

GM St. Catharines Propulsion Plant Cogeneration Investment Backgrounder

General Motors Canada is completing a \$28 million cogeneration investment at its St. Catharines Propulsion Plant that will significantly reduce greenhouse gases, lower future energy and carbon costs and enhance the competitiveness of an iconic plant that makes engines and transmissions for GM plants across North America.

GM Canada is proving that smart solutions can be found to reduce costs, cut emissions and enhance competitiveness all at the same time. In 2017, the Company examined its biggest sources of onsite greenhouse gas emissions and realized they could tackle two issues at once. A cogeneration investment could lower future energy costs, including electricity, and significantly reduce net local greenhouse gas emissions by approximately 70 per cent at the same time.

With support from key partners such as the Ontario Centres of Excellence and Alectra Utilities, the project began with GM Canada's purchase and installation of four 1.6MW engines in an existing (refurbished) building. The engines will provide 6.4MW of electrical power to the plant which represents approximately 35 per cent of the electrical demand at the site. In addition, waste heat produced by these engines will be captured and used by the existing industrial boilers that provide heat and power throughout the site. The combination of electricity and heat generation is what makes this a cogeneration project.

A typical cogeneration plant uses natural gas to run the engine, however, GM Canada in discussion with Walker Industries (owners of a nearby industrial landfill site) came up with a unique alternative. Instead of using natural gas for the new engines, they could be adapted to run on renewable landfill gas delivered to the plant through a short pipeline. The use of landfill gas is a double win for the environment. The landfill collects the gas, which is reused purposefully, instead of being emitted as methane or flared to the environment. In turn, GM Canada can stop using natural gas to heat the facility, reducing the sites total emissions of greenhouse gas. To make this concept a reality, a 3.3 km landfill gas pipeline was constructed between the two sites.

Renewable landfill gas is now being received at our St. Catharines Propulsion Plant and the engines are in the process of being commissioned. The facility will be running at full capacity by October 31, 2020.

The GM Canada cogeneration project builds on a legacy of other smart environmental initiatives in St. Catharines. For example, the Propulsion Plant has been landfill-free for more than a decade. By reducing and recycling, GM Canada is reducing waste-to-landfill and cutting greenhouse gases at the same time. These are just a few of GM Canada's strategies to support GM's vision of a future with zero emissions.

RENEWABLE LANDFILL GAS

GENERAL MOTORS

