



April 16, 2018

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Re: *Canada Gazette*, Part I, Vol. 152, No. 7 — February 17, 2018 Regulations Limiting Carbon Dioxide Emissions from Coal-fired Generation of Electricity. Statutory authority *Canadian Environmental Protection Act, 1999*

Dear Paola:

The Conservation Council of New Brunswick (CCNB) is collaborating with non-governmental organizations across Canada to support effective implementation of Canada's Pan-Canadian Framework. We endorse the recommendations by civil society groups, including the Pembina Institute and Canadian Association of Physicians for the Environment regarding regulation of greenhouse gas emissions from coal and natural-gas power plants. This submission covers both regulations.

The federal Government is committed to a 90% emissions-free electricity system in Canada by 2030. The Conservation Council of New Brunswick fully endorses this objective. That is why we are concerned that the proposed federal regulation to reduce the greenhouse gas intensity of coal-fired electricity generation could undermine the 2030 goal. We believe the risks to the 2030 goal stem from three flaws in the proposed regulation: lack of an integrated and long-term electricity strategy driving the regulatory approach, narrow scope for New Brunswick because of plant closure assumptions, and the use of equivalency agreements. We will review each flaw in turn.

Lack of an integrated and long-term electricity strategy: The proposed regulation is not part of an integrated vision and strategy designed to achieve the 90% emissions free by 2030 goal. The country urgently needs a national electricity strategy covering all aspects of supply, demand and transmission. The strategy should identify opportunities for regional coordination and

implementation and be designed to avoid overreliance on natural gas as utilities and firms comply with federal regulations. The upshot of the proposed federal coal regulations will be a dash to gas especially in Alberta and Saskatchewan. In the Atlantic, there is concern about the greenhouse gas emissions potential associated with liquified natural gas, particularly if considered on a lifecycle basis. Proposed regulatory rules may encourage such an outcome through provisions that permit higher emission intensity rates (up to 550 tonnes/GWh for five years or up to 10 years if emissions intensity is 480 t/GWh) for coal plants converted to natural gas, which is higher than more advanced combined cycle plants (375 t/GWh). Such an outcome appears inconsistent with the goal of having a 90% emissions free electricity system by 2030.

Jeffrey Sachs, professor at Columbia University and director of the Center for Sustainable Development and the UN Sustainable Development Solutions Network, called on Canada, in a recent article in the *Globe and Mail*,¹ to take a more strategic approach to electricity regulations and planning. Sachs notes that a long-term strategy would involve accessing power from hydro-based provinces to balance variable renewable energy supply in other provinces. This recommendation is consistent with coal plant regulatory impact statement (RIAS) which finds that New Brunswick's least cost option to comply with the coal plant regulations is to buy hydro power from Québec. The challenge, however, is that without a regionally and nationally coordinated strategy, the approach could lead to a loss of \$1 billion in revenue to 2055. It is hard to imagine a provincial utility volunteering for such an outcome.

An integrated strategy could mitigate against the unplanned loss of export revenue and overreliance on out-of-province supply that could undermine resiliency gains from a locally diverse and distributed electricity system. A balance of both imports and provincial supply that delivers mitigation and adaptation resiliency outcomes is required. A strategic and planned approach should aim for outcomes that achieve the 90% emissions free goal, while facilitating renewable energy and revenue opportunities that make sense regionally and provincially, and that comply with other provincial and utility objectives for job creation, cost savings, revenue generation, debt reduction, and system resiliency in the face of climate change.

A long-term strategy supports supply-side planning especially for integrating renewable supply and coordinating energy efficiency and transmission investments. An electricity supply-demand strategy would also inform the just transition task force assessment of the training and other supports required to help workers affected by coal and natural gas regulations to secure new employment in the clean electricity system.

¹ https://www.theglobeandmail.com/opinion/article-the-sustainable-way-forward-for-canadas-energy-sector/?utm_source=facebook.com&utm_medium=Referrer%3A+Social+Network+%2F+Media&utm_campaign=Shared+Web+Article+Links

Narrow scope for New Brunswick because of plant closure assumptions: The RIAS excludes regulation of Coleson Cove on the assumption that it will cease to operate in 2029:

“In 2017, New Brunswick had two coal-fired electricity generating units in operation with a total capacity of 837 MW. One of the two units, with a capacity of 357 MW is fuelled by petroleum coke with heavy fuel oil and is expected to shut down in 2029, whereas the remaining unit, with a capacity of 480 MW, is expected to shut down in 2044.”

Figure 13 from NB Power’s 2017 Integrated Resource Plan (IRP) shows that the Belledune plant has a capacity of 467 MW and that Coleson Cove has a capacity of 972 MW. Figure 14 from the 2017 25-year IRP shows that NB Power has no plans to shut Coleson Cove in 2029. Rather, the plan is to run this plant to at least 2040-2041. Based on the information in the RIAS, the proposal is to exclude Coleson Cove from the federal regulation. The Conservation Council of New Brunswick believes Coleson Cove should be covered by the regulation and that both plants should achieve the minimum requirement of 420t/GWh by 2029 independently of each other.

