

Please accept these comments from the NGO *Saskatchewan Coalition for Sustainable Development (SCSD)* in relation to the draft *Clean Electricity Regulations (“Regulations”)*.

Generally, the SCSD is supportive of the draft Regulations, particularly as they will help to contribute to the *Sustainable Development Goals (SDGs)* of the United Nations 2030 Agenda, in particular SDG 3 - Good Health and Well-being; SDG 7 - Affordable and Clean Energy; SDG 9 - Industry, Innovation, and Infrastructure; and SDG 13 - Climate Action.

SCSD understands that to achieve a net-zero GHG emissions economy by 2050, a transformational change will be required in every sector of the Canadian economy including the electricity-generating sector. Therefore, these Regulations must be viewed as part of the transformational change to accelerate the decarbonization of our energy and the economy. SCSD knows that without clean, reliable, and affordable options available, fuel switching away from emitting sources will not happen. SCSD would suggest that the language in the Regulatory Impact Analysis Statement (RIAS) under the heading of Regulatory Development should be strengthened to be more transparent and ultimately more truthful: If the transformation to net zero GHG emissions is not well under way by 2035, Canada is unlikely to achieve its climate change goals of becoming a net-zero GHG emissions economy by 2050. Climate change is an existential threat to humanity, including our food supply, our infrastructure, our security, our health, and our democracy. Without dramatic reduction in emissions, caused by the burning of fossil fuels, we face grave consequences. For these reasons, SCSD views the draft Regulations to be of critical importance and a pillar of Canada’s Emissions Reductions Plan.

However, SCSD recognizes that there are some provinces that will be impacted more than others by the implementation of the draft Regulations. Saskatchewan is one of those provinces (as identified in the RIAS). Saskatchewan is anticipated to require some of the most aggressive transformative changes to its electricity grid in terms of capital costs, retirement of existing assets, interconnections with other regions, intra-provincial transmission and distribution, and net domestic imports (as summarized in Tables 26 and 27 of the RIAS). For these reasons SCSD anticipates that a court challenge of the Regulations will likely be initiated by one or more of the provinces of SK, AB, NB, or NS. Given the recent history of the legal challenges to the *Greenhouse Gas Pollution Pricing Act* that spanned more than 3 years, 3 provincial Courts of Appeals, and the Supreme Court of Canada, we must be mindful of how the Regulations are drafted to ensure that they will survive a court challenge (which seems nearly certain given that provinces score political points by fighting with the federal government).

SCSD notes that the objectives of the Regulations are:

1. *Help Canada achieve its climate change commitments towards achieving net-zero GHG emissions economy-wide by 2050 by constraining emissions from unabated thermal power generation. This transition will support global efforts to address climate change and help limit associated damage; and*
2. *Reduce GHG (i.e. CO2) emissions from emitting electricity generation beginning in 2035.*

SCSD notes that in the context of a court challenge, the objectives of the Regulations will be very important and subject to judicial scrutiny. Objective 2 is precise and distinct, but it could be made clearer to indicate the objective of a “nationwide performance standard without prescribing what type of generation to procure.” Similarly, objective 1 does not clearly indicate why achieving the climate commitments is important nor does it suggest that there is a harm or mischief that the Regulations seek

to control. In general, these objectives must be carefully constructed as they are likely to be under scrutiny of the courts with respect to constitutional challenges from the provinces.

SCSD can appreciate that a stringent performance standard is required and applauds the RIAS for its sensitivity analysis related to the performance standard. SCSD understands that a performance standard of 0 tonnes of CO₂ per GWh of electricity produced would be equivalent to a *de facto* ban on fossil fuel-fired generation at their End of Prescribed Life as stated in the RIAS. SCSD also agrees that a performance standard of 100 t/GWh is not assertive enough to achieve the objectives of the Regulations, especially when the national average for all electricity generated in 2020 was 108 t/GWh.

