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The Ecology Action Centre would like to first recognize the Department of Environment and Climate Change Canada's commitment to creating and implementing the Clean Electricity Regulations and to the goal of achieving a net-zero grid by 2035. The draft Clean Electricity Regulations, published in the Canada Gazette 1 (CG1) on August 19th, 2023, provides strong guidance to allow for the establishment of a clean, reliable, and affordable grid across Canada by 2035.

As we work towards our 2050 economy-wide net-zero target, establishing a net-zero grid by 2035 provides the key base for this transition. Greenhouse gas emissions reductions in the building, transportation and industrial sectors are highly dependent on a clean grid. Therefore, the Clean Electricity Regulations must drive steep emissions cuts in the electricity sector to ensure we will be able to maximize emissions reductions as other sectors decarbonize and electrify.

The Ecology Action Centre also sees it as imperative that Canada achieves its international decarbonization commitments, in alignment with our contributions to the Paris Agreement goals. A net-zero grid by 2035 is a commitment which is shared by all G7 members and marks a key milestone in meeting our long-term decarbonization commitments. Canada has an advantage over many countries in our electricity transition in that 84 % of our current electricity grid is carbon-free. However, work to fully decarbonize our grid by 2035 and to maintain a decarbonized grid going into the future will allow Canada to take advantage of its position in grid electrification, support rapid decarbonization in other sectors, and contribute significantly to meeting our goal of a net zero economy by 2050.

We would also like to acknowledge the set of complimentary funding and policy measures outlined in the Powering Canada Forward report, released August 8th, 2023, in advance of the Clean Electricity Regulations CG1 release. These are important measures, that alongside allocations in Budget 2023, will help in transitioning our grid and reaching our commitment to a net-zero grid by 2035. However, the Ecology Action Centre thinks it is important to highlight that the Clean Electricity Regulations are the primary policy tool to achieve net-zero emissions from the electricity sector in Canada by 2035, and we believe that these regulations should work to actually achieve this goal.

The Ecology Action Centre views many aspects of the draft regulations favorably, as they provide a strong signal to support the decarbonization efforts needed to achieve our net-zero grid target. However, we think that there are areas where modifications in the regulations could lend further support to improving energy reliability and resiliency. Additionally, we would like to see greater stringency in the Regulations to ensure that emissions remaining on the grid in 2035 are minimized, and that grid decarbonization is accelerated to prevent further emissions from the electricity sector.

We also recognize that the Department of Environment and Climate Change Canada will be receiving comments from many stakeholders as part of this consultative process, which will represent varied interests and raise different areas of concern. Assessing and ensuring both affordability and reliability of our electricity system, now and into the future will be key in developing the final version of the regulations and addressing these concerns. To prioritize these outcomes in addition to being steadfast in our commitments

to emissions reductions and climate action long term, we would strongly urge the Department of Environment and Climate Change Canada, in considering modifications to incorporate in the final version of the Clean Electricity Regulations to prevent slippage in avoided emissions. More specifically, to not allow for slippage in terms of the regulations' potential for avoided emissions between 2024 and 2050 (342 MT) or in the amount of residual emissions predicted to remain on the grid in 2035 (10 MT) and 2050 (2MT) and if possible, to strive for additional avoided emissions and less residual emissions.

Additionally, the Ecology Action Centre calls on the Department of Environment and Climate Change Canada to finish and release the final regulations as soon as possible in 2024 (no later than six months from the Aug 19, 2023, release of CG1), to ensure that rights-holders and interested parties have time to implement the policy before it comes into force on January 1, 2025, to avoid potential risks during the implementation phase.

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November 2nd, 2023

Please find the Ecology Action Centre's specific recommendations for the Clean Electricity Regulations below. Submitted via email to ECD-DEC@ec.gc.ca. 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

Emissions Performance Standard

The Ecology Action Centre commends the Department of Environment and Climate Change Canada for using an emission performance standard to regulate electricity generating units beginning in 2035. This provides a clear and measurable limit of CO_2 emissions allowed by a given generating unit over a given year. We think that the proposed emissions performance standard of 30 t of CO_2/GWh of electricity produced (30t/GWh) is a robust standard and would urge the Department of Environment and Climate Change Canada to maintain this standard in the final regulations.

