

Innovating to improve energy use in a small town plant

The Town of Aylmer, Ontario



THE SITUATION

Costly, aging equipment

For several years, the Town of Aylmer had been experiencing maintenance challenges with aging equipment in its Lagoon Wastewater Facility. Due to the demand on the hydro grid, operators had to run the blowers every 20 minutes and cycle both cells on and off. And, for the small town, the plant's energy costs were becoming unsustainable—in particular, the average monthly hydro bill for four positive displacement blowers was \$10,600.

“For a small facility, the cost and energy waste was unacceptable,” says Rod Tapp, Interim Director of Operations at the Town of Aylmer. “We knew there were better ways to aerate the lagoon and wanted to take an innovative approach to solving the problem.”

Lagoons represent 68% of wastewater treatment plants in Ontario.

OCWA'S RESPONSE

Selecting the best solution for an impact on energy use

"For many wastewater treatment plants in small towns in Ontario, managing energy consumption is a challenge," says Indra Maharjan, Director, Innovation, Technology and Alternate Delivery at OCWA. "However, there is almost always an opportunity to improve efficiency and save on costs."

As Aylmer's trusted operator for more than 20 years, OCWA had thorough knowledge of the wastewater system and was invited to propose a solution. By performing an energy audit, OCWA identified the opportunity to improve efficiency. After completing a technology assessment in 2016, the team recommended a solution to replace the aging blowers.



The Town approved the purchase of two high-efficiency turbo blowers and awarded the supply and install project to OCWA. To help manage the project costs, the Town and OCWA worked together to secure funding from the Independent Electricity System Operator's (IESO) pay-for-performance program.

THE IMPACT

Operating to realize complete savings

From identifying the solution to installing the new high-efficiency turbo blowers at the plant, OCWA's multidisciplinary team was involved in every aspect of the project. As the operator, OCWA's team could also ensure that the solution works as proposed, and that it achieves the expected results.

"The OCWA team's familiarity with the plant was a huge bonus," says Tapp.

The new turbo blowers run efficiently for 24 hours a day, and seven days per week, saving about 40% on the cost to operate the lagoon. The blowers have led to a lower volume of effluent and discharge, and they have halved the footprint required to operate the facility.

"This project was an overwhelming success. The impact has been positive in all senses," says Tapp. "We have a higher level of efficiency at a lower cost, and we've achieved a lower energy footprint. With the money this project has saved the Town, we are looking into upgrading our SCADA system and considering the future expansion of the plant."

The blower upgrade project resulted in significant savings for the Town



259,728

Actual annual energy savings in kWh

\$38,959

Actual energy cost savings @ \$0.15 per kWh

\$22,770

Incentives from IESO

\$196,349

Actual project cost

If your business is water, you need to know OCWA.

GET IN TOUCH

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