PEMBINA Institute

SUBMISSION

Measuring and Maintaining Carbon Markets in Canada

Pembina Institute's feedback on the federal benchmark discussion paper

Submitted to Environment and Climate Change Canada

Regarding: Discussion paper: Driving effective carbon markets in Canada

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Context

The Pembina Institute welcomes the opportunity to provide input on Environment and Climate Change Canada's discussion paper, *Driving Effective Carbon Markets in Canada*. We view industrial pricing as one of the most effective, market-based mechanisms for reducing emissions while preserving competitiveness, leading to achieving Canada's goal of climate competitiveness.

These changes are particularly important in light of the elimination of the fuel charge and other proposed climate policies, like the oil and gas emissions cap, and pausing the electric vehicle sales mandate. While industrial carbon pricing has the potential to be a key emissions reduction policy in Canada, adjustments need to be made to ensure that provincial systems are built stringently, in line with federal climate obligations, and stay effective over time. Recent actions taken by the governments of Alberta and Saskatchewan indicate that there should be a more frequent accounting of the structure and results of systems across the country

Key Recommendations

- **Increase stringency using market tests:** The federal benchmark should require systems to meet clear outcome-based tests—such as maintaining an effective compliance price of at least 75% of the headline price and ensuring sustained net demand for credits—to prevent oversupply and preserve a credible price signal.
- **Clarify enforcement and backstop triggers:** Establish independent, automatic criteria—based on annual price and demand tests—to identify failing systems and trigger timely corrective action or implementation of the federal backstop.
- **Protect the carbon price signal:** Exclude mechanisms such as Emissions Reduction Accounts that weaken credit demand and risk double counting.
- **Expand and harmonize coverage:** Pricing systems should apply consistently across provinces and include smaller facilities—especially in oil and gas—where emissions coverage gains outweigh administrative costs.
- **Improve transparency and reporting:** Regular public reporting of credit prices, trading volumes, supply–demand balances, and compliance outcomes, with transparency as the default and confidentiality granted only where clearly justified.

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Discussion and recommendations

Ensure coverage is cohesive and broad

Common scope of coverage

- *What are the considerations for covering smaller facilities (between 10kt and 25kt) in industrial and manufacturing sectors? For example, how to account for administrative burden?*

  The inclusion of smaller facilities should be guided by a clear assessment of the emissions-coverage gains relative to administrative and compliance costs, with flexibility in system design to ensure proportionality and avoid unintended impacts on smaller producers.

  Table 1: Breakdown of firms with annual emissions of 10 kt to 25 kt

Sector	Number of Facilities	Annual Emissions, 2021-2023 Average
Manufacturing	179 (47% in ON)	2.8 $MtCO_2e$
Utilities (Electricity Generation)	34	0.5 $MtCO_2e$
Oil and Gas extraction	384 (80% in AB)	6.0 $MtCO_2e$
Mining and Quarrying	32	0.6 $MtCO_2e$

Data Source: ECCC[1]

Smaller facilities often face higher administrative and compliance costs on a per-tonne basis than larger emitters. However, they represent a meaningful share of sectoral emissions and an even larger share of total facilities (See table 1). Including them would broaden OBPS market scope by increasing emissions coverage and strengthen market function by improving market depth and liquidity.

Recognizing these cost pressures, there is an opportunity to revisit how facilities under common ownership are aggregated for compliance purposes. However, options that reduce administrative burden at the expense of reporting accuracy, transparency, or verification challenge the integrity of systems and are not recommended.

[1] Pembina Institute estimate using GHGRP facility data grouped by NAICS codes: starting with 31-33 for manufacturing, starting with 2211 for electricity generation, starting with 211 for oil and gas extraction, and starting with 212 for mining and quarrying.

https://climate-change.canada.ca/facility-emissions/?GoCTemplateCulture=en-CA

- *What should the minimum coverage threshold be for small oil and gas facilities? What are the considerations for covering small oil and gas facilities emitting less than 10 kt annually?*

  Facilities emitting below 10 kt collectively account for a significant share of upstream oil and gas emissions.[2] Excluding these facilities from coverage would leave a sizeable share of sectoral emissions unregulated and could create perverse incentives for producers to limit facility size in order to avoid participating in the OBPS. To reduce regulatory burden while maintaining coverage, facilities emitting less than 10 kt under common ownership should be permitted to aggregate their emissions for compliance purposes—an approach already used in both the B.C. OBPS and Alberta's TIER system.