The challenge is to prescribe a reasonable performance standard that drives transformative decarbonization but also maintains technology neutrality AND allows the provinces and territories the maximum flexibility to exercise their constitutional right to design and operate their provincial electricity systems. SCSD notes that the emissions intensity of various generation technologies considered in the RIAS do not account for lifecycle emissions including construction, decommissioning, and waste disposal.

Although it may seem out of character for an environmental NGO, SCSD believes the emissions standard should be raised from 30 t/GWh to 40t/GWh generally and (50t/GWh for CCS units during the first 7 years following the capture system's commissioning). SCSD proposes this because CCS technology is still developing. Furthermore, this relaxed stringency aligns with the U.S. standard, which is based on a consensus that by 2035 CCS applied to fossil-gas combined cycle generators can operate reliably and continuously at 90% capture efficiency. Impacts on emissions under this relaxed stringency would be minimal, but the relaxed standard may also encourage development of CCS technology in Canada sooner if our standard aligns with that in the U.S.

SCSD is not a proponent for CCS when used to extend the life of fossil fuel assets as SCSD recognizes that even when equipped with CCS, the emissions are not compatible with a net-zero goal. However, SCSD understands that there is already too much carbon in the biosphere and that humanity will likely need to develop technologies to remove atmospheric carbon, such as Direct Air Capture or Bio Energy with CCS. Given the urgency of the climate crisis, CCS development and research could have an important role to play in the transformative change needed to decarbonize our energy and economies.

SCSD notes that the RIAS shows in Tables 5 and 7 that the effect of the draft Regulations is anticipated to increase the capacity of "emitting with CCS" technology installed, but not the corresponding generation by that type. It is doubtful that provinces or utility operators are going to be willing to invest in the capital assets of CCS if they are not expected to achieve a return on investment with a reasonable capacity factor. (Why build it if they won't operate it?) This constitutes another reason to raise the performance standard to 40t/GWh.

Specifically in the Saskatchewan context, SCSD offers the following proposed revisions:

1. The performance standard of 40t/GWh should apply as of Jan 1, 2035.
2. The performance standard should apply to all generation units over 50MW capacity commissioned after Jan 1, 2025.
3. For the first 7 years of operation after commissioning or up to Jan 1, 2042 (whichever comes earlier), generators equipped with CCS can operate with an emissions intensity of up to 50 t/GWh. CCS abated generators must demonstrate a capacity to run at 40 t/GWh thereafter.

4. Beginning Jan 1, 2035, the annualized pooled emissions intensity from all generators (including non-emitting generation) in the jurisdiction of Saskatchewan (excluding “behind the fence” generators that do not provide electricity to the grid) must be less than 50 t/GWh.
5. Beginning Jan 1, 2042, the annualized pooled emissions intensity from all generators (including non-emitting generation) in the jurisdiction of Saskatchewan (excluding “behind the fence” generators that do not provide electricity to the grid) must be less than 32.5 t/GWh.

As Saskatchewan is anticipated to be greatly impacted by the draft Regulations, the five points proposed above suggest a revision to create a “Saskatchewan equivalency” that focuses on the total pooled generation standard. This proposed Saskatchewan equivalency recognizes that Saskatchewan has spent nearly \$3 Billion dollars on a coal to gas transition from 2012 - 2023 and that Saskatchewan also has many “peaker” plants with a capacity of less than 50MW. The five-point proposal above would allow Saskatchewan to achieve the decarbonization transformation broadly on a pooled basis for its total fleet while allowing additional flexibility and less impact to the province than the proposed Regulations as drafted (reducing the intrusion of the Regulations on the provincial authority to design and operate its electricity system).

