

Bioenergy Project Profile

Seacliff Energy Corp.

Leamington, Ontario, Canada

ENVEST

Market

Bioenergy

Commissioned

2011

Challenge

Treat 110,000 tonnes/year of organic residuals to produce biogas to generate electricity and heat

Solutions

Anaerobic digestion
Biogas cogeneration
Organic fertilizer

Output

1.6 MW electrical
1.6 MW thermal
80k tonnes/year organic fertilizer



Seacliff Energy Corp. (SEC) was one of the first facilities of its kind in North America when it was initially commissioned in 2011. The facility recycles 110,000 tonnes/year of organic residuals from agricultural, commercial, and municipal sources, including source separated organics (SSO or “green bin” waste) from municipalities throughout Southern Ontario.

The organics are anaerobically digested in three 3,650 m³ tanks over 30 days. Digestion creates two key products; biogas and digestate. The biogas, a mixture rich in methane and carbon dioxide, is polished and consumed in a combined heat-and-power (CHP) unit to produce 1.6 MW of electrical energy and 1.6 MW of by-product thermal energy.

The electrical energy is supplied to the Ontario electricity grid as a source of renewable power and the thermal energy is used to heat the digesters and the adjacent 7-acre organic greenhouse. The digestate is further processed to produce an organic fertilizer that is used by local farmers to offset chemical fertilizer consumption.

SEC, through the diversion of organic residuals from landfills, offsetting of natural gas consumption for heating, and production of fertilizer from waste, is a leader in the realization of the circular economy.

For more information, please visit www.envestcorp.com