March 29, 2019

Ministry of the Environment, Conservation, and Parks
77 Wellesley Street West
10th Floor, Ferguson Block
Toronto, ON M7A 2T5
Canada

Submitted online to the Environmental Registry of Ontario

Re: Pembina Institute comment on Ontario's Industrial Emission Performance Standards

To whom it may concern:

The Pembina Institute is thankful for the opportunity to share our views on the Ontario Ministry of the Environment, Conservation and Parks recently released Industrial Emission Performance Standards consultation paper (herein the ''EPS''). We are encouraged to see the Ontario government acknowledge the role of pricing pollution to reduce harmful emissions and build a competitive economy by proposing to create a system that sets a price signal through performance standards for heavy industry. However, we are disheartened by the timing of this proposal and the ongoing anti carbon pricing rhetoric from the Government of Ontario. Both irresponsibly create confusion and investor uncertainty for Ontarians, and potentially undermine Canada's ability to implement its climate change plan.

The federal output-based pricing system (OBPS) was implemented in January 2019 and is the law in Ontario. In addition to continuing to muddy the investment outlook, the application of the EPS, to the extent that it is weaker than the OBPS would equate to the Ontario government again rolling back climate action at a time when we can least afford it.

General comments on the EPS

The Pembina Institute is disappointed that the Ontario government continues to communicate unfounded criticisms and mistruths about the federal government's carbon pricing plan and carbon pricing generally. Economists and institutions such as the OECD, the World Bank, and the IEA concur that a broadly applied carbon price is an effective and cost-efficient way of reducing emissions. In recent years, Canadians have experienced an increase in extreme weather events and other impacts of climate change that have demonstrated the urgent need for action stemming from honest conversations and evidenced base solutions.

The International Panel on Climate Change warns that we need to reduce global emissions by 45% from 2010 levels by 2030. Strong action is needed over the next 11 years — and beyond — to avoid the worst effects of climate change. Ontario's recent actions have been in stark opposition to what science requires of leaders to set this direction. Ontario abruptly cancelled its existing pollution pricing system for heavy emitters, the cap-and-trade system, in July 2018. With this decision, Ontario broke contracts with companies, who lost investment in allowances, left the province without GHG reduction targets and a plan to prevent dangerous climate change, and erased popular programs that led to economic growth and cleaner air through a system that collected revenues from big polluters and reinvested to help households and businesses save money. Without a provincial pricing system in place, the federal government announced in October 2018 that the federal pollution pricing backstop would apply in the province as of January 1, 2019 and that all revenues from the price on pollution will be returned to Ontarians. The federal OBPS system has been implemented in Ontario since January 1, 2019.

Since then, Ontario heavy emitters have been planning for the application OBPS — one of the elements of the backstop — which ensures Canada's emissions intensive and trade-exposed (EITE) industries reduce emissions, while limiting the risks of competitive disadvantage and emissions leakage. While the Ontario government cancelled its tailor made pollution pricing system and failed to deliver an alternative within the Government of Canada's timeline, the federal government consulted with industry on the design of the OBPS for nearly one year, including with industries only present in Ontario to develop industrial standards and flexible compliance options that will drive emissions reductions and innovation across the economy while protecting competitiveness of Ontario's heavy industry.

During this period of flux while Ontario designs and consults on its proposed EPS, the government is again damaging business and investment certainty. Policy continuity and certainty allows investors to confidently invest in the Ontario economy, including in technology that reduces emissions while supporting a strong industrial sector. Ontario's proposed price on pollution (i.e. the EPS) has a much narrower scope and lower standards and hence lower effectiveness than the federal backstop. However, Ontario's criticism fails to bring forward evidence based arguments for a different system that would deliver similar or better outcomes. Instead, the Ontario government has consistently communicated mistruths to Ontarians. Without putting forward any supporting evidence, the Ontario government repeatedly states that pollution pricing does not work, will drastically hurt job growth, and even that it will lead to a recession. It is dishonest of the Ontario government to constantly make those public statements while proposing a price on pollution at the same time. We urge the government to line up its public statements with its actions.

