Unlocking Distributed Energy Resource (DER) Participation Across Ontario

Grid Innovation Fund Project Details

Lead Proponent: Enel X Canada Ltd.

Partners: Ardian Infrastructure, Powerconsumer Inc.

Strategic Area(s):	Enabling Non-Wires Alternatives, Wholesale Market Integration
Project Total Cost:	$20,455,556.14
Year Contracted:	2021
Location:	Ontario
Economic Development:	5 Jobs

Project Objectives

This project will demonstrate the ability to measure and verify performance from heterogeneous, Distributed Energy Resource (DER) aggregations with alternative measurement approaches not used today in Ontario. Resources participating in the pilot include behind-the-meter (BTM) battery storage and/or load curtailment located at 13 sites across Ontario. The aggregated available capacity is 76.7MW.

The alternative measurement approaches will leverage best practices from other jurisdictions and will aim to reduce barriers to entry and streamline operational processes for aggregations of resources in Ontario. The benefits include exploring how DER aggregations that are not fully utilized could provide additional value to the grid. The project will test the provision of wholesale grid services outside of the actual IESO-administered market environment.

Expected Outcomes

If successful, this project will demonstrate the ability to measure and verify resource performance from heterogeneous DER aggregations (energy storage and controllable load) according to an alternative measurement and verification plan not used in the IESO-administered market today. The effectiveness of the alternative measurement and verification approach will be assessed with respect to the existing approaches in the IESO's market rules.

The project will showcase the performance and reliability that heterogeneous BTM DER(s) can provide for Capacity and Operating Reserve grid services and the substantial number of MW of such resources that can be unlocked.

Additionally, this project will produce recommendations for regulatory improvements that will allow for a more competitive and cost-effective market solution. The results of this project will demonstrate the feasibility of alternative M&V plans and the benefits they provide in relation to the existing model.