

## IESO Engagement

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**From:** Ian Jarvis  
**Sent:** March 25, 2018 12:21 PM  
**To:** IESO Engagement  
**Subject:** Feedback on APS Terms of Reference

Further to the discussions at the March 21<sup>st</sup> meeting, following is my feedback on the Project Charter and the Advisory Group Terms of Reference. Please note that our comments relate directly to Commercial, Institutional and Multi-Family Buildings sectors.

### 1. Conceptual Framework

Through the heavy lifting of the Green Energy Act, establishment of electricity data hubs, Enbridge's and Union's development of accessible, on-line monthly billing data platforms and the growing availability of interval data for electricity and natural gas (and water), Ontario has become a North America leader in data-driven energy efficiency programs based on actual buildings' energy use (performance-based conservation). This effort has made possible a growing number of highly effective programs. CivicAction established the data-driven Race to Reduce based on Energy Star scores and savings measured at the meters of hundreds of GTHA commercial office buildings, which delivered unprecedented savings over a four-year term and received world-wide acclaim. The Race is now being continued by BOMA and replicated in other parts of North America. Toronto and Region Conservation has developed and manages data-driven programs for the hospital, municipal, and K-12 school sectors for more than ten years, demonstrating remarkable savings and attracting participation across Canada and from the United States. The City of Toronto adopted the same data-driven approach to produce its 2014 ECDM Plan for 15 building types and more than 500 buildings. The New York State DOH and NYSERDA retained Enerlife to prepare the conservation potential study and 10-year program design for the state's 615 nursing homes. Toronto's Tower Renewal Office uses the same approach to provide energy, water and waste reduction potential reports to owners of private- and public-sector high-rise apartment buildings.

Transforming the conceptual framework for Ontario's conservation and DSM programming based on actual monthly billing data is the logical next step, and promises more reliable and useful outcomes than the traditional methodology based on measures, assumptions and calculations. Publicly reported data for government and institutional buildings have been available province-wide since 2013. Comparable private sector data already exist for office buildings and will become available for all building types province-wide over the next few years. Moving from a measures-based to a buildings-based framework can simplify the existing, complex methodology, create a dynamic, continuously improving achievable potential model at lower cost than the traditional approach, and direct integrated program development by utility companies and informed conservation action by building owners. Resulting enhancements to the APS Project Charter are proposed as follows:

### 2. Study Objectives

- a. Identify and quantify potential energy savings (electricity and natural gas) and GHG emissions reductions based on actual energy use of existing buildings.
  - i. use most recently reported data, adjusted to 2017 and extrapolated as required to province-wide sectors and sub-sectors
  - ii. apply rational good- and best-practice energy targets based on current high-performing buildings as the basis for achievable potential
  - iii. project energy requirements of new buildings based on top-performing existing stock
- b. Apply results of existing performance-based conservation programs, and Cap & Trade funded projects, to identify and determine ranges of costs for most effective energy efficiency improvement actions taken.
- c. Disaggregate conservation potential by sector, utility company and large owner to inform program design and conservation action.

- d. Create a dynamic conservation potential model that can be regularly updated as new data become available.
- e. Conduct dynamic scenario analysis to optimize energy and emissions reduction forecasts.
- f. Conduct evidence-based research on measures (such as heat pumps), actual performance of new buildings and other knowledge arising from the model to inform policy and program development.

We recommend that the terms of reference for the APS be developed around a buildings-based rather than a measures-based methodology, and that the efforts of the Project Team, the Advisory Group and the Expert Panel be directed to work through the wide-ranging implications in time for procurement, contracting and completion of this important study to meet the June 2019 deadline.

Respectfully submitted.

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