We are also dismayed by the Ontario government's allocation of $30m to fight the federal government's jurisdiction to apply measures to address the most important issue for Ontarians

and Canadians health and well-being. These resources could have been allocated to more productive outcomes. Further, challenging the federal government's jurisdiction to impose the backstop is unlikely to yield a successful outcome. A legal opinion prepared for the Government of Manitoba in 2017 concluded that there is a strong likelihood that the Supreme Court of Canada would uphold the federal carbon tax.[1]

In a scenario where the EPS would be applied, this document shares recommendations for the design of an effective system that delivers environmental and economic outcomes for the benefit of Ontarians and Canadians. It is paramount to set a reasonably ambitious pricing system to ensure the sustained delivery of ambitious mitigation towards meeting our environmental imperatives, this entails:

- Establishing sector output-based standards (OBS) (or Emissions Performance Standards in Ontario's proposed system) based on national production to drive all regulated facilities towards best in class performance
- Defining transparent criteria for the inclusion in the pricing system for heavy emitters; only facilities that demonstrate a real need for relief should be eligible
- Developing and applying a transparent methodology for assessing the level of competitiveness pressures and leakage risk that isolates incremental carbon pricing between Ontario and foreign jurisdictions from other socio-economic factors and clear triggers
- Defining clear triggers for adjusting the OBS
- Setting and increasing the stringency of the OBS annually
- Excluding electricity generation, which is neither emissions-intensive nor trade-exposed, from the pricing system for heavy emitters
- Using a review and update process to respond to lessons learned and new knowledge at least every five years and adjust the OBS on an annual basis
- Establishing a compliance model that strikes a balance between rewarding top performers, encouraging further emissions reductions in Ontario and creating revenues.

Design principles for a price system for heavy emitters

Well-designed carbon pricing systems can ensure industries and economies are more, not less, competitive in the long-run. Based on our experience inputting to the development of similar systems in Alberta, British Columbia and at the federal level, systems that are well designed will adhere to the following principles:

1. Maintain the incentive to reduce carbon pollution: Any measures taken to address competitiveness concerns with respect to carbon pricing for emissions-intensive and trade exposed (EITE) sectors should maintain the incentive to reduce pollution.

[1] http://www.gov.mb.ca/asset_library/en/climatechange/federal_carbon_pricing_benchmark_backstop_proposals.pdf

2. Be targeted: Mitigation measures should only apply to EITE sectors that may have material competitiveness and/or profit impacts due to carbon pricing policy.
3. Be transparent: Any support for EITE sectors should be justified by data and analysis.
4. Be consistent: The broad framework for assessing and addressing EITE competitiveness issues should be consistent across sectors and firms.
5. Be temporary: Any support should be transitional in nature and be phased out when carbon pricing and/or regulatory equivalency with other jurisdictions is achieved.
6. Be simple: Any EITE mechanism should be simple to implement, administer, and comply with.[2,3]

Performance standards that drive climate mitigation and innovation

Basis for setting a standard

To drive towards best in class performance, we recommend that the performance standards be sector based and based on top quartile performer in terms of emissions intensity. In other words, we recommend a starting point of 70% of the production weighted national average of emission intensity (WNAEI) for each sector standard subject to additional relief based on credible analysis of leakage risks. Such a design maintains a financial incentive for all firms to continue to innovate and invest in reducing emissions below the benchmarks.

In contrast, the proposed performance standards send a very weak signal to industry. Under the proposal, 100% of fixed emissions in 2019 would be free, while 95 to 98% of non-fixed emissions would be free. By comparison, for the vast majority of the 38 industrial activities included in the federal government's OBPS, 80% of emissions from fixed and non-fixed emissions would be free. Under this proposal, Ontario would have more air pollution than if the government simply did nothing and the federal backstop OBPS came into force.

