

# STATE NEWS

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## **Land II: Flathead Electric Co-op Announce Expansion of Gas-to-Energy Plant**

“Essentially, your garbage can power your house,” says Dave Prunty, Public Works Director for Flathead County, when asked to explain Flathead Electric Cooperative’s biomass project at the county landfill, now in its 14th year.



The Caterpillar engine running the Co-op’s Landfill Gas-to-Energy Plant. Photo courtesy Flathead Electric Cooperative.

Back in 2009, the Co-op and the County worked together to create Montana's first methane-gas-to-energy project, run by a Caterpillar engine capable of generating 1.6 megawatts of electricity from methane gas produced by the landfill – that's enough electricity to power about 1,600 households. Electric generation has been so successful that the Co-op is adding a second Caterpillar engine to the plant, doubling its capacity to 3.2 megawatts, or about 3,200 households.

There are about 57,000 members and 73,000 meters on the Co-op's electric system, which is largely fueled by Bonneville Power Administration (BPA) hydropower. While the gas-to-energy plant can't power the entire Flathead Valley, the Co-op prizes the diversity and reliability its generation adds to its electric system. "It's pretty cool to make garbage a benefit to our area, too," noted Ashley Keltner, System Engineer for the Co-op, with a smile.

Electric generation is expected to increase alongside the landfill's continued growth. Faced with taking on waste at record levels, the Flathead County Solid Waste District recently partnered with the Co-op to complete a multi-year methane well expansion project that will significantly increase gas collection ahead of the addition of a second engine. Prunty reacted, "In the last 10 years, the amount of trash sent to the landfill increased by over 3,000 tons a year. We don't project a slowdown in garbage, so the time seemed right to partner back up with the Co-op and expand the gas-to-energy project."

Initial gas projections show enough methane fuel to power both engines at around 75% capacity at initial startup. Gas levels will continue to increase moving forward and both engines are predicted to reach maximum capacity within 10 years. Methane is a greenhouse gas that results from decaying garbage. It is 21 times more potent than carbon dioxide.

To comply with environmental mandates—and, as Prunty puts it, “common sense”—landfills are required to contain their methane production. Before the gas-to-energy plant was built, the landfill used to flare, or burn, the methane. Instead of flaring, the plant utilizes a vacuum system connected to methane “wells” and pipes dispersed throughout the landfill to draw the methane into a biomass process. The methane is filtered and then burned in a 20-cylinder engine, which is connected directly to the Co-op’s electric system.

The plant, and first engine, were funded by \$3.5 million in Clean Renewable Energy Bonds awarded to the Co-op. The system was installed and is operated by SCS Energy, which will continue to operate the gas-to-energy plant after the expansion. SCS will bring on an additional employee when the second engine begins operation.

The Co-op purchased the second engine directly from Kalispell’s Western States dealer. The new engine is presently being manufactured in Lafayette, Indiana. At the same time, the first engine is undergoing an overhaul in Boise to ready it for the new operation.

Meanwhile, EnergyNeering Solutions (ESI) is working with a small group of largely local contractors to construct the building for the new engine. ESI also handled the design and permitting aspects of the second engine and its building. The new engine will be installed in Spring 2023 by ESI and Western States.

After 13 years of analyzing and reporting monthly results from the gas-to-energy plant to the Co-op's Board of Trustees, Jason Williams, Assistant General Manager for Engineering, Operations and Power, believes the plant has more than proven itself as an asset to Co-op members and is worthy of expansion. "We're largely a distribution Co-op, but it's a great thing to have some of our own electric generation right here in the Valley — 3.2 megawatts of electricity is by no means insigni autonomy and resilience," Williams noted.

To learn more about the Landfill Gas-to-Energy Plant – Flathead Electric Cooperative or SCS Engineers-SCS Energy.