Honourable Stephen Lecce, Ontario Minister of Energy and Electrification

7 December, 2024

Dear Minister,

Re: Proposal for An Electricity Energy Efficiency Programming to Promote Beneficial Electrification

Energy Storage Canada (ESC) is the national trade association dedicated to accelerating the deployment of energy storage projects and technologies[1]. Please find enclosed ESC's response to Environmental Registry of Ontario Proposal 019-9373 on the role of energy storage in future electricity energy efficiency programming to promote beneficial electrification. In summary:

1. Energy Storage technologies can both directly and indirectly mitigate the system costs of beneficial electrification.

    1.1. Thermal energy storage can provide demand flexibility, and meet on-peak needs with off-peak power. Thermal energy storage appliances and equipment can be operated in response to time-varying-rates, or in response to signals from the system operator, utility or an aggregator.

    1.2. Electrical energy storage can also be a "non-wires solution" and defer or delay otherwise needed investments in generation, transmission and distribution infrastructure to serve new load from beneficial electrification programs.

2. To mitigate the system costs of beneficial electrification programs (and broader electrification), their implementation should:

    2.1. Enable the deployment of thermal energy storage devices, and demand response from individual and aggregated thermal energy storage devices.

[1] For further information, please visit: www.energystoragecanada.org

2.2. Be supported by an explicit requirement for system planners, including the Independent Electricity System Operator (IESO) and Local Distribution Companies (LDCs), to integrate electrical energy storage into bulk, regional, and local power system plans and investment decisions.

2.3. Be supported by an extension of the IESO's mandate to implement regional or local programs, procurements, or customer support measures to deploy electrical energy storage in areas where new customers or the expansion of existing customers is driving significant electricity system expansions.

2.4. Similarly, the Ontario Energy Board (OEB) should oversee commitments by LDCs to procure or support electrical energy storage resources—whether customer-owned or stand - to facilitate beneficial electrification.

We appreciate this opportunity to provide feedback on this process, and we look forward to next steps as the Ministry of Energy and Electrification (MOEE) continues to develop processes to enable their long-term energy vision.

Sincerely,

Justin Wahid Rangooni

Executive Director, Energy Storage Canada (jrangooni@energystoragecanada.org)

Appendix: Electricity Energy Efficiency Programming to Promote Beneficial Electrification

Background

On October 4, 2024, Ontario's Ministry of Energy and Electrification (MOEE) announced a proposal for a new electricity energy efficiency (EE) framework set to launch in 2025. This framework aims to enhance affordability, streamline delivery, and introduce new programs offering customers increased choices for energy savings. The initiative is intended to address Ontario's growing electricity demands while also empowering customers to lower their electricity consumption and bills. Subsequently, on October 23, 2024, MOEE introduced a related proposal to amend the *Electricity Act*, 1998, enabling the Independent Electricity System Operator (IESO) to administer enhanced energy efficiency programs supporting beneficial electrification (BE). Based on our understanding, this proposal is primarily focused on heating electrification and fuel switching from costly fuels such as oil and propane, rather than focusing on switching from natural gas. For example, the adoption of heat pumps is a key aspect of the initiative. If approved, BE programming, funded through electricity rates, would offer direct customer incentives to adopt cleaner electricity measures, helping reduce carbon footprints and overall energy expenses.

Comments

The electrification objectives of the province will require expansion and investment in distribution, transmission, and generation assets to meet the anticipated increases in both energy and peak demand. While electrification offers substantial economic and social benefits, the associated peak demand growth—particularly in already constrained areas such as urban centers—poses challenges. Without mechanisms to introduce demand flexibility, such as the ability to shift consumption away from peak demand hours, these expansions will be costly to implement. This is particularly true for meeting demand during a small number of extreme consumption hours, such as during winter or summer peaks.

The deployment of thermal and electrical energy storage resources within and alongside BE initiatives offers a practical solution to these challenges. Thermal and electrical energy storage can provide the required flexibility to reduce peak demand, mitigating the need for extensive and expensive system capacity investments. This is especially critical in the context of anticipated constraints on labour and capital resources required to build new infrastructure over the next decade. Demand flexibility delivered and enabled by energy storage can lower both short- and long-term system costs, reducing financial burdens on the electricity system. Moreover, energy storage deployment can minimize economic losses resulting from delayed connections or missed opportunities for new investments in Ontario due to connection constraints.

To achieve these benefits, BE efforts should explicitly require system planners, including the IESO and Local Distribution Companies (LDCs), to integrate energy storage into bulk, regional, and local power system plans and investment decisions. Additionally, the value of energy storage resources located at or near customer sites should include considerations for improved system resilience and enhanced connection capabilities, alongside their role in supporting BE.

The mandate for the IESO should extend to implementing regional or local programs, procurements, or customer support measures to deploy energy storage in areas where new customers or the expansion of existing customers is driving significant electricity system expansions. Similarly, the Ontario Energy Board (OEB) should oversee commitments by LDCs to procure or support energy storage resources—whether customer-owned or stand-alone storage systems—to facilitate BE.

Energy storage also supports the province's affordability objectives. By reducing the need for costly peak-driven investments in infrastructure and enabling more efficient use of existing assets, energy storage can lower system-wide costs. This translates to cost savings for customers, particularly as energy storage provides demand flexibility to smooth out consumption patterns and reduce reliance on expensive peak-hour electricity generation. Integrating energy storage into BE ensures that the transition to a cleaner energy system remains economically viable and socially equitable.