The Ontario government proposes three alternatives to sector based performance standards ''in instances where there is only one regulated facility or where it is difficult to establish a product-based performance standard.''[4] We understand that industries with only a few facilities, therefore providing only a few data points, present a challenge in developing a

[2] Climate Leadership Team, Recommendations to Government (2015). http://engage.gov.bc.ca/app/uploads/sites/116/2015/11/CLT-recommendations-to-government_Final.pdf
[3] Canada's Ecofiscal Commission, *Provincial Carbon Pricing and Competitiveness* (November 2015), https://ecofiscal.ca/wp-content/uploads/2015/11/Ecofiscal-Commission-Carbon-Pricing-Competitiveness-Report-November-2015.pdf.
[4] Government of Ontario, Making Polluters Accountable: Industrial Emission Performance Standards (February 2019) https://prod-environmental-registry.s3.amazonaws.com/2019-02/EPS%20Regulatory%20Proposal%20%28EN%29_0.pdf

standard based on the WNAEI. In such cases, we recommend to prioritize the use of North American data to set the standard. A trigger equivalent to a minimum number of data points should be defined for using this alternative method. Ideally, when there are at least two Canadian facilities, the average emission intensity sector based approach should be prioritized. The EPS should avoid facility-based emission standards whether based on facility specific emission intensity, energy use intensity or absolute emissions. The latter is proscribed. Standards based on a facility's individual historical absolute emissions disincentives production, which is counter to the intent of a pricing system for heavy emitters. Further, such a system would mean that firms that have always had high emissions would be given high limits, while firms that had already taken steps — and spent money — to reduce their emissions would be given lower limits. Any company could reduce their emissions to lower their personalized limits, or pay the carbon price when they exceeded their limit. Therefore, facility-based emission standards effectively punish those who have been good corporate citizens and reward those that had not taken action. Alberta used to have such a system in place — the Specified Gas Emitters Regulation (SGER). The system was unfair, limited and ultimately less effective than the system it was replaced with (the Carbon Competitiveness Incentive Regulation) in 2017 as part of the province's Climate Leadership Plan, which also included the introduction of a carbon levy. The new program is a significant improvement and should be of guidance to any jurisdiction in the development of a heavy emitter's pollution pricing system.

Assessing competitiveness risk and appropriate relief to avoid leakage

The pricing system for heavy emitters should play the dual role of protecting emissions-intensive and trade-exposed (EITE) sectors against substantiated competitive risks and avoid leakage, while delivering mitigation outcomes. The risk of leakage as a result of competitiveness pressures, however, is often overstated. Indeed, the Ecofiscal Commission found that competitiveness pressures for Ontario are ''significant for only a few sectors, representing only a small share of total provincial economic activity.''[5]

Such a system minimizes the risk of leakage by providing a subsidy to production, incentivizing EITE firms to maintain production even as input costs go up. Therefore, the program should target only those sectors that can demonstrate material competitiveness pressures through both emissions intensity and trade exposure. It would otherwise be unfair to other parties within the system and to all parties participating in climate programs. Ontario should consistently apply a clear methodology for assessing the level of competitiveness pressure and define a level of pressure that triggers inclusion in the EPS. The Working Group on Carbon Pricing Mechanism's approach should be reflected in this methodology:

[5] Elizabeth Beale, Dale Beugin, Bev Dahlby, Don Drummond, Nancy Olewiler, and Christopher Ragan, *Provincial Carbon Pricing and Competitiveness Pressures- Guidelines for Business and Policy Makers* (November 2015), 2. http://ecofiscal.ca/wp-content/uploads/2015/11/Ecofiscal-Commission-Carbon-Pricing-Competitiveness-Report-November-2015.pdf

The extent to which the competitiveness of a firm is negatively impacted by differential carbon pricing is largely determined by two factors:

- *the carbon emissions intensity of the firm's production, which is representative of the cost exposure of the firm to carbon pricing;*
- *the market power of the firm, or the ability of a firm to pass on increased costs to its buyers without significant loss of market share, which is often measured by the extent of the firm's trade-exposure.*[6]

Alberta's methodology for assessing the EITE level of a sector is also of guidance:

The EITE criteria are derived from an assessment of all sectors in the economy on their degree of emissions intensiveness and trade exposure. Sectors are assessed as high, medium or low emissions intensiveness and high, medium or low trade exposure. The criteria are then combined to determine an assessment of the EITE level of the sector. Only sectors that are considered high EITE (see figure below) using these criteria qualify as EITE sectors (...).[7]

