

# POWIN SOLVES CRITICAL STORAGE NEED WITH CANADA'S LARGEST BATTERY INSTALLATION

## Excess Energy Creates Problems

The city of Stratford, Ontario prides itself on being a forward-looking community that serves as a laboratory of sorts for new technologies that improve the quality of life. An important aspect of that is managing an increasingly complex electric grid fed by a growing number of renewable generating sources.

Because renewable generation is dependent on variable conditions such as sunshine or wind that don't always align with times of high demand, the power produced by renewables wasn't being used efficiently. There was no option for capturing this excess energy for when it would be needed.

At times, the Independent Electricity System Operator (IESO) was forced to send energy generated by these sources, along with baseload power from nuclear plants, out of its service area and even into the USA. Often it paid others to take that power, turning an asset into a financial liability.

#### Powin Provides Advanced Storage and Control Technology

To help solve this serious issue, the IESO selected Powin Energy to deploy its advanced battery storage technology in a purpose-built facility in Stratford that is the largest battery storage installation in Canada and one of the largest in the world.

Constructed between June and October 2017, the facility provides up to 8.8 MW/ 40.8 MWh of battery backup power to the grid. The installation uses Powin's Stack140 battery array, a modular and flexible system that provides 140 kW in each battery stack and connects them together under common control using Powin's exclusive bp-OS battery management software.

Powin's technology was chosen in a competitive procurement process by the IESO, as part of its long-term energy plan to add large-scale energy storage facilities to the grid. The selection process considered a range of factors, including the suitability of the technology as well as price. IESO is paying a monthly fixed contract payment for the initial three-year operation of the facility, and has full control over how the system is used and dispatched.



### **STRATFORD**

Technology	Lithium ion battery energy storage
Capacity	8.8 MW / 40.8 MWh
Voltage	34.5 kV Interconnection Voltage
Location	Stratford, Ontario, Canada
Status	Operational since April 2018
Ownership	esVolta option to acquire 100%
Customer	Independent Electricity System Operator (Ontario)
Partner	Hecate Energy, LLC
Key Fact	Canada's largest battery energy storage project





This is not only the largest installation in our history, it's also the largest in Canada, and built on an extremely aggressive timeline." To complete a facility at this size, in a matter of four months, and at the price point we were able to deliver, sends a clear signal that the renewable and fossil fuel-less energy future is here.

- GEOFFREY BROWN, POWIN ENERGY PRESIDENT

#### Looking to the Future

"The system in Ontario is changing very, very quickly. We are integrating a lot more renewable energy on our grid and we've phased out coal," said Chuck Farmer, Director of the IESO. "It's innovative technologies like this one that allow us to better manage the grid and better integrate all of those energy types to provide better value for Ontarians."

The building constructed for the project can support an expanded installation of up to 20 MW. This enables the storage of excess power generated by a range of sources, from emerging renewables like solar and wind to traditional hydro and nuclear generation facilities, providing the IESO with significant flexibility in managing its generation resources.



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