canadian nuclear association cna anc association nucléaire canadienne

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***Comments on the Proposed Rules with respect to the Federal Carbon Pricing System***

On December 20, 2018, Environment and Climate Change Canada (ECCC) published a proposal for regulations pursuant to Part 2 of the Greenhouse Gas Pollution Pricing Act (GGPPA) to implement the Output-Based Pricing System (OBPS) that will apply to facilities carrying out certain industrial activities in provinces that do not have an adequate provincial system in place.

The Canadian Nuclear Association (CNA) appreciates this opportunity to provide comments on the proposal. The CNA has approximately 100 members representing over 60,000 Canadians employed directly, or indirectly, in uranium mining and exploration, fuel processing, electricity generation, and the production and advancement of nuclear medicine.

The Importance of Nuclear Energy

Today, nuclear energy provides safe, reliable, clean power around the world. There are 446 operating nuclear reactors which produce 11% of world's electricity while avoiding about 2.5 billion tonnes of CO2 emissions annually.

In Canada, nuclear energy produces approximately 20% of our non-emitting electricity, including 63% of Ontario's and approximately 30% of New Brunswick's electricity. The CNA strongly applauds the Ontario government's province-wide coal generation phase out, which remains Canada's largest single reduction in GHG emissions. We point out with some pride that this reduction was achieved largely through the refurbishment of six nuclear reactors.

Looking to the future, nuclear energy will play an increasingly important role in Canada's overall clean energy mix portfolio. If Canada and indeed the world are serious about achieving the Paris Accord climate targets, then the route is through greater electrification. Nuclear and hydro are the only two large baseload sources of non-emitting generation that can enable us to achieve that goal. The CNA is pleased to see the increased support for nuclear energy from Natural Resources Canada and would encourage ECC to take a similar approach.

The Canadian nuclear industry is also Research & Development intensive, which furthers our national manufacturing and engineering capabilities. Nuclear technology is central to almost every technical field including advanced electronics and material development, aerospace and automotive, environmental technology, food processing and, of course, nuclear medicine. Thanks to nuclear science and technology, Canada meets nine of the seventeen United Nations Sustainable Development Goals.

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Canada's nuclear industry is the originator of nuclear medicine and now a leading nation globally in this vital health sector. Canada is the world leader in the production of Cobalt-60, a key asset for the sterilization of medical equipment and in the diagnosis and treatment of various diseases.

Electrification

In June, 2018, the Generation Energy Council presented its report to then-Minister of Natural Resources Jim Carr. The Council identified four pathways for Canada's energy transition, the second of which was clean electrification. The report notes that "with Canada's head start on clean power, it can complete the transformation to a nearly carbon-free electricity grid more easily than many places. There is a bigger challenge – and substantial opportunity – in growing our supply of clean and non-emitting electricity to build on our head-start by switching more of our heating systems, transportation and industrial processes to electricity."

Change is often met with resistance, and the energy system transition is no exception. Canadian energy consumers must be incented to switch to lower-carbon options. The federal carbon pricing system can be a very useful tool in this regard, but only if the signal is strong enough to impact behaviour. As currently proposed, CNA believes the signal is too weak to incent both supply-side and demand-side change over time.

*Supply-side*

The Government could signal its support for non-emitting power by allowing nuclear, hydroelectric, wind and solar facilities to generate carbon credits. The CNA is disappointed that the proposal does not currently include this as an option. In particular, credits should be made available to facilitate new investment in innovative, incremental non- or low-emitting generation such as Small Modular Reactors.

*Demand-side*

Establishing meaningfully stringent output based standards (OBSs) for the 38 sectors eligible for inclusion under the OBPS will incent companies to find lower-emitting options. This will drive electrification. It is important to note that options exist. Electric mobility, heat pumps, electrified industrial processes – the Canadian economy can be powered by our plentiful non-emitting electricity generation. The transition can be accelerated through meaningful policy signals.

Electricity Sector OBS Stringency

Regardless of whether or not credit generation is made available to low or non-emitting power producers, the Government must hold thermal generators to a high standard. Low stringency for the electricity OBS erodes the economic signal to investors that low or non-emitting generation is the preferred long-term choice.

The CNA recognizes that natural gas generation plays a critical role in ensuring system reliability and operability. Ontario, for example has already achieved a non-emitting electricity level of 94% in 2018, but some gas-fired generation is still required, in particular to incorporate intermittent wind and solar generation. Moreover, in the medium-term, natural gas generation in Ontario from existing facilities will necessarily increase reflecting the planned closure of Pickering and the nuclear refurbishment schedule.

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However, over the longer-term Canada must signal to power producers that natural gas is a bridge fuel and is not the preferred new-build option, especially where alternatives are available. Keeping with the Ontario example, this signal will be particularly important in informing decisions related to incremental capacity brought online following the closure of the Pickering Nuclear Generating Station. The natural gas bridge spans the transition off coal and the nuclear refurbishments in Ontario but must terminate by mid-century. Any other approach is inconsistent with the Government's commitment to achieve 90% non-emitting electricity generation by 2030 and incompatible with the international obligations to reduce national emissions by 30% by 2030 on 2005 levels and by 80% by 2050.

The lifespan of a typical natural gas plant is 35 years. Units commissioned today will run well into the 2050s. Therefore, public policy developed today will determine Canada's power mix at mid-century. The Government must send appropriate signals so that infrastructure investors and system planners can make informed choices. The CNA therefore calls on the Government to ensure that the stringency of the electricity sector OBS will increase over time.

