

Bio-methanisation Plant Upgrade

CLIENT / City of Saint-Hyacinthe, Quebec, Canada

ANNUAL CAPACITY / 273 000 tons /year

VALUE / 46 million \$

In one of the first projects of its kind in North America, Filtrum Construction was selected as general contractor for a pioneering upgrade to a bio-methanisation plant located in the City of Saint-Hyacinthe, Quebec, Canada.



PROJECT Filtrum was awarded the complete realization of the \$46 million upgrade (anaerobic digestion system and biogas purification system), which started up in September 2015 after a 22-month construction phase. For the City and surrounding area, it was an important project given the province's mandate that by 2020 no organic waste can be put into a landfill.

The City had selected the technology: a West Canadian system for biogas purification and a German-built system for the anaerobic digestion system following a fact-finding trip to Europe where commercial generation of biogas is fairly common. It was then up to Filtrum to deliver the project, beginning with draft drawings and starting from scratch on the design of the electrical engineering and the control console. The biggest challenge was the massive task of integration of all the equipment.

Scope Details

- Seven new digesters 2 000 m³
- Three liquid organic matter tanks 200 m³
- One whey tank 3 650 m³
- Transformation of two existing digesters into hydrolysers
- A new building to house two 250 BHP hot water boilers and a digested sludge batch pasteurization system
- A new 3 300 m³ /hr capacity flare
- All related civil, mechanical, electrical and control work.

THE PROCESS

The process diverts organic waste from the landfill, reducing odours and greenhouse gas emissions. The plant uses anaerobic digestion to convert the waste into biogas and high quality biosolids. The biogas is purified to pipeline quality biomethane, which is being used to fuel a few of the municipality's vehicles, heat and cool buildings and will be fed into the pipeline grid. While three digesters have treated wastewater sludge since 2010, the upgrade will allow for processing of 72 000 tons of WWTP sludge, 201 000 tons of organic waste from households and ICI (industrial, commercial and institutional) from 23 surrounding communities. Under normal production, the biomethane generated will be 13M m³ /year.

THE RESULT

Filtrum's St. Hyacinthe project was the 2016 Sustainable Communities Award winner in the Waste category by the Federation of Canadian Municipalities.



www.filtrum.ca

FILTRUM CONSTRUCTION QUEBEC

430, des Entrepreneurs Street
Quebec City, Quebec | +1 418.687.0628

FILTRUM CONSTRUCTION MONTREAL

3500, 1ST Street
Saint-Hubert, Quebec | +1 450.676.8558

FILTRUM CONSTRUCTION HALIFAX

1959, Upper Water Street, Suite 1301
Halifax, Nova Scotia | +1 902.209.6953