment technology saves energy and delivers benefits to ratepayers, read our [Wastewater Energy Savings Guide](#).

An ongoing initiative to save energy and cut electricity use and operating costs at the South Suburban Sanitary District is adding value to the community and to its ratepayers. Thanks to a recent investment in new, energy-efficient technology at the district's wastewater treatment plant in Klamath Falls, South Suburban Sanitary District earned \$77,100 in cash incentives from Energy Trust and expects to save 40 percent on its annual electricity bill.

The district serves commercial businesses and residences in Klamath County and parts of Klamath Falls, processing an average of 2.7 million gallons per day of wastewater. Treating all that wastewater is an energy-intensive process, which means District Manager Michael Fritschi pays close attention to advancements in technology and equipment that will improve treatment, lower energy consumption and reduce the district's overall carbon footprint.

"We're providing the same level of treatment with less energy," said Fritschi. "And by saving energy, we control our operating costs, which helps free up future capital for key infrastructure projects that will add value to the district.

The district's plant uses four lagoons as part of its process, including one aerated treatment lagoon. Prior to the equipment upgrade, air was introduced to

the wastewater through an older system of coarse bubble diffusers spaced throughout the lagoon. The coarse bubbles provide aeration and keep the sediment in the aerated lagoon mixed, but the oxygen transfer efficiency tends to be fairly low.

The outdated system was also becoming repair intensive, so Fritschi turned to Energy Trust for consultation help and an energy audit. The district's goal was to find a way to reduce the amount of energy needed to provide oxygen and mix sediment for biological treatment of the lagoons.

"This project is part of an overall energy reduction strategy," said Fritschi. "This fiscal year we've budgeted 33 percent less for all utility costs than in the last nine fiscal years on average. With utility costs going up, we rely on investments like this one to help us meet our goal. Our community and ratepayers count on us to control costs to keep future rates stable and maintain our long-term financial health."

The solution to the aeration diffuser problem was a hybrid system that would keep sediment mixed, provide sufficient air and use less energy. One of the first installations of this technology on the West Coast, the project entailed replacing 328 coarse bubble aeration diffusers with 63 efficient diffusers capable of providing a combination of coarse bubbles for mixing and fine bubbles for improved aeration efficiency. The fine bubble diffusers increased the oxygen transfer efficiency, which reduces the system's overall energy load.

The district estimates the project will save 334,850 kilowatt hours of electricity annually, which is equal to the amount of energy needed to power 30 average Oregon homes for one year.