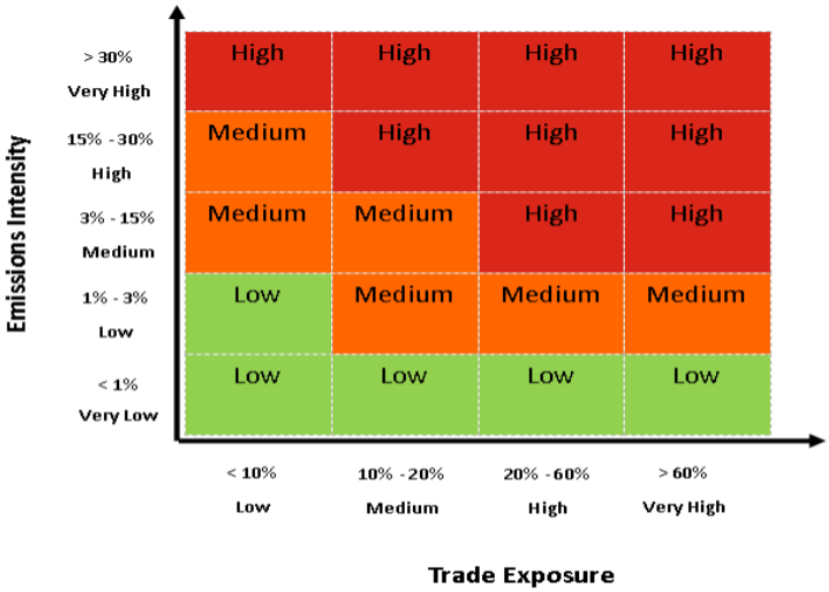

Figure 1. Emission Intensity and Trade Exposure thresholds for determining competitiveness risk category and appropriate relief

[6] Working Group on Carbon Pricing Mechanisms, *Final Report* (2016), p.40. http://publications.gc.ca/collections/collection_2016/eccc/En4-287-2016-eng.pdf

[7] Government of Alberta, *Standards for Establishing and Assigning Benchmarks- Carbon Competitiveness Incentive Regulation* (December 2017), p.15. https://www.alberta.ca/assets/documents/CCI-standard-establishing-assigning-benchmarks.pdf

We note that Ontario's proposed metric for emission intensity does not reflect the true carbon cost exposure to the firm and overestimates this exposure; it incorrectly defines the cost exposure as the facility's total emissions instead of the portion of emission that is priced under an OBPS.. We also encourage the Ontario government to create a more fair and appropriate system with distinct thresholds for high, medium and low risk categories.

Importantly, the competitiveness pressure analysis should isolate for the difference between the Canadian carbon price and the price in foreign jurisdictions and exclude the pressures caused by the array of other economic and policy factors that influence firm performance, including corporate income-tax rates, foreign-exchange rates, the prices of locally supplied inputs, wage rates, etc. If the EPS is misused to address any other regional, market, resource quality, or technological issue, its success will be constrained.

The Ecofiscal Commission states, ''the identification of competitiveness pressures also relies on firm-level data that is generally not publicly available.''[8] Ontario must collect data from facilities across the province through the sectoral working groups. This will allow for a credible and transparent assessment of the competitiveness pressures on sectors. For transparency, this data should be made available to the public in a timely manner.

There may be cases that require adjusting the 70% of WNAEI value. However, clear definitions, triggers, thresholds and methods for doing so should be created and consistently applied. We identify three scenarios where such adjustments should be made:

- Datasets with high emission intensity outliers
    - The standard should not reward or encourage outdated, inefficient technologies or processes. Nor should the presence of a few low environmental performers reduce the percentage of firms for which the carbon pricing signal incentivizes mitigation efforts. These outliers increase the value of the WNAEI and hence of the OBS, weakening or even eliminating the signal for 2nd quartile facilities.
    - A trigger should be defined for eliminating low performance outliers from the calculation of the WNAEI. This could be based on the standard deviation value or the variance. It could also be a ratio between the outlier emission intensity value and the 2nd quartile. The lack of data limits our ability to propose what the value of these triggers should be.
- Sectors that demonstrate a high level of competitiveness pressure at the 70% of WNAEI standard

[8] Elizabeth Beale, Dale Beugin, Bev Dahlby, Don Drummond, Nancy Olewiler, and Christopher Ragan, *Provincial Carbon Pricing and Competitiveness Pressures- Guidelines for Business and Policy Makers* (November 2015), 2. http://ecofiscal.ca/wp-content/uploads/2015/11/Ecofiscal-Commission-Carbon-Pricing-Competitiveness-Report-November-2015.pdf

- Industry claims that their inclusion in the EPS does not provide sufficient relief should be substantiated by applying the methodology to assess competitiveness pressure at the discounted price of carbon delivered by the 70% of WNAEI standard (corrected for low performance outliers). Any such downward adjustment should be constrained to a level that modelling indicates will still ensure the needed mitigation of emissions.

