THE ENERGY AND CLIMATE NEUTRAL WASTEWATER TREATMENT PLANT

HOW TO BECOME AN ENERGY PRODUCER

Net-zero energy operations at WWTP, Downers Grove, Illinois, USA

The Downers Grove Sanitary District in Illinois has dedicated sig-nificant resources to reduce its energy footprint. Improvements in process efficiency including plant automation, aeration system im-provements, upgrades to HVAC and building management systems, and variable frequency drives have resulted in a 30% reduction in electricity usage at its wastewater treatment plant. The remaining electricity used by the facility is produced on-site using a biogas driven combined heat and power system.

Biogas is produced by co-digesting hauled food waste and sewage sludge generated on-site. The biogas is used as fuel to drive an engine-driven electric generator. Furthermore, heat recovery in the form of circulating hot water is used for plant process heat. The CHP plant was installed in 2017 with a payback time of 3.5 years. Total Infrastructure in-vestments of roughly USD 5 million are expected to have a 10-year payback period

Courtesy: NISSEN energy Inc., Landia and Downers Grove Sanitary District Wastewater Treatment Center

Downers Grove Sanitary District

Downers Grove Sanitary District WWTP

2 x Gas engine
2 x MAN E3268LE222

375 kW Electricity
426 kW Heating

2017 / 2020

< 3,5 år

We are proud to say that the DGSD project was selected as a Public Work Project of the Year in the Environment Category (Less than $5 Million) from APWA Chicago Metro.