- *What are the impacts on intra-sectoral competitiveness (competition between facilities in the same sector) of covering only some facilities, e.g. covering only facilities emitting 10 kt or more? How would this affect international and interprovincial competitiveness?*

  Covered facilities may face a higher per-unit cost than competitors that are not subject to the system, due to both compliance costs and residual carbon costs—an issue that can arise within a sector, across provinces, and internationally. For firms operating close to the coverage threshold, this may create incentives to remain just below the threshold by slightly reducing emissions or production, which could influence investment decisions by encouraging firms to limit output rather than invest in emissions reductions. At the same time, firms slightly above the threshold may gain a competitive advantage through the ability to generate and sell performance credits, which can offset regulatory costs and potentially create a revenue stream.

  Interprovincial competitiveness would be particularly affected if provinces adopt different thresholds or coverage rules, as this could shift investment and production toward jurisdictions with higher thresholds. This highlights the importance of equivalency across jurisdictions. These impacts can be mitigated through robust equivalency negotiations that ensure consistent scope and coverage. Credible enforcement is also essential. Specifically, provinces must not remain delinquent, and the federal backstop should be implemented where required.

  The purpose of an OBPS is to mitigate carbon leakage by covering trade-exposed sectors and setting performance benchmarks that limit the carbon cost exposure.

[2] Environment and Climate Change Canada, "Regulatory Framework for an Oil and Gas Sector Greenhouse Gas Emissions Cap," December 7, 2023. https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/oil-gas-emissions-cap/regulatory-framework.html

As a result, the incremental international competitiveness impacts of being covered by an OBPS should generally be limited. More broadly, as carbon pricing expands across jurisdictions, some regions have begun implementing Carbon Border Adjustment Mechanisms (CBAMs) to address competitiveness and leakage risks for imports.

The different approaches to setting minimum coverage requirements

- *What are the advantages and disadvantages of a threshold-based approach, an activity-based approach, or a combination of the two?*

Table 2: Pros and Cons of Different Approaches to Setting Minimum Coverage Requirements

System	Pros	Cons
Threshold	Simple and straightforward Greater market function covering the most amount of facilities Aligns with existing reporting framework under GHGRP	Threshold effects: • Discontinuous compliance costs • Strategic production or reporting behavior
Activity-based	Limits intra-sectoral competitiveness impacts Target emissions-intensive activities Avoid threshold effects	Fewer activities covered, limiting scope Higher complexity defining activities vs. a set threshold Higher regulatory burden if facilities reporting on each activity
Combination	Broadest coverage of emissions, facilities, and activities Greatest support for market function with greatest number of covered facilities Most effective at incentivizing reductions from carbon pricing	Most complex system design Potential for threshold effects and competitiveness impacts in industrial and manufacturing sectors

- *What are your views on the options in the Annex A? Do you have alternative options to propose?*

Option B is the best approach, as it both covers a significant portion of emissions while limiting competitiveness impacts and has been operationalized in other systems already.

This approach also captures small oil and gas emitters, which collectively represent a significant share of oil and gas emissions.[3] Activity-based approaches are already

[3] "Regulatory Framework for an Oil and Gas Sector Greenhouse Gas Emissions Cap"

implemented under the B.C. OBPS and Ontario EPS. This approach is also consistent with the EU ETS, where coverage is determined by whether installations undertake specified regulated activities.[4]

Incentivize decarbonization investment

Maintaining the carbon price signal

- *What approaches, if any, could allow systems to incorporate ERAs and similar mechanisms that would both maintain the price signal and protect demand in OBPS markets? Can you provide evidence or supportive analysis, and what changes to the benchmark criteria would be needed to enable them?*

  As noted in the discussion paper, ERAs and similar mechanisms can undermine market function by weakening the price signal and reducing demand for compliance credits. For this reason, these approaches do not align with the current benchmark assessment criteria, and we recommend that this remain the case. ERAs introduce material risks to market stability and can create pathways for double crediting if emissions reductions are claimed both through an agreement and through the credit market. Designing an ERA framework that preserves credit demand, maintains the integrity of the price signal, and avoids double counting would be complex and difficult to implement in practice without compromising environmental integrity.

  Other tools such as ITC's and revenue recycling through OBPS programs (TIER Fund, CleanBC Industrial Incentive Program) offer a better mechanism for funding expensive capital. Limiting governments from recycling compliance payments through general revenue could enhance these programs further by increasing the capital available to fund emission reduction projects.

