



Georgian Bluffs Biogas Cogeneration Project

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| Owner | Township of Georgian Bluffs/Township of Chatsworth |
| Location | Owen Sound, Ontario |
| Project Type | Municipal Design/Build |
| Substrates | Septage, FOG, SSO Leachate, Pet Food, Ice Cream, DAF |
| Design | |
| Digester Size | 1 000 m ³ completely mixed mesophilic digester |
| Feedstock Handling | Combined Hydrolyzer/ receiving tank 100 m ³ |
| Special Considerations/ Challenges | The facility was designed to accept and process dewatered septage as well as solid feedstock |
| Development Period | 2009 Project Tender 2010 Certificate of Approval for Air and Noise Emissions 2010 Project Design and Built 2011 Project Commissioned |
| Process Volume | 16 – 20 m ³ /day |
| Retention Time | 50 day HRT |
| Gas Volume | 50 m ³ /hr |
| Electrical Production | 100 kW/hr |
| Available Heat | Used at facility |
| Digestate Volume | About 14-18 m ³ /day |
| System Performance | Gas production was substantially increased in early 2012 after owner hired CH Four Biogas for operational support |

Background

New regulations in the Province of Ontario prohibited land-application of raw septage to agricultural farmland. In response, the townships of Georgian Bluffs and Chatsworth sought to collaborate on an anaerobic digester system. A public bid invitation for a design/build project was issued and CH Four Biogas was the successful bidder.

CH Four was chosen due to its proven track record with biogas systems, especially the incorporation of mixed and sometimes challenging substrates. The project contract was awarded at the end of 2010, and system construction was completed only a year later, at the end of 2011.

While the facility performed as designed, the owners wanted to see greater gas output and CH Four was engaged to provide operational support in 2012. Since then, with ongoing monitoring and timely feedmix adjustments, the system has substantially increased gas production. The digester system now accepts locally produced organics, which has further increased system performance.

In retrospect, it was the forward-thinking representatives of both townships that made this system possible. Their leadership proactively addressed environmental regulations, while at the same time recognizing the great potential for biogas plants to create a revenue stream for their municipalities.