ONTARIO SOCIETY OF PROFESSIONAL ENGINEERS

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ERO 019-2132 2021-2024 Conservation and Demand Management Framework

The Ontario Society of Professional Engineers (OSPE) is the advocacy body and voice of the engineering profession. Ontario currently has over 85,000 professional engineers, 250,000 engineering graduates, 6,600 engineering post-graduate students and 37,000 engineering undergraduate students.

OSPE is pleased to present the following submission concerning the **2021-2024 Conservation and Demand Management Framework.**

OSPE has provided strategic engineering input to Ontario's Ministry of Energy, Northern Development and Mines and the previous Ministry of Energy for more than ten years. OSPE continues to support the development and implementation of programs to productively use surplus electricity, improve the reliability and efficiency of Ontario's electricity infrastructure and promote conservation and demand management (CDM).

The proposal for a new framework to provide residential, commercial, and industrial customers with incentives to increase energy efficiency and promote CDM projects provides an opportunity to address a number of issues and challenges presented in previous programs. In the past, CDM programs were focused on reducing demand through higher efficiency equipment and structures and also peak demand through peak load reduction. However, Ontario's heavy dependence on low emission generation including wind, solar, hydroelectric and nuclear means that inherently the electricity system will have surplus electricity available at various times throughout the year when demand from electric devices is insufficient to absorb the available supply. In this situation a higher priority should be placed in our CDM programs on using surplus low emission electricity to displace fossil fuels used for our transportation and thermal energy needs. This is especially true when traditional conservation and demand management approaches including storage devices are either insufficient or uneconomic.

It is hoped that through recognizing the challenges associated with these initiatives, along with continuing to build effective partnerships with Local Distribution Companies (LDCs) overall subscription in CDM programs can be increased along with the resulting savings and reduction in emissions in all sectors.

Residential Customers:

The proposal indicates that CDM programs will be "*centrally delivered by the IESO with opportunities for anyone, including customers, LDCs and program delivery companies to propose cost-effective programs or projects*". CDM programs targeted at residential customers have traditionally been delivered by LDCs as they have generally provided the following advantages:

- Long standing, developed relationships with residential customers;
- In-depth understanding of the needs of local residents;
- Existing advertising and promotional networks, and;

- Intimate knowledge of the local distribution network, and any associated challenges with program delivery.

It is the opinion of OSPE that any CDM programs targeted at residential customers continue to be managed and delivered by LDCs, with funding and oversight provided by the IESO.

Commercial and Industrial Customers:

Over the years, CDM initiatives for commercial and industrial customers have been provided through the Independent Electricity System Operator (IESO), and previously the Ontario Power Authority (OPA), under the "Save On Energy", "RetroFIT" and "Industrial Accelerator" programs. Through each iteration, the ability for the IESO to provide effective and accessible incentives has increased, but there are still a number of recommendations which can be implemented in order to increase participation. These include:

1. Increasing up-front incentives for submetering

   CDM programs have historically only covered a portion of the cost of electrical meters for use in facility or process submetering. Studies have consistently shown that the implementation of data-based management strategies and operational practices based on well designed submetering often provides the most cost effective and sustainable method of achieving electrical savings[1,2]. As such, providing a higher level of funding for metering projects could reduce consumption, while also creating new opportunities for CDM projects through increased facility and process awareness.

2. Requiring rebates to be based off of measured demand and consumption, not estimates

   For projects initiated as part of previous CDM framework programs, contracted savings were often based off of insufficient data or estimated values. The lack of accurate measurements often then resulted in unattainable targets, requiring the cancellation or re-negotiation of incentive contracts. This often places a burden on the customer to invest additional funds to meet stated project goals or to make up for lost rebates, while also increasing ratepayer funded program costs.

   Through mandating the use of accurate and verifiable measurements to determine project savings, the risk of not meeting program targets can be decreased while also increasing the overall efficiency of the CDM programs.

3. Streamlining application and rebate processes

   The administrative burden from complex application, verification and audit processes can prevent customers from participating as the costs of doing so often outweigh the incentive received. OSPE agrees that the use of ratepayer funds must have rigorous and unbiased oversight, but this rigor should be in accordance with the scale of project and funds provided. As the IESO continues to refine their CDM framework, OSPE encourages continued efforts to simplify and streamline programs to increase participation, while

[1] *"Submetering Business Case: How to calculate cost-effective solutions in the building context"*, United States General Services Administration

[2] Zhai, Z & Salazar, A (2020), *"Assessing the implications of submetering with energy analytics to building energy savings"*, Energy and Build Environment (Volume 1, Issue 1), 27-35

pairing the magnitude of administrative processes with the scale of works being undertaken.

4. Continue programs for industrial large capital energy efficient upgrades.

   Many industrial processes run 24/7, thus any upgrade in more energy efficient equipment will reduce peak demand and also improve competitiveness for Ontario industry and productivity. Most industrial companies focus on their core business of production and without an incentive, they will not upgrade equipment to a more energy efficient model despite the potential productivity improvements and peak demand reduction benefits to the Ontario grid.

Harmonizing of Rebate Programs for Other Energy Sources:

Rebate programs have generally been available through the IESO for electricity, and through suppliers for natural gas. The rebates provided to decrease natural gas consumption have often been of a much smaller magnitude than those provided for electrical consumption (with a comparable decrease in administrative burden), but could be a key element in reducing surplus electricity and decreasing fossil fuel emissions in the province. The Ministry of Energy, Northern Development and Mines should examine opportunities to harmonize rebate programs, while also creating incentives for customers to transition consumption from fossil fuels to low emission electricity to meet long term planning objectives.

Sincerely,

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