TURNING FAT, OIL AND GREASE INTO BIOGAS

Metro Vancouver is using the fat, oil and grease collected from the food processing industry to generate energy-rich biogas.

Tanker trucks bring the high-strength organic waste to a new $2.6 million co-digestion pilot plant at the regional district’s existing Annacis Island Wastewater Treatment Plant, which is located in Delta near the north foot of Alex Fraser Bridge.

The fully-automated pilot plant controls the feed of the organic waste into existing digester tanks that hold the sludge or solids which are removed from sewage during the treatment process. The fat, oil and grease provide more food to the anaerobic bacteria in the digester tanks, which in turn generate more methane-rich biogas.

As a result, a 20 per cent boost in total biogas production is expected at the region’s largest wastewater treatment plant.

The biogas now generated in the secondary treatment plant is used to generate electricity to help power the facility. In the future, the biogas could also be cleaned and sold to a natural gas distributor, which would further reduce greenhouse gas emissions.

“This pilot project illustrates the regional district’s commitment to sustainability,” said Greg Moore, Chair of the Waste Management Committee.

“Recovering energy from liquid waste is one of the goals of Metro Vancouver’s Integrated Liquid Waste and Resource Management Plan, which the provincial government has now approved.”
Co-digestion is a relatively new technology developed in Europe. In recent years, the technology has been applied at some wastewater treatment plants in North America. Successful full-scale applications include installations in Pinellas County in Florida and in the East Bay Municipal Utility District in California. Metro Vancouver is one of the few wastewater treatment operators developing the technology in Canada.

The fat, oil and grease used in the co-digestion pilot plant now comes from food processors in the region. In the future, Metro Vancouver will test the feasibility of also using brown grease collected from grease traps of restaurants.

When grease traps in restaurants and other businesses are not properly maintained, grease from commercial kitchens is disposed in the sewer, where it builds up and clogs the sewer system. It costs taxpayers about $2 million a year to remove this grease from the sewers. A video and information about proposed changes to a regional grease trap regulation is posted on Metro Vancouver’s website, www.metrovancouver.org. Click here for a direct link: http://www.metrovancouver.org/services/permits/GreaseTrapRegulation/Pages/default.aspx

Metro Vancouver’s co-digestion pilot plant began operating in April 2011. Initial operation points to an enhanced biogas production of more than 8,000 cubic metres per day. With revenues from existing tipping fees for fats, oils and grease and revenue from electricity generation and/or sales of the methane-rich biogas, the pay-back period on the $2.6 million investment is projected to range from eight to 12 years.

For more information on weekdays, please contact the Metro Vancouver Information Centre, at 604-432-6200.