Figure 13: Existing NB Power Net Generating Capacity^{3,4} and other statistics³

Generating Capacity Thermal	
Coleson Cove	972 MW
Belledune	467 MW
Total Thermal	1,439 MW

Generating Capacity Hydro	
Mactaquac	668 MW
Beechwood	112 MW
Grand Falls	66 MW
Tobique	20 MW
Nepisiguit Falls	11 MW
Sisson	9 MW
Milltown	3 MW
Total Hydro	889 MW

Generating Capacity Nuclear	
Point Lepreau	660 MW

Generating Capacity Combustion Turbines	
Millbank	397 MW
Ste. Rose	99 MW
Grand Manan	29 MW
Total Combustion Turbines	525 MW

Total Generating Capacity	
Thermal	1,439 MW
Hydro	889 MW
Nuclear	660 MW
Combustion Turbines	525 MW
Total Generating Capacity	3,513 MW

Power Purchase Agreements (PPAs)	
Kent Hills (Wind)	150 MW
Caribou Mountain (Wind)	99 MW
Lameque (Wind)	45 MW
Bayside (Natural Gas)	277 MW
Grandview (Natural Gas)	95 MW
Twin Rivers (Biomass)	39 MW
St. George (Hydro)	15 MW
Edmunston Hydro	9 MW
Other Renewable	6 MW
Total Power Purchase Agreements	735 MW

Number of Lines	
Distribution Lines	21,121 km
Transmission Lines	6,865 km

Exporting and Importing Capacity	
Export Capacity	2,385 MW
Import Capacity	2,248 MW

Number of Customers	
Direct Customers	355,918
Indirect Customers	45,248
Total Customers	401,166

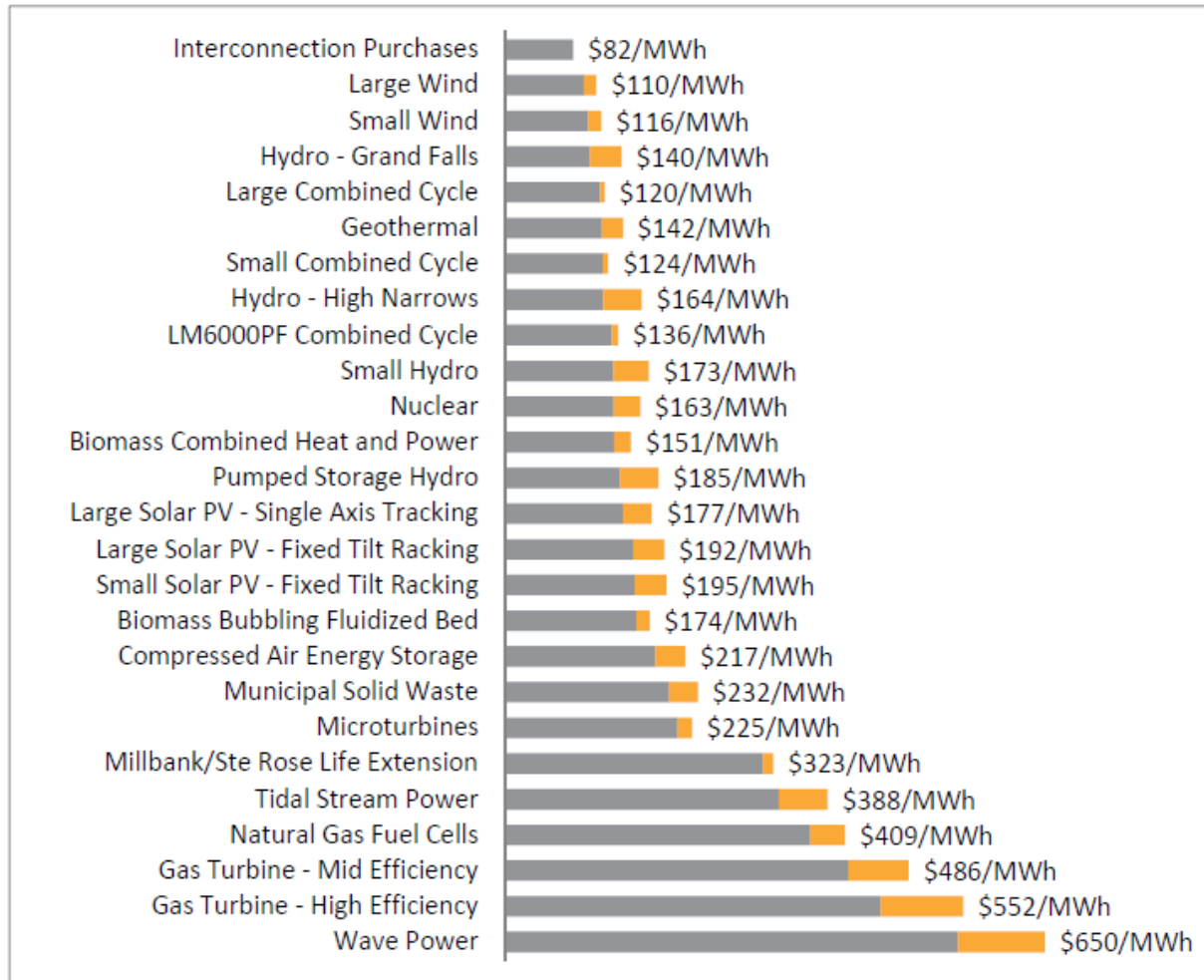
Figure 28 from NB Power’s 2017 IRP shows the levelized cost analysis of different supply options. After interconnection purchases, large and small-scale wind is the most cost-effective supply option. Wind-generated supply, combined with provincial and imported hydro represent a more strategic approach to regulatory compliance for both Belledune and Coleson Cove. Excluding Coleson Cove from the regulation lowers greenhouse gas reduction potential because a Coleson Cove retrofit, or replacement, would simply offset a portion of emissions at Belledune. The overall result will be to lessen pressure to strengthen commitments to renewable energy in New Brunswick, which in turn will reduce the capacity to generate export revenue from clean energy supply.

