

Canada's new Clean Electricity Regulations

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Introduction

On Dec. 18, 2024, the finalized Clean Energy Regulations (the Regulation) were published in the Canada Gazette, Part II. Aligning with the release of the final version of the Regulation, the Government of Canada published Powering Canada's Future: A Clean Electricity Strategy (the Electricity Strategy) on Dec. 17, 2024, which notes that the Regulation is one of the measures that the federal government has taken to help build a "clean, reliable, and affordable electricity sector." As explained in the Regulatory Impact Analysis Statement of the Regulation, reducing greenhouse gas emissions is an important step in the fight against climate change; to aid in this fight, the Government of Canada, along with many other governments around the world, have committed to reaching net-zero emissions by 2050. This goal is important when noting that the demand for electricity is growing at a rapid pace, as such, a net-zero economy will require electricity emissions to continue to fall for Canada to meet its 2050 goal. It can also be noted that a net-zero electricity sector will aid in the decarbonization of other parts of the economy, which is important if Canada wishes to achieve a net-zero economy.

Key features of the Regulation

The objective of the Regulation is to ensure that as of 2035, the generation of electricity is done in a way that ensures emissions are substantively reduced. The stated purpose of the Regulation is to "protect the environment and human health from the threat of climate change by a establishing a regime that prohibits excessive CO₂ emissions from the use of fossil fuel to generate electricity."

Applicability

The Regulation applies to units (a unit) that meets certain criteria (the Criteria, described below). "Unit" is defined as:

"an assembly consisting of equipment that is physically connected and that operates together to generate electricity, including at least one boiler or combustion engine along with any other equipment, such as duct burners or other



combustion devices, heat recovery systems, steam turbines, generators, emission control devices and carbon capture and storage systems."

In practical terms, an electricity generating facility will be made up of one or more units.

The Regulation applies to units that meet each of the following Criteria:

- a. the unit has an electricity generation capacity of at least 25 MW;
- b. the unit generates electricity using fossil fuel; and
- c. the unit is connected, directly or indirectly, to an electricity system.

The Regulation defines "electricity system" as "an electricity system that is subject to the standards of the North American Electric Reliability Corporation" (NERC). As noted in our earlier bulletin concerning the Regulation, NERC standards are enforceable for bulk electricity grids in the continental United States and British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Québec, Nova Scotia and New Brunswick. Notably, Prince Edward Island and Newfoundland and Labrador, and the Yukon, Northwest Territories and Nunavut are not subject to NERC standards. The requirement to be connected to an electricity system that is subject to NERC effectively exempts electricity generating units located in remote communities in Canada, which are largely reliant on diesel generators. These diesel generators would also have a capacity of less than 25 MW.

For units that are less than 25 MW, the Regulation will apply if:

- a. the unit's commissioning date is on or after Jan. 1, 2025; and
- b. the sum of the electricity generation capacity of all units, other than planned units, that are located at the facility where the unit is located and that have commissioning dates on or after Jan. 1, 2025 is at least 25 MW.

Registration

The owner or operator of a unit that meets the Criteria (a Responsible Person) must submit to the Minister a registration report for the unit that contains the information set out in Schedule 2 by the later of

- a. Dec. 31, 2025, and
- b. the 60th day after the day on which the unit meets the Criteria.

Emissions Cap

Under section 9(1) of the Regulation, the Responsible Person for a unit must not emit from the unit in a calendar year a quantity of CO₂ that exceeds the limit, expressed in tonnes of CO₂, determined by the formula:

$$C \times I_{el} \times 8760 \times 0.001$$

where

C is the unit's electricity generation capacity (MW) for the calendar year;



- Iel is the emissions intensity (tCO₂/GWh) applicable to the calendar year and is
 - a. 65 t CO₂/GWh for the 2035 to 2049 calendar years, and
 - b. 0 t CO₂/GWh for the 2050 and subsequent calendar years;
- 8760 represents the number of hours in a non-leap year; and
- 0.001 is a conversion unit (the Cap).

