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August 21, 2020

VIA ELECTRONIC MAIL

Ms. Melanie Torrie
Ministry of Energy, Northern Development and Mines,
Conservation and Renewable Energy Division
77 Grenville St. 5th Floor
Toronto, ON
M7A 2C1
Canada

RE: Proposal for a 2021-2024 CDM Framework (ERO # 019-2132)

Dear Ms. Torrie;

I am writing to you on behalf of the Advanced Energy Management Alliance (“AEMA”) in response to the proposal for a 2021-2024 CDM Framework (ERO #019-2132). AEMA is a North American alliance of providers and supporters of distributed energy resources, including demand response (“DR”) and distributed generation, united to advocate for policies that empower and compensate customers appropriately in a manner which contributes to a more efficient, cost effective, resilient, reliable, and environmentally sustainable grid. The views expressed in this letter represent those of the organization as a whole, not of any individual companies.

AEMA’s members have been active participants in a variety of the IESO programs including but not limited to conservation and DR programs. We have been involved in developing a variety of market mechanisms (such as the Capacity Auction and the Demand Response Auction) and a variety of stakeholder engagement activities for many years.

It is important to note that in order to attain the benefits of technologies (energy storage, smart thermostats, DERs in general, with or without artificial intelligence capabilities) that governments, utilities (both gas and electric), grid operators and technology providers work to increase deployment of these devices. These technologies and methodologies can be leveraged to help customers (small businesses, industrial, residential, including vulnerable communities and First Nations) manage energy needs, customer bills and create opportunities to enhance Ontario's competitiveness.

AEMA thus requests consideration of the following comments and recommendations:

1) Commitment to Conservation First Framework

AEMA commends the government of Ontario to continuing the existing Framework and providing a proposal for 2021-2024. The current CDM Framework has been a highly successful program at developing and fostering a conservation culture in Ontario. In addition, infrastructure and ecosystems have been developed that could be leveraged to ensure 2020 targets are met. Conservation remains the lowest cost option to deliver on the government's commitment to reduce energy bills.

Recommendation:

It is important that funding and appropriate targets are maintained in order to deliver on conservation objectives on a regional or province wide basis and ensure that the residential sector is ready to participate in a future capacity market either through demand response or energy efficiency as a resource.

2) Energy Efficiency Marketplaces

Utility online webstores/marketplaces are becoming increasingly popular as a tool to unify, engage, activate, and support various energy management efforts supporting energy efficiency strategies targeting the residential and small and medium businesses ("SMBs"). Marketplaces provide a variety of energy-related items including smart

thermostats, light bulbs, and smart plugs or power strips. However, utilities may sell EV supply equipment (“EVSE”) and storage. Such a platform administered by a trusted advisor would connect energy efficiency customers with products, retailers, installers, comprehensive applicable review of rebates/incentives. All the programs and concepts listed below could be housed on an online platform making customer access simple and information readily available.¹

Recommendation:

As education of residential customers and SMB continues to a key priority, marketplaces can play a significant role in Ontario. Therefore, AEMA recommends that IESO be directed to investigate options. Deployment of technology will be crucial to the success of the Energy Efficiency Auction and Capacity Market.

3) Residential and SMB Participation in the Wholesale Market (including the upcoming Capacity Auction)

Today, advancements in technologies such as energy storage and smart thermostats could allow hundreds of thousands of Ontario residential and SMB customers to participate through DR in the market through IESO or utility-sponsored programs.

Recommendation:

- Decrease the barriers such as improving the data access protocols (Green Button Connect) to create further opportunities for residential and SMB customers to participate in the Capacity Auction to take advantage of this tool to reduce their energy costs; and
- Increase the opportunities for residential and SMB customers to participate in DR through additional programs offered by the IESO or local utilities.

