PlanET Global GmbH
Fon: +49 (0) 2564-3950 0
Fax: +49 (0) 2564-3950 50
www.planet-biogas.com

Success Story

PlanET partnered with ECB Enviro North America in 2011 to build a multi-megawatt anaerobic digestion facility in Southern Alberta, Canada.

Funding was available to help and with a total project value of over $35M, a grant was provided from the Climate Change and Emissions Management Corporation (CCEMC) of $8.2M.

The area around Lethbridge, Alberta has the largest density of Intensive Livestock Operations (ILOs) in Canada, offering a wide variety of substrates to feed into the biogas plant. Currently the plant is processing dairy, hog & poultry manure, cheese whey, DAF /peptone from hog and poultry processing, residues from the processing of potatoes and grain, as well as mixed organic food waste.

The plant uses much of PlanET's patented technology to process their substrates and achieve optimal biogas production.

Of the electricity produced at Lethbridge Biogas, 5-10% is used for the parasitic load of the plant, with the balance feeding directly into the Alberta electrical grid.

The Lethbridge project is registered in the Alberta Offset System, and has the potential to reduce GHG emissions up to 225,000t of CO_2 by 2021.

Lethbridge Biogas was commissioned in late 2013, followed by an expansion in 2017 which comprised of a feedstock crusher and thermal hydrolysis unit. This equipment is able to safely process up to 30,000 tonnes annually of animal-by-products including deadstock.

The ultimate build-out of this plant will include additional digesters, a fertiliser processing unit and renewable natural gas injection.

Lethbridge Biogas: Plant Layout

1. Organics Receiving Hall
2. Thermal Hydrolysis Hall
3. Administration Office & Biofilter Building
4. 2x 1,231 m³ Organics Holding Tanks
5. 361 m³ ABP Buffer Tank
6. 3x 3,926 m³ Digesters
7. Process Pump Room

The Biogas Plant At A Glance

- **Location:** Lethbridge, Alberta, Canada
- **Commissioning:** December 2013
- **Input material:** Dairy, hog, poultry manure, cheese whey, residues from potato, mixed food waste, SRM, slaughterhouse wastes, deadstock
- **Solids charging system:** PlanET Vario, PlanET eco® flow
- **Pre-Storage Tanks:** 2 x 1,231 m³
- **Digester:** 3x tanks 3,926 m³ each. Wall & floor heating, submersible agitators, double membrane roof
- **Gas-tight effluent storage tank:** 5,645 m³ gross volume, submersible agitators, eco cover+
- **CHP:** 2 x 2G 1.425 MW engines
- Capacity of up to 30,000 t/yr (3 shifts)
- CFIA permit issued April 2017
- THD commissioned in Q2 2017
- Significantly increased biogas production at smaller feeding rates

THD: Construction & Installation

THD Process Vessel Transport

THD Process Vessel Offloading

Collection Tank

THD Process Vessel Piping

THD Process Vessel

Hot Oil Piping

THD: Process Overview

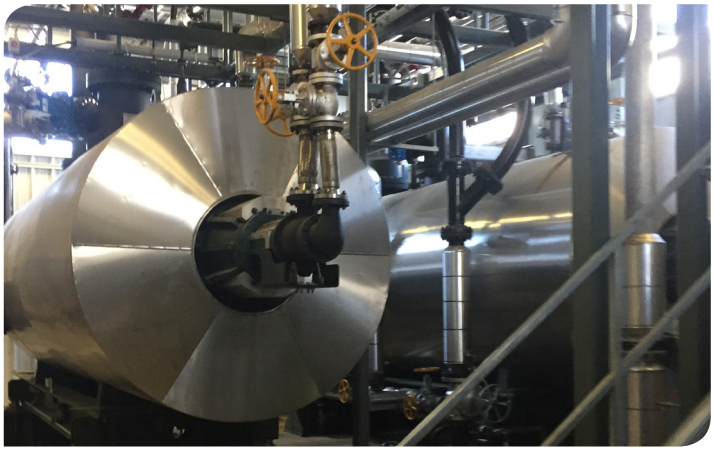
Organics Delivery

Hopper

Crusher

Hopper / Crusher / Pump

THD Process Vessel



Thermal Oil Heater & Distribution