The emissions intensity of $65 \text{ tCO}_2/\text{GWh}$ is a substantive reduction from the 30 tCO₂/GWh originally proposed by the government. Except for certain units that are grandfathered as described below, the Cap will apply effective Jan. 1, 2035. As of that date, the emissions intensity of the unit must not exceed $65 \text{ tCO}_2/\text{GWh}$, and after 2050, that allowance drops to zero.

Note that although the Cap is expressed in tonnes of CO₂, the cap will vary depending on the generating capacity of the unit, effectively rendering the Cap an emissions intensity-based cap.

A unit is exempt from the Cap in a calendar year if the facility at which the unit is located does not produce a net (annual) supply of electricity, either directly or indirectly, to a NERC-regulated electricity system.

Certain important concessions were made by the federal government over the course of consultations with stakeholders. These concessions, explained more fully below, include (i) expanded grandfathering rights, (ii) the ability to rely on offsets/compliance credits, (iii) the pooling of emissions of units owned by a single Responsible Person, and (iv) the exemption of co-generation facilities from the regulation for power consumed by those facilities to create thermal energy.

Grandfathering

The federal government made allowances with respect to (i) units that were commissioned prior to 2025, and (ii) for units that are 'planned' but not built as of the coming into force of the Regulation (a Planned Unit, further described below). Specifically, a unit that:

- a. had a commissioning date after Dec. 31, 2009 but before Jan. 1, 2025;
- b. is a Planned Unit; or
- c. is a boiler unit referred to in subsection 3(4) of the Regulations Limiting Carbon Dioxide Emissions from Natural Gas-fired Generation of Electricity that has an end of prescribed life after Dec. 31, 2034, is not subject to the Cap until the end of unit's prescribed life.

Units that are commissioned after Dec. 31, 2009 and before Jan. 1, 2025 have a prescribed life of 25 years after the unit's commissioning date and are exempt from the Cap until then.

Planned Units are grandfathered until Dec. 31, 2049. Section 3 of the Regulation defines Planned Unit, which detailed criteria includes, among other things, that its commissioning date be within Jan. 1, 2025 and Dec. 31, 2034.



Reductions

In calculating the emissions of a unit in a calendar year, a Responsible Person is required to use a continuous emissions monitoring system (CEMS) and may deduct CO₂ emissions under certain circumstances, including CO₂ emissions that are:

- a. attributed to the production of useful thermal energy (applicable to co-generation units),
- b. captured and stored in accordance with the Regulation, or
- c. attributed to the production of hydrogen, ammonia or steam (purchased or transferred) used by the unit to generate electricity during the year.

Offsets and compliance credits

The total amount of CO₂ emissions can be further reduced by the number of Canadian offset credits or compliance credits remitted for the unit for the calendar year.

Canadian offset credits are defined in the Regulation and are exclusive to (a) offset credits issued under subsection 29(1) of the Canadian Greenhouse Gas Offset Credit System Regulations; and (b) a unit or credit that is recognized under subsection 78(1) of the Output-Based Pricing System Regulations and meets the conditions set out in paragraphs 78(4)(a) to (d) of those regulations.

The CO₂ emissions of a unit can only be reduced by Canadian offset credits for up to a maximum equivalent emissions intensity of 35 tCO₂/GWh for the 2035 to 2049 calendar years and 42 tCO₂/GWh for the 2050 and subsequent calendar years. In other words, when the emissions intensity is applied (multiplied) to a unit's generation capacity, a Responsible Person can reduce the calculated CO₂ emissions by more than half using Canadian offset credits between 2035 to 2049. The Canadian offset credits must not be more than 8 years old.

