The Honourable Catherine McKenna, Federal Minister for Environment & Climate Change
Sent electronically to: ec.tarificationducarbonecarbonpricing.ec@canada.ca

15 February 2019

Dear Minister McKenna,

RE: CanWEA and CanSIA Comments on Draft Output Based Pricing System Regulations

The Canadian Wind Energy Association (CanWEA) and the Canadian Solar Industries Association (CanSIA) are pleased to provide comments on the Draft Output Based Pricing System (OBPS) regulations.

Our overarching goal is to ensure that Canada moves towards a virtually 100% non-emitting electricity grid by mid-century to help ensure that Canada can meet its climate change and non-emitting electricity commitments for 2030 and beyond. While ambitious, this is not unprecedented. For example, ***one quarter of the United States' population now live in a state that targets 100% non-emitting electricity[1].***

The Pan Canadian Framework on Clean Growth & Climate Change (PCF) creates a national plan to reduce the amount and emissions intensity of the energy that we use toward a targeted reduction in greenhouse gas (GHG) emissions of 30% by 2030 from 2005 levels. Achieving the Federal Government's commitment to 90% non-emitting electricity by 2030 is a critical factor of success for this plan. However, we are writing today to ***express our deep concern that the Draft Output Based Pricing System (OBPS) Regulation is not aligned with our understanding of the intent and ambition of the PCF***.

The National Energy Board (NEB) currently forecasts[2] that natural gas will be the largest source of new electricity generation in Canada between now and 2030, increasing by 86% from 2016, from 8 to 15% of total supply[3]. As such, this means our "powering-past-coal" will be dominated by a "dash-to-gas". Canada will fall short of our 90% non-emitting electricity target by 2030, moving only to 84% from 80% in 2016. The net-result will be that the emissions reductions achieved from the regulated phase-out of coal-fired electricity generation will be significantly offset and either we fall short of our international obligations under the Paris Agreement and beyond or significant levels of investment will later be stranded in order to meet our targets.

Our view is that for the OBPS Regulation to align with the intent and ambition of the PCF, ***a strong and clear long-term price signal must be sent to investments in new electricity generation to gradually shift***

[1] New York and Colorado by 2040, California and Hawaii by 2045, Connecticut by 2050, and Illinois, Nevada and Maine.
[2] National Energy Board "Canada's Energy Future 2018" (Reference Case)
[3] National Energy Board "Canada's Energy Future 2018"

future investments toward increasingly lower emissions intensity energy resources. We recognize that there are instances where investment is less elastic to price signals, for example: existing power plants that are yet to be amortized; operations that do not have access to powerlines or pipelines (e.g. remote communities and mines); and/or industrial co-generation. However, for the reasons outlined in this letter, ***we do not feel that there is any valid rationale to fully shelter future investments in new greenhouse gas emitting natural gas-fired electricity generation from a strong and clear long-term price signal as is proposed in the Draft OBPS Regulations***.

The remainder of this letter explains why the Draft OBPS in its current form does not send a clear and strong long-term price signal to new greenhouse gas emitting natural gas-fired electricity generation and why we need to implement and incent enhanced deployment of non-emitting alternatives to ensure a reliable and affordable electricity supply. We then present recommendations as to how the Output Based Standard (OBS) for new greenhouse gas emitting natural gas-fired electricity generation should be revised to send a gradually increasing price signal over time that would incent a shift in investment toward lower emissions intensity energy resources.

The Draft OBPS Regulation does not send a clear and strong long-term price signal to future investments in <u>new</u> greenhouse gas emitting natural gas-fired electricity generation. A price signal must be strong enough to provide a meaningful incentive for changes in investment behaviour. The Draft OBPS fails to do this. Even at $50/tonne, the Draft OBPS sends a negligible price signal to combined-cycle natural gas-fired electricity generation facilities of only one tenth of a cent per kilowatt hour (see Appendix section 1.1). The proposed OBS for gaseous fuels serves to shelter new natural gas facilities from any price signal. Given the centrality of a decarbonized grid, and the electrification of our economy, to the PCF, the Draft OBS as it applies to new natural gas facilities is a recipe for failure.

Sheltering new greenhouse gas emitting natural gas-fired electricity generation from carbon pricing is not essential to ensuring affordable electricity. While natural gas has a role to play in replacing coal-fired generation, minimization to the extent necessary through strategic utilization does not imply increased costs for consumers. It should be noted that the largest potential for new natural gas-fired electricity generation is in Alberta and Saskatchewan where there is an abundance of non-emitting electricity potential. Price discoveries from recent competitive procurements for new wind and solar electricity have revealed pricing lower than, or competitive with, the historic averages for coal and natural gas in these provinces. Cost-competitive alternatives to new natural gas generation exist today.