Flexibilities Provided by the Initial Draft

The Ecology Action Centre has taken note of the need to provide some flexibility –conditions when some units will not have to be limited by the 30 t of CO_2/GWh emissions performance standard by 2035 - within the Clean Electricity Regulations to ensure that all jurisdictions across Canada will be able to comply with the regulations and provide clean, affordable and reliable electricity in 2035 and beyond. However, the Ecology Action Centre would urge the Department of Environment and Climate Change Canada to carefully consider the flexibilities provided, and when structuring the final regulations, ensure that these flexibilities do not weaken the market signal enabling the transition to renewable electricity generation across Canada. Robust Clean Electricity Regulations will lead to reduced stranded assets and costs of emissions reductions and allow for a managed transition to clean electricity.

Reliability and affordability are key concerns to address within the regulations. However, we would encourage the Department to ensure that flexibilities provided within the regulations are essential and are not correcting for poor market design or lack of supports which could be provided through financial, or other incentive mechanisms. As an organization based in Nova Scotia, it has been concerning to hear the

public attack on these regulations directed specifically to our province, which include exaggerations of its potential effects.

End of Prescribed Life

Within the current draft of the Clean Electricity Regulations, gas units which were built before the regulations go into force on January 1, 2025, will have an allowance for operation of twenty years after they were built before they must meet the emissions performance standard. The Ecology Action Centre does not support this twenty year 'end of prescribed life' provision, or 'grandfathering' clause. From the analysis that the Ecology Action Centre has done of the regulations, this provision is that which results in the most significant emissions on the grid beyond 2035, and into the 2040s. It is our view that the inclusion of this provision significantly undermines the intention of the regulations, not only by opening the possibility for significant amounts of residual emissions on the grid beyond 2035, but also risking promoting a 'dash to gas', in which proponents may try to accelerate timelines for commissioning new gas units before January 1, 2025, to extend their window for compliance. We hope that the Department will consider closing this loophole, and removing the end of prescribed life provision, requiring all units to comply with the emissions standard in 2035, regardless of their commissioning date.

Arguments have been made throughout the development of the regulations that this end of prescribed life provision will be key for allowing recently commissioned gas units to recoup their costs associated with building the unit. According to a recent paper by Carvolho et al. (Carvolho, 2021) natural gas units built this century have on average, an 8.5-to-15-year payback period. This short payback period for natural gas units provides clear indication that this end of prescribed life provision is not needed for units to recover costs. Therefore, there should not be a risk of costs being passed on to consumers if the end of prescribed life provision is eliminated, requiring all units to comply with the emissions performance standard by 2035.

Removing this provision will both reduce the amount of residual of emissions on the grid in 2035 but will also allow for additional emissions reductions in the years between 2035 and 2044 – the last year when grandfathered units could emit freely within the current regulations. This would increase the amount of emissions avoided through the regulations and would avoid additional emissions within the 2030s. In recent years, the International Energy Agency, among others, have called on countries like Canada to steeply accelerate decarbonization efforts in order to contribute to global climate goals (IEA, 2023). Eliminating this provision could provide some of those additional avoided emissions to ensure we are doing our fair share in meeting global goals in the short term.

Peaking Provision

The Ecology Action Centre is generally supportive of the inclusion of a peaking provision which sets limits to the use of gas or oil units used for peaking. As written, the peaker provision allows for use over a specific time frame, or up to a specific amount of kilotonne (kt) of emissions per unit. As stated in the draft regulations, a unit other than those which combust coal could operate up to 450 hrs/year and emit not more than 150 kt/year of CO_2.

We would encourage the Department to maintain the second or right side of this provision as stated in the draft, and restrict the total amount of emissions that a peaking unit could emit per year to 150 kt. However,

we would encourage the Department to consider a small adjustment to the amount of time a unit could operate in a given year ('left side' of the as written peaker provision).

As written, a unit could operate up to 450hr/year, or 18.75 days/year, which in effect is at 5 % capacity. The Ecology Action Centre would urge the Department to consider modifying this part of the provision to a true capacity factor and would encourage the Department to consider increasing the capacity factor to 10 %. Jurisdictions would therefore be enabled to, for purposes of reliability, run units at a lower capacity factor for a longer total duration of time through the year. This could allow unit operators to better serve reliability needs increasing flexibility in way peaking units could be used.