The Regulation also allows for cross-recognition of Canadian offset credits. Provided certain criteria are met, a Responsible Person can remit the same offset credit for both the purposes of the Regulation and an eligible system, which includes the carbon compliance regime established under the Greenhouse Gas Pollution Pricing Act and a provincial carbon pricing system listed as eligible on the Department of the Environment's website.

The Regulation also provides for the use of compliance credits. If the Minister is satisfied that, for any of the 2035 to 2049 calendar years, the quantity of CO_2 emissions attributed to a unit is below the emission limit determined for the unit in accordance with subsection 9(1), the Minister must issue to the Responsible Person, for that calendar year and for that unit, a number of compliance credits, each with a corresponding value of one tonne of CO_2 , that is equal to the difference between that quantity and that limit. The following units are eligible for transfer of compliance credits:

- a. the unit has a commissioning date before Jan. 1, 2025 and is not a cogeneration facility:
- b. a unit, other than a Planned Unit, that is commissioned following Dec. 31, 2024 and before Jan. 1, 2030;



- c. a Planned Unit that is not a cogeneration facility; or
- d. the unit does not combust coal.

The compliance credits are transferable exclusively between Responsible Persons that have units that are subject to the Regulation. However, they can only be applied to a unit that was eligible to be issued transferable credits for that same compliance year. Furthermore, compliance credits are only transferable between units operating under the same electricity system operator, thereby limiting transfers to within a province.

The methodology for calculating the total emissions of a unit is prescribed depending on the type of unit. As with all highly prescriptive and technical regulations, the devil is in the detail and the applicability of the Regulation will vary from unit to unit.

Co-generation units

Existing cogeneration units that produce useful thermal energy (i.e. steam that is not used to generate electricity) can subtract from its total annual emissions, the emissions allocated to the production of useful thermal energy for the 2035 - 2049 compliance years.

Emergencies

A Responsible Person may deduct the quantity of CO₂ emissions attributed to a unit during an emergency (referred to as a 'deduction period' and further defined in the Regulations) if the emergency qualifies as an 'irresistible emergency event', whether natural or arising from human action, or the Minister has determined there is a risk to human health and safety.

Provincial perspectives

Not all provinces appear to be in support of the Regulation.

The Government of Alberta originally implied that a constitutional challenge would likely be forthcoming in its response to the federal government's update on the draft Regulation published on Feb. 16, 2024. Per a joint statement by Premier Danielle Smith, Minister of Affordability and Utilities Nathan Neudorf, and Minister of Environment and Protected Areas Rebecca Schulz, the Alberta has made clear it intends to launch a constitutional challenge on the basis of jurisdiction.

The Government of Saskatchewan has taken an even stronger stance and outright rejected the Regulation. Like Alberta, Saskatchewan takes the position that the Regulation is unconstitutional and extremely disadvantageous to the province. Given Saskatchewan's position it is anticipated they will also be launching a constitutional challenge based on jurisdiction.

Similar to the implementation of the backstop system in place with respect to the fuel surcharge and the output-based pricing system applicable to greenhouse gas emissions, the federal government (in the Electricity Strategy) specifically noted its willingness to negotiate bilateral equivalency agreements with interested provinces. If such an agreement was in place, the Regulation would no longer apply in the relevant



province as provincial rules (which would be required to achieve equivalent emissions outcomes) would be followed.

Lastly, it should be noted that the federal government has stated (in the Electricity Strategy) that in "recognizing the particular challenges faced in the North, the [Regulation] largely does not apply in Northern and remote communities that are not connected to the continental grid."

Conclusion

As the Canadian economy transitions to an electrified future, the Regulation is intended to ensure that the transition happens in manner that will keep greenhouse gas pollution to a minimum while ensuring reliability, and ultimately to a net-zero electricity system by 2050. The Regulation came into force on Jan. 1, 2025, with reporting requirements beginning for the period ending Dec. 31, 2025. With a federal election to be called in 2025, the continued application and enforcement of the Regulation remain uncertain.

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