The RIAS assumes a worst-case outcome of 12 cent/kwh rate increase (Table 12) primarily due to the loss of up to \$1 billion in export revenue by 2055 (Table 6.A). While we understand this is only a scenario, the implications are important and support the view that an integrated approach is required based on a 90% emissions free electricity system for 2030. We need a solution that increases the supply of renewable energy in New Brunswick beyond the current commitment to 40% of supply by 2020, and that does not result in natural-gas-fired electricity.

Figure 14: Retirement schedule

Resource	Fuel type	Capacity (MW)	End of life date
Grandview PPA	Natural gas	95	2024/25
Grand Manan	Diesel	26	2025/26
Bayside PPA	Natural Gas	277	2026/27
Millbank	Diesel	397	2030/31
Ste. Rose	Diesel	99	2030/31
Point Lepreau	Uranium	660	2039/40
Belledune	Coal	467	2040/41
Coleson Cove	Oil	972	2040/41

Figure 28: Levelized cost of electricity including the incremental cost of private financing:



The use of equivalency agreements: There is no transparency during federal-provincial equivalency agreement negotiations, no stakeholder consultations on proposed approaches, and no independent evaluations of the claims made by utilities with respect to alternative reductions. Equivalency options must be assessed on a lifecycle basis and use appropriate global warming potentials (i.e., 20 years for methane rather than 100 years). The process must be transparent, include stakeholder feedback and independent assessment to validate equivalency claims. Further, modeling and underlying assumptions to develop equivalency scenarios must be public.

Provinces that wish to avoid switching to natural gas, like Nova Scotia, or that are pursuing carbon capture and storage, like Saskatchewan, have begun negotiations with the Government of Canada to establish equivalency agreements. NB Power has mused about pursuing similar arrangements. It is not at all obvious where equivalency reductions would be secured in New

Brunswick. In addition to the proposal to replace Belledune power with hydro imports from Québec, there has been speculation about converting Coleson Cove to liquified natural gas.

NB Power clearly states in its 2017 Integrated Resource Plan that it intends to operate its Belledune and Coleson Cove power plants to 2040-2041² as can be seen in the figure below (Figure 14 from the 2017 Integrated Resource Plan). We presume power plant conversion to natural gas would constitute “significant modifications to coal plants” and fall under the natural gas-fired power plant greenhouse gas reduction regulations given the RIAS identifies Coleson Cove as a coal plant and we have noted that the plant will run past 2029.

In 2016, according to the Environment and Climate Change Canada greenhouse gas facility data base, Belledune generated 2.8 Mt of greenhouse gases; Coleson Cove, 537 kt, for total in 2016 of 3.3 Mt. If the 420 t/GWh is considered a baseline, 1.6 Mt in reductions annually are required at Belledune and 311 kt at Coleson Cove annually if it were regulated (assuming for simplicity 1,000 t/GWh today for both plants). If Coleson Cove falls outside the regulation, converts to liquified natural gas and complies with the 550t/GWh for at least five years, reductions could be in the range of 268 kt annually, leaving the remaining reductions for Belledune to be supplied from a combination of actions not yet transparent to citizens and stakeholders.

In summary, our recommendations are to:

1. Include Coleson Cove in the proposed regulation.
2. Ensure equivalency agreement negotiations favour renewable energy supply over natural gas supply and apply lifecycle assessment to determining equivalency.
3. Be transparent about proposals for equivalency, consult stakeholders and support independent assessment of proposed options and greenhouse gas reduction claims.
4. Launch a national task force on electricity supply, demand and transmission to develop the pathway to 90% emissions free by 2030. The strategy would focus on resilient electricity supply and transmission. Regulatory amendments and federal, provincial and utility investments would be informed by the strategy.
5. The strategy should inform the work long-term just transition planning.

Thank you for the opportunity to comment on the coal-fired power plant regulation.

Sincerely,



Lois Corbett
Executive Director

² <https://www.nbpower.com/media/772015/nb-power-2017-irp-public-english.pdf>