Additionally, we would request that the Department consider, in jurisdictions where it would be feasible such as Nova Scotia, that this capacity factor be applied/employed in a fleet wide approach. In discussion with other interested parties, and in examining the plans from relevant operators such as Nova Scotia Power Inc., we have seen that this fleet wide approach could promote the use of more efficient units – those that would both cost less and be less emitting to operate - more often, and reduce the amount that less efficient, higher emitting units would be turned on. This could have benefits in terms of system reliability, prioritizing efficient and reliable units more often and promoting additional emissions reductions. However, we would like to suggest that if the proposed fleet-wide approach to the capacity factor be adopted in relevant jurisdictions that the Department also include clear specifications in the final version of the regulations to make sure that this fleet management be conducted in a way that minimizes emissions.

In the initial years after this peaking provision comes into effect, we see this provision as supportive of grids, such as Nova Scotia's, which are currently high emitting and have limited connectivity to fast acting baseload power from renewable sources both internally and in other jurisdictions. However, as the electricity system continues to decarbonize across the country, we think it will be important to incentivize a continued transition to a grid with higher renewable penetration, more effective connections with neighbouring provinces, further incorporation of existing and emerging storage technologies, as well as demand side management. Therefore, we would recommend that this peaker provision be gradually phased out moving forward from 2035. It it's median 1.5 degree scenario, highlighted in its most recent report, the Intergovernmental Panel on Climate Change found that OECD countries such as Canada should only have unabated natural gas powering 3 % of its energy supply by 2035. The Ecology Action Centre would encourage the Department to phase down the capacity factor allowed within this peaking provision to 3 %, to align with this scenario. For completeness, we would also encourage a similar phase out of the kilotonne value.

Emergency provisions

The Ecology Action Centre was pleased to see a strict definition of emergency circumstances in which units could be turned on and not be required to meet the performance standard – extraordinary, unforeseen and irresistible conditions. We would urge the Department to provide some further guidelines as to how emergency circumstances should be evaluated when decisions are being made, so that these decisions can be made with confidence when the need presents itself, and reliability of power delivery is not put at risk. We recognize the need for this provision to allow units to operate in true emergencies and that these situations should be defined appropriately to prevent unnecessary emissions due to the provision being taken advantage of.

CCUS

The Ecology Action Centre was happy to see how oil and gas units equipped with carbon capture and storage (CCS) would be treated with strict and stringent guidance in the confines of the regulations. Within the current draft, units working to incorporate CCS would have the flexibility of being able to emit an annual average of 40 t/GWh if they can demonstrate that the unit is able to reach the emission performance standard of 30 t/GWh. This flexibility is only available up until the earliest of seven years after the unit's commissioning date OR December 31st, 2039, whichever comes earlier. We urge the Department of Environment and Climate Change Canada to maintain this strict standard in the final version of the regulations.

Output Based Pricing System Reform

It is the Ecology Action Centre's position that the electricity sector should be subject to the full carbon price and removed from the Output Based Pricing System as soon as possible. We would recommend that when the final draft of the regulations is announced, a clear statement on policy intention be announced by the federal government – this being that the electricity sector should be exposed to the full carbon price as soon as possible to help ensure that the electricity sector will be on track to be fully decarbonized by 2035.

Conclusion

In conclusion, the Ecology Action Centre would again like to thank the Department of Environmental and Climate Change Canada for the extensive work that has already been done in preparing this first draft of the Clean Electricity Regulations. We would like to emphasize the two key points which form the basis of our submission. First, that the final draft Clean Electricity Regulations should not result in slippage in terms of avoided emissions between 2025 and 2050, nor total emissions on the grid in 2035 and 2050, and that additional emissions avoided within the scope of the final regulations would be welcomed and encouraged. Additionally, we would like to emphasize the need for the Clean Electricity Regulations to be finalized as soon as possible, ideally released within six months of the publication in CG1, so that the policy can move forward to be implemented as of January 1, 2025.

We would welcome further opportunities to discuss the final draft of the Clean Electricity Regulations as they are developed and would be happy to answer any questions relating to the recommendations in this submission.

Sincerely,

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