

IESO/OEB Achievable Potential Study Advisory Group – Meeting Minutes #4

Agenda

Date: Tuesday September 18, 2018	Time: 10:30 a.m. to 2:30 p.m.
Location:	IESO Office (120 Adelaide St W., 1805&1806)
Meeting Chair:	Nik Schruder (IESO)

Meeting Objective(s):

- Close the loop on stakeholder feedback on the draft project plan
- Provide insight into work underway and current schedule considerations
- Collect any final input on segments and end-uses and discuss approach for base year disaggregation
- Discuss approach for prioritizing and identifying new measures

Attendees:

Members: Andy Armitage (Thunder Bay Hydro), Cory Cook (Toronto Hydro, delegate for Michael Marchant), Drew Everett (Union Gas), Bala Gnanam (BOMA Toronto), Ian Jarvis (Enerlife), Daniel Johnson (Enbridge Gas), George Katsuras (Hydro One), J.J. Knott (Healthcare Energy Leaders Ontario), Michael Lio (Buildability), Jeff Quint (Waterloo North Hydro),

Observers: Kyra Bell-Pasht (Environmental Commissioners Office), Samantha Byers (Enbridge Gas), Clarence Cheng (Ontario Ministry of Environment, Conservation and Parks), Mehdi Hosseini (GreenON), Patrick Tomlinson (Ontario Ministry of Energy, Northern Development and Mines)

Project Team: Nik Schruder (IESO, Chair), Andy Chhoeu (IESO), Valerie Bennett (OEB), Pascale Duguay (OEB), Trevor Esdaile (IESO), Katelyn Margerm (IESO), Tina Nicholson (IESO), Bronwen Smith (IESO), Simon Zhang (IESO)

Navigant: Ben Grunfield, Divya Iyer, Bala Krishnamoorthy, Peter Steele-Mosey, Stu Slote, Jonathan Strahl (teleconference)

Regrets:

Members: Haris Ginis (Union Gas), Sean Meleschuk (Utilities Kingston), Shahid Naeem (Peel District School Board), Ryan Shaw (ClearRESULT)

Action Items Identified	Status/Timing
<p>Navigant/Project Team to review electricity end-use intensities and treatment in the Ontario building code to confirm appropriateness of merging high- and low-rise MURBs.</p>	<p>After reviewing the energy intensities of both segments Navigant has found that although segment-level energy intensities are comparable for low- and high-rise MURBs, there are material differences in electricity end-use intensities. For this reason, Navigant will model the two segments separately and will incorporate OBC energy requirements for the respective segments in the baseline assumptions.</p>
<p>Project Team (IESO) to confirm which segment in IESO base year and forecast data healthcare / clinics are allocated to.</p>	<p>Smaller medical and dental offices are in the 'other office' category.</p>
<p>Project Team and Navigant to consider possibility of breaking out large volume customers in potential analysis (e.g., as was provided in the 2016 OEB APS).</p>	<p>Navigant will calculate savings potential for large volume customers at the end of the study. Navigant will connect with the gas utilities (via the OEB) and the IESO to discuss additional data required to support this analysis in the coming months.</p>
<p>Project Team (IESO) to determine whether Industrial Opportunity Accelerator program data can be used to support base year disaggregation and measure characterisation.</p>	<p>There are not enough participants in the program to enable data aggregation and sharing.</p>
<p>Project Team to share expert panel memos</p>	<p>Shared with Advisory Group on October 4, 2018</p>
<p>Project Team to circulate draft measure list for Advisory Group review</p>	<p>Shared with Advisory Group on October 4, 2018</p>

Key Themes Identified
<ul style="list-style-type: none"> • Segments and End-Uses – the Advisory Group provided final input on the segments and end-uses. Final lists will be presented at the next meeting. • Measure list – the group discussed measures that should and should not be considered as part of the study. A draft measure list will be shared in advance of the next meeting for discussion. • Measure assumptions – the group discussed limitations of data and assumptions on previous studies in Ontario and other jurisdictions. Navigant requested that the Advisory Group share any relevant data sources with the Project Team for review.

Agenda Item 1: Welcome and introduction

Speakers: Nik Schruder (IESO)

The meeting was moved back by 30 minutes to accommodate a fire alarm at the IESO's office. Nik welcomed the group, reviewed the agenda and meeting objectives and facilitated introductions of the Advisory Group members and Observers.