Finally, the stringency of the emissions performance standards must increase over time. The standards should decrease yearly to ensure its ambition aligns with emerging data on a sector's GHG performance.

As underscored by the Ecofiscal Commission, ''carbon competitiveness pressures come from carbon price differentials between trading partners.''[9] Hence sectoral competitivity analyses should also be revisited as additional jurisdictions apply a carbon price.

Regulated facilities and voluntary participation in the EPS

We would support a threshold of 50 kt CO_2e for inclusion in the EPS and the option to voluntarily participate for facilities with annual emissions between 10-50 kt CO_2e since it aligns pricing obligations with current federal facility-level GHG reporting requirements. Leveraging the GHG reporting program maintains administrative simplicity for both government and industry while providing the data necessary to operate and a strong starting point to adapt the program as needed.

The EPS, however, must not provide relief for facilities that emit high volumes of emissions, but those that are both emissions-intensive and trade-exposed. Mandatory and voluntary participation in the EPS should be based on the sector and facilities' level of emissions-intensity and trade-exposure.

Covered emission sources

Covering all emission sources that are currently accurately measureable — including emissions from both fuel combustion and from synthetically produced GHGs (e.g. from industrial processes and product use) — ensures that the full carbon footprint of industries are accounted for and that all possible reduction opportunities are pursued. In some instances, non-combustive sources of emissions may represent low-cost reduction opportunities that would not be motivated if these emissions were excluded (e.g., the use of carbon capture and utilization technologies to reduce process emissions in the cement industry).

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[9] Elizabeth Beale, Dale Beugin, Bev Dahlby, Don Drummond, Nancy Olewiler, and Christopher Ragan, *Provincial Carbon Pricing and Competitiveness Pressures- Guidelines for Business and Policy Makers* (November 2015), 5. http://ecofiscal.ca/wp-content/uploads/2015/11/Ecofiscal-Commission-Carbon-Pricing-Competitiveness-Report-November-2015.pdf

Ontario's emission coverage should strive to align with international best practices. The Greenhouse Gas Protocol Scope 1 emissions (Direct Emissions) include fugitive emissions, defined as ''intentional or unintentional releases such as: equipment leaks from joints, seals; methane emissions from coal mines; HFC emissions during the use of air conditioning equipment; and CH4 leakages from gas transport.''[10]

Electricity generation

The aim of the EPS should be to minimize competitiveness and carbon leakage risks for activities for which those risks are high, while retaining the incentives to reduce emissions created by the carbon pricing signal. Electricity fails both tests for inclusion in an OBPS. It is not of necessity "emissions intensive", as low or non-emitting alternatives exist and are now cost competitive with fossil alternatives. And it is not "trade exposed," as many jurisdictions have already implemented either explicit carbon taxes on electricity generation, or implicit carbon taxes via policies such as renewable portfolio standards, and also because grid constraints (including the current design of electricity transmission) for replacing massive amount of our power with imported power is not possible. For those reasons, one can seriously question whether the inclusion of electricity generation will deliver incremental GHG emissions reductions — our understanding being that it could incentivize the reverse.

Further, the inclusion of electricity generation in the EPS poses a design challenge that is hard to reconcile with the aim of an EPS. Currently, the majority of Ontario's electricity is produced from non-GHG-emitting sources. The inclusion of electricity generation in an OBPS where significant zero emission options exist will result in a large number of offset credits available for purchase on the market at a low price. This eliminates the financial incentive for regulated entities under the OBPS (or existing carbon pricing systems where offset credits would be accepted as a method of compliance) to transition to less emitting energy sources. It also provides a trivial incentive to developers of renewable energy to invest in new capacity. Alternatively, excluding renewable energy sources from the EPS while offering a subsidy to fossil fuel sources, as is currently suggested for the electricity sector, amounts to penalizing the type of energy production that the government should be encouraging if it hopes to meet its recently reduced emissions reduction targets.

