

## Downers Grove Sanitary District



**Program Area:**

Energy Program

**County:**

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**Grantee:**

Downers Grove Sanitary District

**Grant Date:**

November 2006, May 2010, November  
2012, May 2015

**Grant Amount:**

\$589,400

**Location:**

Downers Grove, IL 60515

The Downers Grove Sanitary District (DGSD) services over 20,000 customers and has an average design capacity of 11 million gallons per day (MGD). Treating this amount of wastewater requires a large amount of energy. DGSD has steadily increased the energy efficiency of its operations to reduce its treatment costs and its environmental impact, with the ultimate goal of reaching site net zero energy consumption. With grants from the Foundation, it has completed high efficiency blower, fine bubble diffuser, and biothermal heat pump projects. Two older centrifugal blowers were replaced with a higher efficiency ABS turboblower with a capacity of 6,500 cfm at 300 horsepower (HP). The blower replacement saves DGSD 425,000 kWh per year. The biothermal heat pump uses the inherent temperature difference of the plant's effluent water to provide heating and cooling without a traditional HVAC system. The original system has been so successful that DGSD is implementing biothermal heat pumps throughout the plant whenever an HVAC system needs replacement.

Most recently, DGSD received an ICECF grant for \$250,000 to install a sludge biogas cleaning facility. The new system, completed in 2014, treats biogas produced on site, which is then used to operate an engine-driven combined heat and power system (CHP). By using the biogas, DGSD avoids the purchase of approximately 2.236 million kWh of electricity and 88,000 Therms of natural gas per year. The sanitary district has been able to boost biogas production from its anaerobic digester by accepting fats, oils and grease (FOG) from nearby businesses while generating extra revenue through tipping fees and avoiding sending FOG to landfills.

To date, DGSD has been able to reduce energy consumption by over 50%, saving 4.7 million kWh and \$150,000 annually. Reducing energy use and achieving net zero energy remain major priorities for the Downers Grove Sanitary District.