

Research case study &gt; energy storage

# Pole-mounted energy storage

Version 1: Update May 10, 2017

**Context:** Increasing urbanization and densification will require innovative solutions to meet the needs and demands of urban residents while improving grid reliability and meeting carbon emission targets in the province.

**Problem:** The amount of energy used by customers varies significantly throughout the day creating a need for flexible infrastructure. Space constraints in urban settings are often prohibitive to the installation of large-scale energy storage (ES) systems.

**Solution:** Using eCAMION's modular storage solution, the pole-top unit charges during off-peak hours, takes advantage of unused space in urban areas and communicates with downstream smart meters of connected residences with a Ryerson developed smart controller.

**Impact:** This system will reduce the strain on distribution transformers by smoothing the daily electricity peaking cycle. Reliability for customers will be increased by the battery's ability to respond to real-time data, including an indication of an outage.

**CUE's role:** CUE researchers are solving a real-world world problem. They have developed a smart control system, tested the unit in the Smart Grid Lab at CUE, and field tested the unit on the Toronto Hydro network.



## Partners:

Ontario Ministry of Energy, eCAMION,  
Toronto Hydro

## Timeline:

March 2014-August 2017

## Research team:

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## Key stats

**15.9kWh** energy capacity  
**34x36x42"** prototype dimensions