Appropriate price signals allow decisions made today to create the electricity grid of tomorrow — one that is consistent with Canada's commitment under the Paris Agreement, its commitment to reaching 90% clean energy by 2030, and its longer-term decarbonization goals. Weakening the carbon price does not send the right signal to investors. An electricity sector OBPS, especially at the proposed standard of 420 t CO_2e/GWh, risks resulting in significant, unnecessary investments in new natural gas capacity, locking in emission intensive electricity generation for decades. Indeed, at the proposed standard, which is well above the most

[10] World Resources Institute, Setting operational boundaries, http://pdf.wri.org/ghg_protocol_chp004.pdf

efficient achievable with natural gas (Alberta's Carbon Competitiveness Incentive Regulations set the standard at 370 t CO2e/GWh for the power sector, which is representative of the best natural gas technology commercially available), the OBS would fail to deliver a meaningful financial incentive to build new renewable capacity.

While gas has a short-term role to play in the energy transition, it is important to recall that the GHG merits of gas are diminished when considering upstream fugitive methane emissions, especially as recent research shows that these emissions have largely been underestimated and underreported by industry and government, potentially by a factor of two or more. Further, relying heavily on gas exposes the electricity market and consumers to price volatility. Finally, on the heels of contract cancellations that have already irreversibly damaged the industry, Ontario will be further giving up the economic opportunities associated with fostering a strong renewable energy sector that can then compete in global markets as nations step up efforts to decarbonize their economies. In many cases renewables have become more economic than gas, and grid optimization (eg. energy storage, load shifting, better forecasting) will greatly reduce the need for gas-fired backup.

Treatment of indirect emissions

The EPS should account for indirect emissions associated with electricity, heat, and hydrogen imported by a facility to ensure fair treatment of facilities, regardless of technology choices (i.e. self-generate vs import electricity). The Ontario government should prepare and train facilities on reporting indirect emissions in 2019 to allow for the 2020 year to account for those emissions. From 2020 on, exports should be deducted from the facilities total emissions and imports added to the facilities total emissions. Priority should be given to reward renewable energy imports and disincentivize fossil fuel imports by applying appropriate emissions factors.

Compliance units

The compliance model should strike a balance between rewarding top-30th percentile performers, encouraging further emissions reductions and creating revenues. This balanced compliance model also creates flexibility for regulated facilities in a system where compliance can be met in different ways, including:

- With offset credits generated by facilities with emissions intensity below the output-based standard. An expiry period for offset credit vintages should be created.
- With offsets from verified sources to ensure additionality and quality of the emissions reductions. To increase benefits of the policy, when compliance is met through offsets Ontario might want to require that a certain portion of these be from Ontario projects. This would induce additional low-cost abatement in sectors not covered by the carbon levy (or the carbon pricing system more broadly).

Review and update

We adhere to the High Level Commission on Carbon Prices' view that "policy adjustments should be made based on criteria that are transparent and sound: policies should be "predictably flexible."[11] Ontario should have a clear schedule and criteria for reviewing and updating the EPS. The reviews and updates should integrate the following elements:

- The evolution of emissions, emission intensities, and production should be monitored so that OBS can be adjusted to trigger the required changes — whether it be to increase emissions reductions or reduce leakage risks by adjusting the OBS.
- Technology — both cost and diffusion — should be monitored with a view to offer an opportunity to respond to lessons learned and new knowledge.
- The stringency of the OBS should increase by a pre-determined schedule, unless otherwise justified by the sector specific competitiveness pressure analysis.
- The 2020 update should cover indirect emissions.

Conclusion

We welcome the opportunity to share with the Government of Ontario our views on carbon pricing.

The authors are happy to discuss any questions.

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[11] High-level Commission on Carbon Prices, *Report of the High-Level Commission on Carbon Prices* (2017), p.4. https://static1.squarespace.com/static/54ff9c5ce4b0a53decccfb4c/t/59b7f2409f8dce5316811916/1505227332748/CarbonPricing_FullReport.pdf

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