¹ For additional information:
<https://www.utilitydive.com/news/utilities-dont-compete-with-amazon-online-marketplaces-must-go-beyond-e/574968/>

4) Allow Energy Efficiency to Participate as a Resource in the Capacity Auction

As Ontario continues to develop and evolve the capacity market, energy efficiency can be considered a resource. The Forward Capacity Markets in ISO PJM and ISO New England allow energy efficiency resources to compete with traditional generators in the auction process. In the PJM market, from delivery year 2012/2013 to 2019/2020, the level of energy efficiency resources clearing the auction has nearly tripled, increasing from 568 MW to 1515 MW.²

In 2017, ISO New England (ISO-NE) completed its eleventh Forward Capacity Auction (FCA 11). The auction enabled procurement of sufficient resources to meet electricity demand in 2020-2021. A total of 640 megawatts (MW) of new energy efficiency and demand response measures cleared – an amount ISO-NE described as “the equivalent of a large power plant.” Following this auction, the cumulative amount of EE and DR resources is “more than 3,200 MW, or about 9% of the total capacity market,”³ thereby, firmly entrenching EE as a valuable resource. By substantially contributing to capacity in this auction, EE reduces wholesale market prices for electricity customers. The clearing price for FCA 11 was the lowest price since 2013 at \$5.30 per kilowatt-month. A report⁴ by the Acadia Center shows that without EE, energy demand in the region during the winter of 2014-15 would have been 14% higher. Energy efficiency essentially saved New Englanders \$1.5 billion.⁵

Allowing for energy efficiency as a resource to participate in the future incremental capacity market will result in energy savings for Ontario’s residential and SMB customers and system operator as evidenced by both the PJM and New England markets.

² <https://aceee.org/blog/2016/06/energy-efficiency-lowers-costs-recent>

³ <https://rtinsider.com/iso-ne-forward-capacity-auction-38402/>

⁴

http://acadiacenter.org/wp-content/uploads/2015/04/AcadiaCenter_Efficiency-Retrospective-Analysis_041615_Final.pdf

⁵ <https://e4thefuture.org/blog/energy-efficiency-succeeds-in-the-iso-ne-forward-capacity-market/>

The IESO Energy Efficiency Auction pilot is a great first step to enabling energy efficiency resources to participate in the wholesale market. The learnings developed in the Energy Efficiency Auction will lead to information on the price of energy efficiency when competition for delivery is enabled, as well as learnings on potential implementation issues to enable energy efficiency as a capacity resource.

Recommendation:

AEMA recommends that, as IESO continues to develop the Capacity Auction, energy efficiency should be included as a resource able to bid into the market.⁶

5) On-bill Financing

On-bill financing allows the customer to borrow money for an energy efficiency upgrade, which is then repaid on the utility bill. In 2015, the Ontario Ministry of Energy passed amendments to Ontario Regulation 161/99 under the Ontario Energy Board Act (1998) and Ontario Regulation 160/99 under the Electricity Act (1998) (Government of Ontario, 2015). These amendments clarified that utility led on-bill financing for electricity conservation and demand management measures are activities that electricity utilities can undertake. Today electric utilities in Ontario have the ability to offer customer on-bill financing. However, few, if any, have taken advantage of this regulation primarily due to collections risk and cost of updating billing systems.

It should also be noted that the gas utilities have not been able to implement on-bill financing. Union Gas sought approval for a “On-Bill Financing” of DSM programs, but was denied by the Ontario Energy Board.

In addition, Enbridge has taken an Open Bill Access approach (also known as "on-bill recovery"). The way it works is that Enbridge provides a billing service to many different energy-service companies that are not owned by or affiliated with Enbridge. If a customer decides to buy a product or service from a participating company, their charges

⁶ <https://ero.ontario.ca/notice/019-2132>

will appear in the section called “Charges from Other Companies.” Financing fees and terms are offered through a participating company.

The above-mentioned program is suited for big ticket purchases and minimizes risks to a utility. This approach allows third-party institutions to take care of administrative functions, while utilities only need to process payments. However, for lower priced items, such as Smart Thermostats, On-Bill Financing could be an important tool to increase uptake in the technology.

Recommendation:

AEMA recommends On-Bill Financing as a tool for smaller ticket purchases linked to energy efficiency. Customers can access devices such as smart thermostats currently being offered through the DSM program, obtain an instant (the streamlined, improved customer experience approach as outlined above in the in the marketplaces) rebate and be allowed to pay the remaining balance on their monthly utility bills over a one or two year period. This makes it simple for customers to access solutions with minimal barriers.

