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Also submitted as text via the new Online Regulatory Consultation System at:
<https://www.gazette.gc.ca/rp-pr/p1/2023/2023-08-19/html/reg1-eng.html>

Dear Ms. Boroowa

Re: Energy Storage Canada Feedback On Proposed Clean Electricity Regulations

Energy Storage Canada (ESC) is the national trade association dedicated to accelerating the deployment of energy storage projects and technologies.¹ ESC is pleased to provide comments on the first draft of the Clean Electricity Regulations released in the Canada Gazette on August 19, 2023. Please see our feedback on the draft regulations detailed in the Appendix.

Very best regards,



Robert Tremblay

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

Appendix: ESC Feedback on proposed Clean Electricity Regulations

Introduction

Energy Storage Canada (ESC) is pleased to provide comments on the first draft of the Clean Electricity Regulations released in the Canada Gazette on August 19, 2023.²

Energy storage is a vital technology group for achieving net-zero electricity in Canada by 2035. Energy storage ensures supply adequacy, guaranteeing electricity is available to consumers when they need it, as well as providing a reliable operation of the power grid, delivering crucial services such as frequency stability, voltage support, and fast ramping capabilities. By charging in times of surplus supply and discharging in times of high demand, energy storage ensures the lowest cost non-emitting energy, often from variable clean sources, reaches consumers, supplying a clean, reliable, and affordable stream of electricity to consumers.

Energy storage, especially including Long Duration Energy Storage, should be understood as the firm, flexible supply of capacity to meet future electricity demand.

Section Specific Comments

Executive Summary

ESC applauds and supports the goal of limiting the global temperature increase to below 1.5°C. This is accomplished by achieving a net-zero economy in Canada by 2050 and a net-zero electricity sector in Canada by 2035, as outlined in the International Energy Agency's 2021 report *Net Zero by 2050: A Roadmap for the Global Energy Sector*.³ Energy storage will play a significant role in any pathway to net-zero electricity by 2035. This is shown in our *Energy Storage: A Key Net Zero Pathway* report, which identifies a minimum of 8-12GW of energy storage needed to achieve net-zero electricity in Canada by 2035.

Issues

Same as executive summary.

Background

Table 2 shows that to-date emissions reductions in the Canadian electricity sector have largely been driven by a shift from coal-based electricity to wind, solar and natural gas electricity in historically carbon intensive provincial grids, such as Alberta and Ontario. While this represents meaningful progress, the need to further decarbonize electricity requires resources to maintain supply adequacy. Energy storage should be seen as the primary means of achieving this supply adequacy.

² <https://www.gazette.gc.ca/rp-pr/p1/2023/2023-08-19/html/reg1-eng.html>

³ <https://www.iea.org/reports/net-zero-by-2050>, page 99

While today's deployment cost for storage systems is highly competitive, these technologies – especially battery energy storage systems – have for many years been following a steady and now-predictable development and adoption curve and are thus expected to have meaningful and predictable cost declines with even conservative estimate of their continued deployment.⁴ This dynamic must be accounted for in the modelling and regulatory requirements.

Objective

ESC agrees with the objectives of the proposed regulations.

Description

Peaker Provision

ESC's top priority concern is the inclusion of the so called "peaker provision" in the draft Clean Electricity Regulations. The provision represents a sentiment that only gas will continue to be a firming resource beyond 2035, which ignores the key role that energy storage can play in achieving supply adequacy. This sentiment is outdated. As shown in the Australian Clean Energy Council report *Battery Storage: The New Clean Peaker*, energy storage can offer substantially more economic peaking capacity and energy than traditional gas peakers.⁵ This dynamic is reinforced in the Canadian context by Clean Energy Canada's *A Renewable Powerhouse Report*, which finds that energy storage paired with wind or solar provides a competitive and increasingly lower levelized cost of energy compared to existing gas.⁶ Thus, energy storage should be seen as a key future source of peaking capacity in the future grid.

Application

ESC believes that "25MW or greater" leaves open the path for a potentially high volume of unabated gas generation outside of intended exceptions such as the End of Prescribed Life provision and peaker provisions. For example, in Alberta there is currently a total of 295MW of combined natural gas units smaller in volume than 25MW connected. This volume could increase if units under 25MW are allowed to operate outside of the Clean Electricity Regulation.

Performance Standard

ESC believes that performance standards should allow for abated natural gas generation to compete in a low carbon electricity system, while ensuring sufficient performance of any carbon capture and storage system. The performance metric should thus not exceed 30t/GWh, representing a 95% capture rate on a

⁴ Costs for battery storage have plummeted 90% over the past decade, and the U.S. [National Renewable Energy Laboratory](#) forecasts a further cost reduction in battery storage deployment of between 28 and 58% by 2030. Bloomberg's [2021 Global Energy Storage Outlook](#) states, "This is the energy storage decade. We've been anticipating significant scale-up for many years and the industry is now more than ready to deliver."

⁵ <https://assets.cleanenergycouncil.org.au/documents/resources/reports/battery-storage-the-new-clean-peaker.pdf>

⁶ <https://cleanenergycanada.org/report/a-renewables-powerhouse/>

best-in-class natural gas unit. Crucially, financial compliance for residual emissions must be meaningful, for example full flow through of the scheduled \$170/t carbon price with an OBS of 0t/GWh.

Regulatory Development

End of Prescribed Life (EOPL)

ESC finds that the EOPL provision can allow for significant amounts of carbon intensive electricity to be generated outside of the coverage of the Clean Electricity Regulations' performance standard. As shown in the "Regulatory Analysis" section, longer EOPL values can allow for significantly increased emissions from the electricity system, especially if the value is greater than the currently proposed 20 years. Longer EOPL values thus discourage the scale up of competing clean sources of capacity, such as energy storage. Similar to our earlier comments on the peaker provision, energy storage is shown to be competitive with natural gas minimizing the need for exceptions for unabated natural gas in the Clean Electricity Regulations.

Additionally, ESC notes that while under exception from the Clean Electricity Regulations' performance standard due to the EOPL provision, the most significant signal for a natural gas unit owner to decrease or abate emissions will be the carbon price. It is thus essential that full carbon price apply to any generation utilizing the EOPL provision.

Regulatory Analysis

No comment.

Implementation, compliance and enforcement, and service standards

ESC urges that the Clean Electricity Regulations be finalized and adopted as soon as possible to maximize certainty in clean electricity investment. Substantial consultation has and is being completed on the Clean Electricity Regulations. Ensuring that the Clean Electricity Regulations are adopted no later, and ideally earlier, than the schedule illustrated will be critical to ensuring investors have the certainty to build the infrastructure need to achieve net-zero electricity in Canada by 2035.

Moreover, ESC also recommends strong complementary measures be implemented to support the vision of the CER. It is well acknowledged that the CER alone will struggle to achieve electricity decarbonization and that a suite of policies to transition towards a net-zero electricity sector will be required. Supports for the development of new clean, firm, and flexible capacity, such as energy storage, will be critical to provide the necessary capacity, frequency stability, voltage support, etc.

As indicated above, carbon pricing is an essential part of the Canadian approach to electricity decarbonization and maintaining certainty in the price is critical to guide and enable investment.

Programs such the Clean Technology and Clean Electricity Investment Tax Credits and the Smart Renewables and Electrification Program have been and will be critical to achieving a reliable, affordable, and clean grid. However, programs beyond the current ITCs and SREP will very likely be necessary to bring on the resources needed, such as long duration energy storage, to achieve the objectives of the CER.

ESC looks forward to continuing to engage and collaborate towards a net-zero electricity system, of which energy storage will play an essential role.