

# FACT SHEET



## Biogas Enhancement Facility: Fats, Oils, and Grease Receiving Station

### BACKGROUND

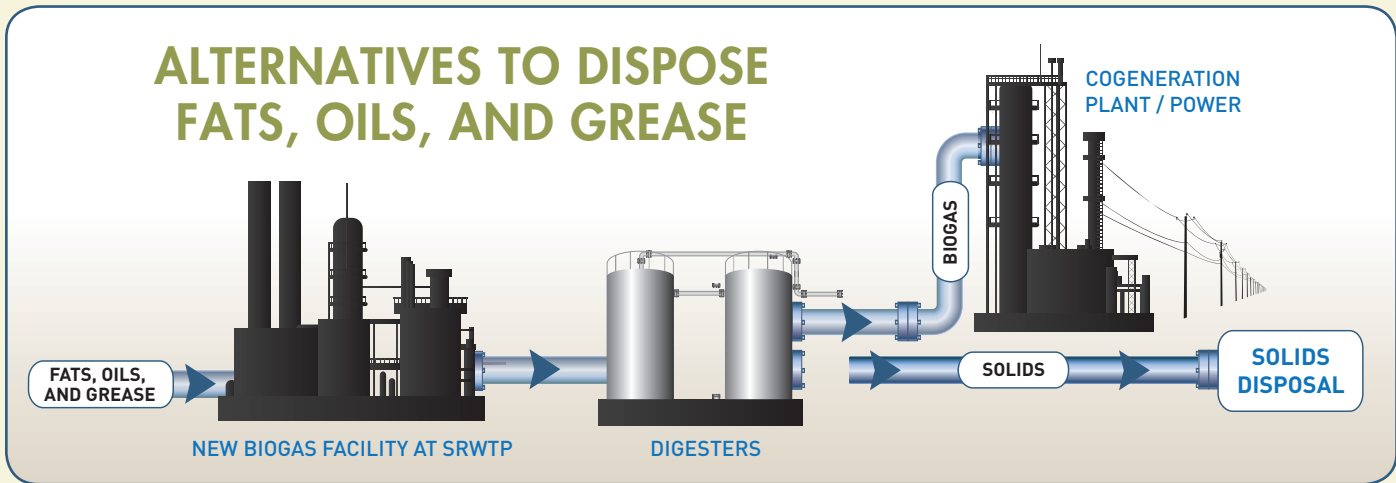
In 2007, Sacramento Regional County Sanitation District (Regional San) and Sacramento Municipal Utility District studied the feasibility of constructing a separate receiving station to accept deliveries of fats, oils, and grease from restaurants and soda pop waste from soda manufacturers at the Sacramento Regional Wastewater Treatment Plant in Elk Grove. The study called for a separate receiving station that would receive fats, oils, and grease, and soda pop waste and inject it into treatment processes producing biogas as a renewable energy source.

One of the many treatment facilities at the treatment plant includes anaerobic digesters that break down solids removed from wastewater. As solids break down, methane (or biogas) is generated. Traditionally, the biogas is collected and sent to a SMUD cogeneration facility for use in combustion processes, generating electricity.

Regional San and SMUD conducted a pilot project in 2009 to confirm that injecting fats, oils, and grease and soda pop waste directly into anaerobic digesters would increase biogas production. The pilot project confirmed significant increases in biogas production, making a full-scale biogas enhancement facility an attractive project. The pilot project received recognition by winning the Sacramento Sustainable Business Award.

In 2010, Regional San and SMUD received funding from the American Recovery and Reinvestment Act, Community Renewable Energy Deployment Grant through the U.S. Department of Energy to assist with the construction of a biogas enhancement facility. The California Energy Commission supplied a matching grant.

In January 2013, Regional San completed construction of the Biogas Enhancement Facility and began accepting deliveries of fats, oils, and grease and other liquid food waste. The Biogas Enhancement Facility receiving station enhances Regional San's ability to convert fats, oils, and grease and soda pop waste into biogas and renewable energy. The receiving station supports the region's renewable energy efforts by providing an increased supply of renewable energy while reducing greenhouse gas emissions. In addition, the facility provides a new local disposal option for fats, oils, and grease and liquid food processing waste.



## FACILITY DESCRIPTION

The Biogas Enhancement Facility receiving station includes two bays for liquid waste haulers to offload fats, oils, and grease and soda waste. Previously, fats, oils, and grease and soda waste was discharged into the sewer system and passed through all of the treatment processes at the treatment plant; liquid waste is now directly injected into the anaerobic digesters. Direct injection into digesters bypasses several other treatment processes and more efficiently directs the liquid waste to the anaerobic digesters where the biogas is produced. The result is increased biogas production and reduced treatment costs.

The receiving station is designed to receive approximately 42,000 gallons of fats, oils, and grease daily. In addition to sending increased amounts of biogas to SMUD and the SMUD cogeneration facility located at the treatment plant site, the additional biogas production also provides backup power to the treatment plant in case of a local power outage.

## FACILITY COST AND FUNDING

The total project cost was approximately \$3.2 million. Regional San received approximately \$1.45 million in American Recovery and Reinvestment Act funding from the U.S. Department of Energy and \$100,000 in matching funds from the California Energy Commission to help construct the facility. The remainder was funded by Regional San.

The grant programs required all materials to be purchased from American suppliers, feeding project costs back into the American economy.

## WANT MORE INFORMATION?

Maintaining communication is very important to Regional San. If you'd like to speak with a representative, please contact John Nurmi [nurmijo@sacsewer.com](mailto:nurmijo@sacsewer.com) or phone 916.875.9182.

## FACILITY DETAILS

- Consists of two unloading stations for trucks and two stainless steel storage tanks with a total storage capacity of approximately 27,000 gallons.
- Conveys fats, oils, and grease to the mixed sludge feed system, which feeds material to the onsite digesters for solids treatment.
- Ability to offload full liquid waste hauling trucks in less than 15 minutes.

## KEY FACILITY BENEFITS

- Saving local businesses money by providing an innovative, local disposal option for select wastes, reducing fuel and fleet costs associated with trucking the waste to distant locations.
- Increasing biogas production to generate enough renewable electricity for approximately 700 homes in the region.
- Using existing waste processing and power generation infrastructure to minimize capital costs.
- Reducing greenhouse gas emissions associated with organic waste in landfills and its transportation to disposal sites outside the region.
- Reducing wastewater treatment costs.