6) Focus on Vulnerable and First Nation Communities

AEMA supports the proposals concept of focusing on vulnerable and First Nation communities. The low- and moderate-income segments and First Nations communities are a priority area for energy bill reduction. Direct install programs are a tool that can be used to address the needs of these communities.

Direct install programs have been proven to reduce energy consumption and in turn, reduce energy bills for vulnerable communities. For example, the Colorado Energy Office released findings from a weatherization pilot it undertook in Arapahoe County.

This pilot showed that installation of Nest thermostats, for example, led to a significant and substantive increase in energy savings compared to homes that received only traditional weatherization measures. Homes that received a Nest thermostat achieved average gas savings of 18.4% compared to 11.1% for comparable standard clients. One somewhat surprising finding was that 81% of all clients that received a Nest

thermostat had Wi-Fi in the home. The absence of Wi-Fi did not appear to have any significant impact on the savings.

Another example comes from Oregon. Oregon recently released a plan to reduce the energy use in their affordable housing stock contained some observations that could be relevant to Ontario's efforts. Oregon found:

"Analyzing the natural gas savings measures, there was one measure that clearly stood out as having the highest cost-effective achievable potential savings – smart thermostats in homes with gas furnaces. This measure was cost-effective for all types of existing housing, including multifamily, manufactured housing and single-family. The total cost-effective achievable potential savings for this measure was about 3 million therms in savings."⁷

Similarly, for electric savings, the study revealed that “the second highest potential was found to be installing smart thermostats in units with electric furnaces or heat pumps. The cost-effective achievable potential savings across all building types for this measure was 98 million kWh.”⁸

Recommendation:

There are a number of programs in Ontario targeting the moderate- and low-income segments as well as First Nations communities. These programs are administered through the IESO and utilities, both gas and electric.⁹ These programs have the potential to expand and to require a host of energy efficiency products and services. AEMA recommends that a smart thermostat should be considered a minimum requirement of any of these or future programs. Partnerships with technology providers can be leveraged to pass on benefits to moderate- and low-income households and First Nations communities through such initiatives such as Nest's Power Project¹⁰ where devices are offered to qualifying organizations at cost.

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<https://www.oregon.gov/energy/Get-Involved/Documents/2018-BEEWG-Ten-Year-Plan-Energy-Burden.pdf>, Page 14.

⁸ *Ibid*, Page 15.

⁹ <https://www.greensaver.org>

¹⁰ <https://nestpowerproject.withgoogle.com/>

7) Building Code Amendments

Across North America, a variety of regulatory and policy bodies are in the process of defining “Smart Thermostats” as a category. From EPA’s Energy Star to state utility commission Technical Reference Manuals (Illinois, Pennsylvania, California, Texas), to California Title 24 Building Code, there is great interest in defining this new technology so that it may be included in a variety of efficiency programs.

Recommendation:

AEMA suggests adding a “Smart Thermostat” requirement to the Ontario Building Code that would help contribute to carbon reduction targets and assist in achieving household energy efficiency within the new construction and substantial retrofits sectors.

8) Businesses, Industrial and Institutional

AEMA supports the continuation and growth of energy efficiency programs that incentivize whole building electricity savings and tools for businesses to increase their energy management capacity. To extract additional value from any retrofit program or installation of energy efficiency measures, wholesale market access should be enabled to continue to ensure efficiency of resources within the electricity system. Participation in the capacity market for energy efficiency resources as noted above will be key as will ensuring that commercial and industrial customers are not penalized for participation in other markets due to an erosion of the baseline.

Recommendation:

AEMA recommends ensuring market accessibility for energy efficiency while recognizing the erosion of baseline due to energy efficiency measures.

AEMA appreciates attention and consideration of our recommendations and looks forward to continuing to work with the government of Ontario to ensure customers are being well served and save on energy bills in a sustainable fashion. Please do not hesitate to contact me at Katherine@aem-alliance.org (+1-202-524-8832) regarding AEMA or Sarah Griffiths at sarah.griffiths@enel.com (416-697-3744) regarding specific recommendations herein.

Best regards,

A handwritten signature in black ink, appearing to read "Katherine Hamilton". The signature is fluid and cursive, with the first name "Katherine" being more legible than the last name "Hamilton".

Katherine Hamilton
Executive Director, AEMA