The Regulatory Impact Analysis Statement for the recently published *Regulations Limiting Carbon Dioxide Emissions from Natural Gas-fired Generation of Electricity* notes that the GHG emissions associated with the best available natural gas-fired electricity generation technologies is 360 tonne per gigawatt hours (t/GWh) to 400 t/GWh. The proposed electricity sector OBS is 370 t/GWh. As such, most natural gas units built going forward will not be impacted by the carbon pricing system. They will get a 'free pass.' As discussed above, this erodes the signal for investors and system planners to choose non-emitting power going forward.

More troubling, over time a more pervasive outcome is likely – a system that actually rewards emitting generation over non-emitting options. Turbine efficiency will continue to improve, bringing emissions from new-build natural gas-fired units to well below 370 t/GWh. Moreover, the Clean Fuel Standard will reduce the carbon content of natural gas over time, reducing the average emissions intensity of the natural gas fleet. These two factors will make it easier for new natural gas plants to do better than the standard.

The CNA calls on the Government to model this GHG emission intensity decline over time, and to publish in the Regulatory Impact Analysis Statement for the federal carbon pricing system the potential value of carbon credits that will accrue to natural gas generators, and the degree to which this benefit will increase over time.

It is the CNA's contention that the system as currently designed not only fails to value non-emitting power but will actually reward 'best in class' emitting generation with carbon credits. Investors will be paid to emit. This is a perverse outcome that must be avoided.

Instead, the OBS for natural gas plants must decrease in a linear fashion over time, in the same fashion as the coal-fired generation emissions standard. The slope of the decreasing OBS should take into account three factors: ongoing improvements in turbine efficiency; natural gas carbon intensity reductions resulting from the Clean Fuel Standard; and sending a clear signal to future investors that non-emitting power is the preferred choice in Canada.

Imports

Another critical omission of the federal carbon pricing system is that electricity imports are not included. An effective border carbon adjustment mechanism for imports into backstop jurisdictions is needed to prevent market distortions. Emissions from electricity generated elsewhere but consumed in a backstop jurisdiction should be reflected in charges on imported electricity. Otherwise, imports will effectively be subsidized at the expense of domestic non-emitting generation. Under the previous WCI/Ontario Cap and Trade system, border carbon adjustments were managed under the doctrine of First Jurisdictional Deliverer ("FJD"). The CNA calls on the federal Government to develop a similar approach.

Proposed Amendment to the Policy Regarding Voluntary Participation in the Output-Based Pricing System

The CNA understands that ECCC has proposed an amendment to the policy regarding voluntary participation in the OBPS to ensure that industrial facilities with emissions between 10 and 50 kt CO2e that are not associated with an applicable OBPS standard are able to register. The nuclear fuel processing industry in Ontario does not have an eligible OBPS standard that would allow registration and ensure the global competitiveness of these facilities can be maintained in 2019.

The CNA supports the proposed amendment to the voluntary participation policy on the understanding that NAICS codes 331 and 3251 will be listed in Appendix A and facilities with those codes will be eligible to register. The CNA supports the rapid implementation of the proposed amendment to ensure that facilities are able to register into the federal OBPS by April 1, 2019 when Part 1 of the GGPPA is in force.

Clarify Definition of Facility to Ensure All Direct Emissions are Included in OBPS Boundary

The definition of "facility" in the *Proposal for the Output-Based Pricing System Regulations* does not clearly ensure that emissions from sources at the facility that are owned or controlled by the operator, in regulated source categories that are and would be subject to the carbon tax, are captured within the physical boundary of the facility for the purposes of the OBPS, which CNA understands is the intent of the facility definition. The CNA recommends that the definition be revised as provided below.

*Facility means*

- *all of the following, …:*
  - *i) …*
  - *ii) any other sites used primarily for the industrial activity including a quarry, tailings pond, wastewater lagoon or pond and landfill; road between multiple sites; or*

*Interpretation — facility*

*With respect to a facility,*

- *a) ….*
- *b) for greater certainty, any part of a railway track that is used exclusively, or any part of a road substantially constructed, controlled, or maintained by the facility, to carry out the facility's industrial activities is part of the facility;*
- *c)*
- *d)*
- *e) for greater certainty, where more than one facility carries out industrial activities using the same site, each facility boundary includes that site.*

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Representativeness of Canadian Uranium Standard

The CNA understands that ECCC has developed a draft OBPS standard for the uranium mining and milling industry using only a portion of the data available from the industry, meaning that the draft OBPS standard does not represent an average emission intensity value for the Canadian uranium industry. The CNA supports the utilization of all data available from the Canadian uranium industry over the 2014 – 2016 period to develop a representative Canadian uranium OBPS standard.

Conclusion

The CNA calls on the Government to develop a system that discourages long-term reliance on natural gas fired electricity generation. The stringency of the electricity sector OBS must increase over time; otherwise the system will incent more pollution and less clean power and clean electrification. Carbon emitting power sources must not be rewarded by the federal carbon pricing system at the expense of non-emitting options like nuclear energy.

The CNA also calls on the Government to allow voluntary registration for the 2019 compliance year of industrial facilities with emissions between 10,000 and 50,0000 tonnes CO2e that are not included in an existing standard, ensure that the definition of "facility" and "integrated facility" includes all Scope 1 emissions for a facility, and develop all OBSs using the best available data.

The CNA again thanks the Government for the opportunity to comment on this important regulation and trusts that the views expressed herein will be carefully considered.

If you have any questions, please do not hesitate to contact me at 613-237-4262 extension 107.

Sincerely,

Steve Coupland

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