SCSD recognizes that absolute emissions must decline from all sectors including electricity generation, even though Saskatchewan’s electricity demand is anticipated to grow from 24 TWh/yr in 2020 to 37 TWh/yr by 2035 and perhaps 44 TWh/yr by 2042. The baseline emissions from electricity generation in Saskatchewan in 2005 was 14.2 MT of CO₂ equivalent. The proposed fleetwide emissions intensity standard of 50 t/GWh in Saskatchewan by Jan 1, 2035, equates to an 87% cut in absolute emissions from the 2005 baseline emissions from electricity generation in Saskatchewan. Similarly, the proposed fleetwide emissions intensity standard of 32.5 t/GWh in Saskatchewan by Jan 1, 2042, equates to a 90% cut in absolute emissions from Saskatchewan’s electricity generation compared to the 2005 baseline. This aligns with the 3 “near zero emissions” scenarios modelled by the Alberta Electricity System Operator. In each of these Alberta scenarios, the modelling arrived at an emissions reduction of greater than 90% without compromising grid reliability or imposing a cost of electricity burden on customers. SCSD believes these emissions reductions in Saskatchewan are realistic goals that can be achieved without impacting reliability or cost of electricity to customers.

Negative emissions through operation of Bioenergy with Carbon Capture and Storage (BECCS) generators should be included in the pooled inventory. Negative emissions from BECCS generators can offset emissions from unabated generators and residual emissions from NGCC generators with CCS. This provision can minimize stranded assets in Saskatchewan. By allowing the flexibility of fleetwide emissions intensity standards, the magnitude of CCS implementation to gas plants in Saskatchewan or build out of alternate low or zero emissions options such as SMRs (if needed under a BECCS + renewables with storage/transmission scenario) is markedly reduced and becomes practical to achieve by 2035.

SCSD agrees that any unit’s total emissions can exclude the quantity of emissions captured by its CCS system only if these emissions are permanently stored in a storage project that meets prescribed criteria.

SCSD believes that the pooled emissions intensity standard (the “Saskatchewan equivalency”) would accomplish two things:

1. New build unabated emitting generation greater than 50 MW capacity commissioned after Jan 1, 2025, would not be permitted. This would impact the proposed fossil-gas fired Aspen power station near Lanigan, SK, by requiring it to be designed to incorporate CCS such that the Aspen plant could achieve the standard of 40 t/GWh (or alternatively that it run on green hydrogen gas or a combination of hydrogen and biogas to achieve the standard of 40 t/GWh).
2. Absolute emissions from electricity generation in Saskatchewan would be cut by about 87% by 2035 and 90% by 2042. The pooled emissions intensity standard gets us there.

Finally, SCSD feels the need to emphasize certain findings in the RIAS modelling of benefits and costs. Regional electricity interties are KEY for coal-dependent provinces (like Saskatchewan) to meet the requirements of the *Reduction of Carbon Dioxide Emissions from Coal-fired Generation of Electricity Regulations* as amended in 2018. SCSD notes that additional regional interties are not considered incremental to the proposed Regulations. This is a mistake. The necessary transformative changes to generation in Saskatchewan to constrain and replace all emitting generation will require at least double the regional intertie capacity that was anticipated to eliminate coal. Unfortunately, in Saskatchewan since 2012 (when the first regulations were enacted to reduce coal fired generation), Saskatchewan has focused on a coal to gas transition, rather than expanding regional interties. The additional need for regional interties to Saskatchewan and the corresponding cost has likely been underestimated by the RIAS.

The RIAS also emphasized that the Government of Canada has core infrastructure investment programs that focus on clean energy system infrastructure with total combined investments of nearly \$10 billion. SCSD notes that over \$30 billion has been committed by the federal government to the Trans Mountain Pipeline expansion alone. This \$30 billion dollar investment in expanding fossil fuel infrastructure is out of proportion to the necessary investment required for a Pan-Canadian clean energy corridor. Stated plainly, the Federal government must get serious about building inter-provincial transmission capacity, otherwise provinces will continue to behave as electricity “islands.” The building of inter-provincial transmission is a transformative change itself and warrants the creation of a new federal crown corporation that could expedite the construction of these interties because it is in the national interest. Without significant interprovincial transmission capacity, the development of the world class renewable wind and solar energy opportunities in provinces like Saskatchewan will not proceed at the pace needed to transform and decarbonize our energy systems.

Respectfully submitted on behalf of SCSD, this 30th day of October, 2023.