Agenda Item 2: Review previous meeting actions and confirm meeting minutes

Speakers: Pascale Duguay (OEB)

Pascale reviewed the action items from the August 9th Advisory Group meeting and confirmed the meeting minutes as final. Pascale thanked the Advisory Group for their feedback on the draft Project Plan and noted that a revised plan and comment responses have been posted on the Advisory Group [engagement webpage](#).

Agenda Item 3: Review of draft project plan feedback and responses

Speakers: Katelyn Margerm (IESO)

Katelyn reviewed the draft Project Plan feedback, highlighting key feedback themes from the Advisory Group as well as points of clarification. Katelyn noted that she would share the Expert Panel cover memos with the Advisory Group in advance of the next meeting. Detailed task-level expert panel comments that are in scope of the project have been included in the comment response table posted on the engagement webpage.

Questions/comments:

A member noted that on the previous APSs, outputs were not presented in a format that were understandable to utilities (e.g., units used to represent energy consumption did not align with utility convention). The Project Team noted that they are working to ensure that APS outputs are understandable and appreciate feedback on how to improve data presentation.

A member noted that if there is specific data needed from the utilities, the Project Team should let them know as soon as possible. The Project Team noted that data needs and status of data collection is discussed in the deck for this meeting. The Project Team asked that LDCs and other stakeholders identify any additional data sources they believe should be considered.

A member asked if fuel switching was included in the previous APS and whether it will be included in the 2019 APS. The Project Team responded that fuel switching was not considered in the previous electricity APS but some fuel switching measures were included in the previous gas APS. Fuel switching is included in the 2019 APS scope – specific measures will be identified on the measure list that will be

shared with the Advisory Group and discussed at the next meeting. A member asked why other jurisdictions have used different cost effectiveness tests to evaluate fuel switching measures. Navigant responded that the rate payer impact measure can be used to understand the impacts of fuel switching measures on non-participant's electricity and natural gas rates. The merits of different cost effectiveness tests will be discussed further when Task 6 (Economic Potential) is initiated. A member asked and Navigant confirmed that avoided distribution and transmission costs are considered in the cost effectiveness testing for fuel switching measures.

A member asked for clarification on the definitions of "gross" and "net" potential savings, and how natural conservation will be included in the reference forecast. The Project Team responded that the forecasts provided by the IESO and natural gas utilities to Navigant should capture savings achieved through natural conservation / free riders, and that Navigant is in the process of reviewing the assumptions implicitly and explicitly applied to the forecasts and will advise on alignment. A member asked whether the project schedule includes enough time to reach agreement on how to align electricity and natural gas forecasts. Navigant responded that if alignment cannot be achieved, they will prepare multiple alternative forecasts to reflect the different forecast assumptions.

Agenda Item 4: Status Updated & Current Project Schedule Overview

Peter summarized activities that have been undertaken since the last Advisory Group meeting.

Questions/comments:

A member asked where the data for the whole building benchmarking will come from. Navigant responded that they will begin by reviewing the IESO, OEB and gas utilities' available data, as well as the Broader Public Sector data collected under O. Reg 397/11.¹ Depending on the data available from those sources, additional publicly available data may be used.

A member asked if the measure list will be "harmonized." Navigant responded that measures with dual savings will be characterized separately but shown together in the model.

Agenda Item 5: Base Year Disaggregation

Bala reviewed the criteria used for developing end-uses and segments and presented the proposed end-uses and segments by sector.

¹ Government of Ontario, Energy use and greenhouse gas emissions for the Broader Public Sector, Accessed 2018-09-19
<https://www.ontario.ca/data/energy-use-and-greenhouse-gas-emissions-broader-public-sector>

Questions/comments:

With respect to the criterion that end-uses and segments should comprise a material portion of the sector total in order to be considered separately from other end-uses/segments, a member asked what threshold would be used for this analysis. Navigant responded that generally segments and end-uses that make up more than 5% of the sector's total consumption will be included but that data availability is another important consideration.

Residential Segments/End-Uses: The group discussed the differences in end use energy consumption between low and high-rise buildings, and suggested that combining the two into one segment may not lead to accurate results. A member noted that building codes treat low and high-rise buildings differently. Navigant agreed to review the difference in end-use intensity between low and high-rise building and revisit the discussion regarding combining these segments.

