elexicon GROUP

CASE STUDY

Tillsonburg Community Centre (TCC)

PROJECT OVERVIEW

Microturbine CHP has helped the Tillsonburg Community Centre lower operating expenses, use energy more efficiently and support municipal sustainability objectives:

- PROVIDES EMERGENCY BACKUP POWER
- 1,200,00 ESTIMATED KWH SAVED ANNUALLY
- 5 YEAR PROJECT PAYBACK
- 3 CAPSTONE C65 UNITS INSTALLED
- TURNKEY PROJECT

CLIENT TESTIMONIAL

> We engaged Whitby Hydro Energy Services Corporation to handle the CHP component of our project from beginning to end. Their combined experience working with municipalities and recreation centers was invaluable in ensuring we leveraged all the benefits of the system and received incentives for the project. We wouldn't hesitate to recommend them for their professionalism, expertise, and dedication to service.

Rick Cox, Director of Recreation, Culture and Parks, Town of Tillsonburg

COMBINED COOLING, HEAT & POWER (CCHP)

Cooling can be added to CHP in a variety of municipal applications to provide both cooling and heating. Clean waste heat from the microturbines can be used to provide domestic hot water, space heating and cooling based on seasonal needs.

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Relied upon by the community for recreational activities year round, the electricity, heating, and cooling energy requirements for the Tillsonburg Community Centre (TCC) are substantial and constant – with the added imperative to remain operating during power outages.

"**Our** Facility Management team is always looking for more innovative, efficient, and cost-effective ways to service our community. This solution is the smarter, more resilient, sustainable, and reliable choice for our needs," said Rick Cox, Director of Recreation, Culture and Parks, Town of Tillsonburg. "The reasonable payback period, total system efficiency, and minimal downtime for maintenance were benefits that immediately captured our attention. With the flexibility micro-turbines offer, the Town of Tillsonburg is able to maximize cost savings while providing resiliency for the facility."

The Capstone Turbine CHP units have offset much of the heat load for the site, with the boilers now rarely in use. The boiler units are only used to cover heating requirements above the heat output from the micro-turbines, significantly extending their lifetime.

The system is able to seamlessly transfer to back- up mode in less than 10 seconds, allowing the facility to be the lifeline of the community in the event of a major natural disasters. In addition to serving as a backup generator, the CHP solution allows the municipality to generate electricity on- site at a lower rate than buying electricity from the grid. Since installation, the facility has reduced its demand from the electric utility by approximately 60 percent.

Offering the best-suited technology for this appli- cation, the new micro-turbines have only one moving part in each machine, yielding minimal maintenance requirements, lower operating costs, and higher operating uptime. With this modular design approach, TCC benefits from system redundancy, allowing two units to remain operating while the third is being serviced. The small foot print, and clean and quiet operation of the micro-turbines provide the flexibility for retrofitting into existing site space, without the often added ex- pense of major building renovations. This not only reduces installation costs, but increases siting options as well.

CONTACT INFORMATION

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