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Distributed Energy Solutions

Case Study - Georgian College

Alectra Energy Solutions Tackles Global Adjustment head-on for Georgian College

Georgian College in Barrie, Ontario, is always looking for ways to improve operational efficiency, while also meeting long-term sustainability goals. It all starts with keeping close tabs on electricity consumption.

As with all large organizations, the college not only pays an hourly rate per kilowatt-hour for electricity, it also pays an additional charge called the Global Adjustment that accounts for approximately 60% of its electricity bill.

"The Global Adjustment charge was a really strong motivator for us to partner with **Alectra Energy Solutions** to reduce our electricity consumption, especially during Ontario's five energy peaks," says **Angela Lockridge, Georgian College Vice President, Student Success and Corporate Services.** "We are focused on finding efficiencies to free up savings that we can invest to enhance the experience for our students."

> "Alectra Energy Solutions' innovative turnkey energy storage solution is reducing our energy consumption and lowering the Global Adjustment charge. With these energy savings, we can invest to enhance the experience for our students."
>
> **Angela Lockridge, Georgian College Vice President, Student Success and Corporate Services**

Customized Sustainability Solution

Alectra Energy Solutions – a member of the Alectra Inc. family of companies – stepped up to the plate with a storage solution designed to help Georgian College reduce overall electricity costs, support Ontario's climate change mitigation strategy, and position it for a net-zero emissions future.

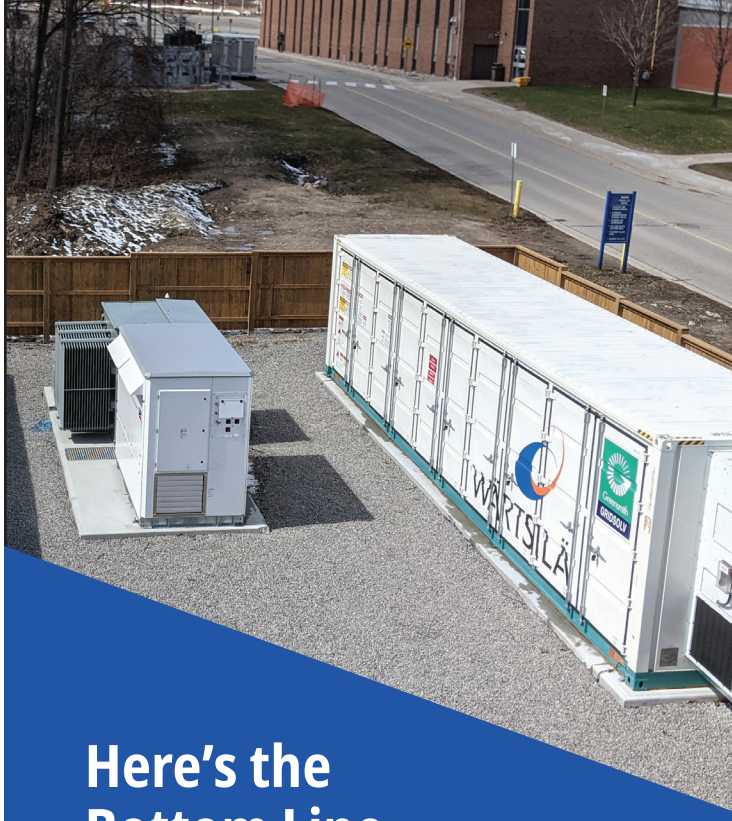
"Our sweet spot is finding energy solutions that address each customer's unique requirements. For Georgian College, we assembled a highly specialized team of experts who developed a solution that not only reduces the Global Adjustment charge, but also teaches students about sustainability by showing them how it works in real-time," said **Ammar Nawaz, Alectra Energy Solutions' Vice President, Distributed Energy Solutions.**

The energy storage project will reduce Georgian College's electricity consumption by approximately two-megawatts when demand is peaking (and hence, more expensive) and will significantly reduce their Global Adjustment charge. It also enables Georgian College to alleviate peaks on the provincial grid by participating in the Independent Electricity System Operator's new capacity auction.

Utilizing Distributed Energy Resources

Alectra Energy Solutions recommended a two-megawatt (MW) containerized energy storage system that includes Samsung lithium ion batteries, inverters, and all balance of plant equipment and contracted Wärtsilä – a global leader in smart technologies – to supply the equipment. This Alectra owned and operated state-of-the-art system is controlled by an advanced energy management system that enables the batteries to be efficiently charged when the electrical load is lower than a pre-determined limit, and then to draw energy from the batteries during peak times, thereby minimizing consumption from the grid.

In the development stages of the project, Alectra Energy Solutions also contracted highly-skilled and dedicated power industry experts Spark Power, to provide preliminary engineering work on the interconnection design and application with Alectra Utilities. Following this, Spark Power was responsible for detailed engineering, procurement, construction, testing and commissioning to bring the fully integrated system into commercial operation.



Here's the Bottom Line

Energy and Cost Savings

Alectra Energy Solutions' recommended energy storage system will allow Georgian College to respond to energy price fluctuations, charging the batteries when electricity prices are low and discharging them when prices increase. This will help to offset the Global Adjustment charge.

Climate Change Mitigation

The customized energy storage system supports two important strategic goals. First, it supports Ontario's climate change and energy transition strategy. Secondly, it positions Georgian College as a leading academic institution that is living its values as an organization dedicated to social impact.

Showcasing Sustainability

Georgian College's energy storage system forms the backbone of the campus's two-megawatt microgrid. It operates in tandem with a separate academic solar-battery microgrid system (23 kilowatts) that is used as a training tool for students enrolled in renewable/alternative energy courses. Through working with Alectra, Georgian College can now showcase its commitment to sustainability.

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