Commercial Segments/End-Uses: A member asked what the proportion of total consumption water and waste-water treatment facilities comprise. The Project Team responded that they are looking into available data for this segment and will consider based on data availability whether W/WWT should be extracted from the "Other Commercial" segment. A member asked what segment medical centres are a part of. The Project Team responded that they would look into this and follow-up. The group discussed how Navigant will separate fans that are part of heating and cooling units into a specific end-use category (to be addressed through measure characterization).

Industrial Segments/End-Uses: A member noted that the cannabis industry is likely to be a large segment. Navigant noted that these facilities will be included as part of the agricultural sector in absence of data required to separate them out as a separate segment. Grow lights and other measures specific to cannabis growers will be included in the measure list. A member mentioned that energy consumption from bitcoin mining is also growing. Navigant indicated that these customers would be captured within data centres. A member asked that Navigant make sure to take into consideration the interactive effects of steam generation and use by including measures that reduce steam waste (e.g., steam trap survey and repair).

A member asked whether potential from large volume natural gas customers can be quantified. The group concluded that since the natural gas utilities cannot provide consumption data for large volume customers vs. other customers within each segment due to commercial sensitivity of billing data, Navigant will work with the Project Team to consider how large-use customers' consumption can be aggregated together and their potential can be quantified through a separate analysis at the end of the study.

A member asked how the project will reflect the decline in cogeneration adoption resulting from policy change. The Project Team noted that generation is not included in the scope of this study.

When discussing strategies for allocating natural gas consumption data by region where it has been aggregated to protect customer privacy, the Project Team asked whether the natural gas utilities could provide customer counts by zone for segments where consumption data has been suppressed. Navigant could calculate and use an average consumption per customer to allocate the natural gas use for these segments. This was tabled for a future discussion between the Project Team and the natural gas utilities.

A member asked how emerging technologies will be addressed (e.g. connected lighting). Navigant responded that emerging measures will be included in their proposed measure list, which will be discussed with the AG at the next meeting.

Agenda Item 6: Measure Characterization

Divya reviewed the approaches for identifying and characterizing measures for the study.

A member asked how recommissioning will be handled in the new APS and noted that they found the BC Hydro study's approach problematic. Navigant responded that recommissioning is typically characterized as a customer measure, which means that savings are calculated as percent of end-use consumption. Navigant noted that they will use all data sources available for measure characterization.

A member noted that both TRCs and calculated potential savings were significantly different from actual program outcomes in past APSs. Navigant noted that assumptions are made based on best available data at the time. Also, detailed program design is outside of the scope of the study.

A member cautioned against relying on manufacturer assumptions when characterizing emerging technologies.

A member noted that there is typically a lag between when measure availability and program implementation. Navigant responded that this lag will not be accounted for in this in the study, but the application of the study in target setting should consider that lag.

A member asked and Navigant confirmed that the final report will include recommendations to improve the data collection for further studies.

The group discussed behavioural measures and it was noted that these are characterized separately for each geography and sector, subject to data availability. Navigant noted that they have data from Ontario and other jurisdictions that will inform assumptions around persistence of behavioural measures.

The Project Team asked Navigant to confirm whether the measure list will capture emerging technologies that are currently unknown. Navigant responded that this category only includes measures that are in development today, although they may include technologies that are not fully commercialized. The Project

Team noted that an APS will be carried out every three years, which will allow for capturing new emerging technologies as they are developed.

A member asked if there will be a webinar for all LDCs to discuss the measure list. The Project Team noted that the measure list will be discussed at the next Advisory Group meet and will likely need to be confirmed before the next webinar.

A member asked what proportion of savings validated through EM&V reports in Ontario are calculated via engineering calculations vs. empirical results. The Project Team responded that both approaches are used as is industry standard.

Navigant asked the group to send over any reports or studies that they would like to be considered. A member noted that the Toronto Regional Board of Conservation did a study and found that the biggest area of savings was fan power in most commercial buildings.

The group discussed the list of measures that will be identified as having 'no impact' and Navigant agreed to include these measures in the measure list so stakeholders are aware that they have been considered.

A member noted that the Industrial Opportunity Accelerator program may provide end-use information for industrial customers. The Project Team committed to following up on the availability and suitability of data from this program.

Navigant asked the group if there are any other measures that are unlikely to have savings potential moving forward. Members noted that showerheads and boiler replacements in commercial sector have shown limited impact in recent years.

Agenda Item 7: Next steps and action items

Speaker: Nik Schruder (IESO)

Nik thanked the Advisory Group for their time and Katelyn recapped the action items from the meeting. The next Advisory Group meeting will be held on October 11, 2018.