

# KWRD turns sewage into electric power to reduce reliance on grid

SHAW LOCAL NEWS NETWORK

DeKALB – Early this year, as Texas grappled with the fallout of a power grid failure that affected millions, the Kishwaukee Water Reclamation District quietly worked to ensure no power failure in Illinois could stop it from treating the area’s wastewater.

In February, the KWRD turned on a second Combined Heat and Power generator at the wastewater treatment facility in DeKalb. After a year of planning, the new generator joined one that has been running since 2020. The two generators, powered with gas produced by the treatment process, provide 125% of the facility’s electrical energy needs.

“We produce more electric power than we use,” KWRD Executive Director Mark Eddington said in a news release. “ComEd is becoming our backup. When you look at what happened in Texas last year, there’s security in knowing the power grid is not our primary source of energy.”

The sewage treatment process creates biogas, which most facilities burn off. In 2020, the KWRD began using the biogas to power its first CHP generator, according to the release.

The generator reduced the facility’s power consumption by 60%, but it couldn’t meet the entire need. To produce enough gas for a second generator, the facility began processing food processing waste and restaurant grease. The hauled waste program keeps these materials out of landfills and gives the KWRD the gas volume it needs to power a second generator.

The district originally planned to make use of the extra gas by 2025. Two years ago, while meeting with Facebook officials about the wastewater needs of Meta’s DeKalb data center, district officials mentioned their goal to become energy neutral.

Facebook offered a half-million-dollar donation that, combined with a grant from the Illinois Clean Energy Community Foundation, brought the second generator online years ahead of schedule.

“With what’s happening globally, energy prices are increasing rapidly,” KWRD Assistant Director and District Engineer Mike Holland said in the release. “Energy efficiency is more important than ever. Creating our own power is becoming more beneficial every day.”

The wastewater treatment plant consumes about 12,000 kwh of electricity per day. The generators, powered by a natural byproduct of wastewater treatment, generate an average of 16,000 kwh per day. It would take a power plant about 18,080 pounds of coal or 1,280 gallons of petroleum to generate the same amount of power, according to the U.S. Energy Information Administration.

In the first month of both generators being online, the district saved more than \$50,000 in electric costs.

KWRD board member Dawn Cosentino pointed out the district’s energy initiatives are not only good for the environment but keep sewer rates down for KWRD customers.

“Since we’re almost energy independent, fluctuations in energy costs don’t affect us nearly as much,” she said in the release.

Holland said the district’s goal remains to be “net-zero energy” – to produce enough electricity to offset the natural gas it still uses to heat its facility.

“We’re proud to be basically independent of the electric grid,” KWRD Board President Dennis Collins said in the release. “That’s something we proudly wear on our sleeves and all our customers can be proud of as well.”

The Kishwaukee Water Reclamation District is committed to a clean, safe environment for everybody. Producing its own electricity reduces the need for energy produced by fossil fuels. The district has six electric vehicle charging stations in its parking lot free for public use. Its advanced treatment process keeps thousands of additional pounds of contaminants out of the Kishwaukee River, and it has restored several acres of its campus to native prairie land that has been certified as a butterfly habitat.