Sheltering new natural gas-fired generation is not needed to ensure reliable electricity systems. Being subject to the full carbon price does not preclude new natural gas generation. It will be available as a resource option where required and the system will continue to be reliable. However, the integration of renewables does not pose the reliability obstacles that some stakeholders imply. In provinces with hydropower there are no barriers to having virtually emission free electricity systems as is currently the case in Quebec and Manitoba. In other provinces high penetrations are also possible and technical

solutions will be increasingly available. The flexibility of a power system refers to "the extent to which a power system can modify electricity production or consumption in response to variability, expected or otherwise". This flexibility can be provided by a variety of non-emitting options including inter-provincial non-emitting electricity trades (e.g., new agreements between Saskatchewan and Manitoba), storage and demand response. Flexibility can also be provided by rapid ramping of natural gas-fired electricity generators, although this rapid ramping dramatically increases the emissions intensity of the generators. The full carbon price would balance decisions between natural gas and alternative non-emitting options. Sheltering natural gas will not make our systems more reliable but it will simply result in an over build of natural gas units and limited development non-emitting alternatives and the associated of flexibility opportunities.

Recommendations:

A) In Schedule 1 of the Draft Output Based Pricing System Regulations, the "Generation of Electricity using Fossil Fuels" (Activity 38) states that "the generation of electricity using gaseous fuels"[4] would have an Output Based Standard of 370 t/GWh (page 54). Whereas, the OBS for solid fuels would begin at 800 t/GWh in 2019 and decline by an average of approximately 9.3% per year until 2030. As previously discussed, a constant OBS for gaseous fuels, set at a level that corresponds to the emission intensity that can currently be achieved by new natural gas facilities, does not send a clear and strong long-term price signal to future investments in new greenhouse gas emitting natural gas-fired electricity generation. ***We recommend: the OBS for new natural gas facilities (and any other new fossil fueled generation) ramp down to 0 t/GWh in 2030.*** This OBS would not affect existing facilities, remote communities or mines nor industrial co-generation.

B) Furthermore, Section 18 ("Temporary Rules for new facilities") states that "If a facility's date of first production was in 2017 or later, sections 16 to 18 and 20 to 25 do not apply to the facility from its date of first production to the end of the calendar year during which the facility has been producing for 24 months" (page 26). ***We recommend, however, that as of January 1, 2023, the OBS should apply to all electricity generation facilities immediately.*** While temporary rules are appropriate for shovel-ready facilities as Canada transitions to a new regulatory regime, they should have an end-date.

[4] Except where the electricity is being generated in a unit that is registered under the Reduction of Carbon Dioxide Emissions from Coal-fired Generation of Electricity Regulations and that used solid fuels in 2018. In such a case, the OBS in 38.1 applies regardless of the fuel type.

We thank you for your continued leadership on climate action and clean growth and look forward to meeting with you and your staff to discuss this submission further.

Best regards,

Robert Hornung, President & CEO, Canadian Wind Energy Association (CanWEA)

John Gorman, President & CEO, Canadian Solar Industries Association (CanSIA)

Cc: Paola Mellow, Director, Electricity & Combustion Division, Environment & Climate Change Canada

Appendix: Price Signals to New Greenhouse Gas Emitting Natural Gas-Fired Generation

The OBS for gaseous fuels must send a strong and clear long-term price signal to new electricity generation to gradually shift future investment toward increasingly lower emissions intensity energy resources.

Table 1 presents the price signals that would be sent to typical combined- and single-cycle natural gas-fired electricity generators under two OBS scenario: A) the OBS initially proposed by ECCC for all fossil fuel electricity generation; and B) the OBS for gaseous fuels in the Draft OBPS Regulation. The price signal in the initial proposal and draft regulation scenario are negligible at $20/tonne. At $50/tonne, the price signal in the initial proposal and draft regulation cases for single-cycle natural gas-fired electricity is clear and strong (>$0.01/kWh) but remains negligible for combined-cycle.

Table 1: Price Signals to New Natural Gas-Fired Electricity Generation (ECCC Standards)

	Scenario A Initial Proposal OBS =420	**Scenario B Draft Regulation OBS = 370**
Pollution Price: $20/Tonne		
Combined-Cycle (420 t/GWh)	$0.000/kWh	$0.001/kWh
Single-Cycle (670 t/GWh)	$0.005/kWh	$0.006/kWh
Pollution Price: $50/Tonne		
Combined-Cycle (420 t/GWh)	$0.000/kWh	$0.003/kWh
Single-Cycle (670 t/GWh)	$0.013/kWh	$0.015/kWh

Table 2 presents the price signals sent to new greenhouse gas emitting natural gas-fired electricity generation brought into service on or after January 1, 2023 under our recommendation. As can be seen, a clean and strong price signal is sent from 2025/2026 onward.

Table 2: Price Signals to New Natural Gas-Fired Electricity Generation

	2023	2024	2025	2026	2027	2028	2029	2030
Pollution Price	$50/t	$50/t	$50/t	$50/t	$50/t	$50/t	$50/t	$50/t
OBS (t/GWh)	370	317	264	211	159	106	53	0
Combined-Cycle (420 t/GWh)	$0.003	$0.005	$0.008	$0.010	$0.013	$0.016	$0.018	$0.021
Single-Cycle (670 t/GWh)	$0.015	$0.018	$0.020	$0.023	$0.026	$0.028	$0.031	$0.034