Wärtsilä energy storage further expands in Canadian market

Wärtsilä is set to install an energy storage system this autumn in Canada after signing a deal with Alectra Utilities Corporation. Alectra is a Canadian electricity utility and distributor servicing the greater Ontario region. The 2 MW / 4 MWh storage system will be supplied to the Georgian College of Applied Arts and Technology in Ontario, where the system is expected to lower the College's Global Adjustment (GA) charge by using energy storage to reduce electricity consumption during peak energy demand without the need to scale back on the facility's operations or energy use. The order with Wärtsilä was placed in December 2019 and is scheduled for delivery and commissioning in late 2020.

Energy storage can lower electricity bills

The Alectra energy storage system includes Wärtsilä's containerised GridSolv solution and GEMS advanced energy management software. GEMS will control the system, with the main applications being energy conservation and cost control. The goal is to minimise the College's electricity bills by reducing their GA charge.

The GA charge is based on total electricity consumption. Ontario electricity customers have to pay an electricity usage fee to GA, costs which have spiked since the Ontario government introduced the charge in 2006 and further established the Green Energy Act in 2009. The GA charge was added to cover the cost of creating new electricity infrastructure while ensuring long-term power supply for the region. Several years ago, there were limited way to mitigate the GA charge. Today, storage provide a zero-emissions opportunity for efficient power management and continued savings.

Curtailing energy consumption from the grid

GEMS will support the curtailment of energy consumption for the College via power management. First, GEMS software has the unique sophistication to respond to energy price arbitrage fluctuations. Monitoring electricity usage, the storage system will provide power to the College's facilities during peak periods to reduce the energy drawn from the grid. During non-peak energy periods, the system will switch off and recharge, so that it is ready to provide power during the next peak demand. Second, GEMS is also capable of responding to seasonal energy demands, such as higher energy consumption in the winter.

"The system will be used in Ontario for effective power management. Managed by our advanced GEMS software, it is a highly efficient means for controlling costs. By responding to Global Adjustment peak discharge events to cover the load, the system will deliver significant economic and environmental benefits to the customer," commented Risto Paldanius, Director, Business Development, Energy Storage and Optimisation.

A market of opportunity

The Alectra deal is further Canadian market development for Wärtsilä Energy Storage and Optimisation, plus underscores the capabilities of GEMS. The combination of batteries and energy management will enable quick response to energy usage, plus can also tap into additional value streams, such as demand-charge management and energy arbitrage opportunities. Moreover, as Canada strives towards greater renewable ambitions and firmer rules on greenhouse gas emissions, storage provides an alternative to support regional green ambitions and further contribute to Wärtsilä's Path to 100% Renewable Energy.