[4] European Union, *Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a system for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (consolidated version)*, Annex I, EUR-Lex, accessed January 15, 2026, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02003L0087-20230425

Stringency of output-based pricing systems

We welcome the discussion of market stability mechanisms to strengthen market function. Such mechanisms have been widely recommended and can provide a credible pathway to maintaining effective compliance price and net demand over time.[5] While we do not endorse a specific approach, we recommend that government select a single mechanism and commit to it over time, to limit regulatory uncertainty and enable a clear assessment of effectiveness.

Net demand test design and alternatives

- *Are there complementary or alternative tests to the forward-looking annual net demand test that should be considered when assessing the OBPS stringency criteria?*

  A proposed test would require the effective compliance price to remain within 75% of the headline price (aligned with a $130 effective price at a $170 headline price). Given that the price signal is the primary mechanism for incentivizing decarbonization, this test would ensure that the effective compliance price faced by firms is sufficiently stringent and increasing over time. It would also align with commitments under the Federal–Alberta MOU and ensure that all systems are held to a consistent standard.

  This approach also accommodates structural differences across Canadian systems that may cause a jurisdiction to fail a net demand test despite maintaining a sufficiently strong effective price. For example, B.C.'s OBPS has a 30% compliance unit usage limit from 2026 onwards, which make it challenging to pass a net demand test. However, because 70% of compliance obligations must be met at the headline price, the system's effective compliance price is likely to be higher than in systems with more permissive compliance unit limits.

  Whether the strength and stability of a system's effective compliance price is driven by demand for compliance units or by direct payment at the headline price should be immaterial, provided emissions reductions are commensurate. Where robust evidence demonstrates that a system's price signal is driving equivalent emissions reductions and

[5] Emma Dizon and Grant Bishop, *Strengthening TIER for Alberta's Low-Carbon Growth* (Clean Prosperity, 2024), 7. https://cleanprosperity.ca/wp-content/uploads/2024/07/Strengthening-TIER-for-Albertas-Low-Carbon-Growth.pdf

Dave Sawyer and Ross Linden-Fraser. *A Roadmap to Modernize Canada's Larger-Emitter Trading Systems (Canadian Climate Institute, 2025)*, 8. https://climateinstitute.ca/wp-content/uploads/2025/02/Roadmap-to-modernize-Canadian-LETS.pdf

Canadian Climate Insitute, "One simple fix for Canada's industrial carbon pricing systems," November 11, 2025. https://climateinstitute.ca/one-simple-fix-canada-industrial-carbon-pricing-systems/

Francis Morin, *How could Alberta achieve a $130 minimum effective price (McDaniel & Associates, 2026).* https://media.licdn.com/dms/document/media/v2/D561FAQE_SI4rLCCqDQ/feedshare-document-pdf-analyzed/B56Zue0MEoHgAY-/0/1767896041092?e=1769644800&v=beta&t=rkwEZtsOmdZtf62yRbDb7_QhoQJsrfpyr_SYRiKPUdQ&acrobatPromotionSource=linkedin_chrome-post_view

investments in abatement equivalent to the federal backstop, flexibility in system design should be preserved.

- *Would markets be more stable and outcomes more certain if systems were designed to have annual demand exceed supply by a given amount (i.e. designed with a net demand 'buffer')?*

  Markets would be both more stable and deliver greater certainty on current and future credit prices. This ensures the carbon price signal is both credible and durable, reducing uncertainty for regulated facilities making long-term compliance and capital planning decisions.

  At present, one of the greatest risks to industrial carbon pricing systems is sustained credit oversupply, which can drive market prices well below the headline carbon price. [6] When this occurs, the price signal weakens, confidence in future credit values erodes, and incentives for near- and long-term emissions reduction investments are materially diminished.

  - *If so, what range would be appropriate for the size of such a buffer and how can the requirement be adjusted to reflect different system sizes?*

    The net demand test should require a large enough buffer for provinces to demonstrate that their system can produce a $130 effective credit price by 2030, as signaled by the Federal-Alberta MOU. We recommend measuring this buffer of net demand relative to compliance obligations for reasons outlined in the subsequent question. This will make the test independent of system size.

  - *Should the requirement for a buffer be tied to a proportion of total compliance obligations, covered emissions, or another metric?*

    We recommend the buffer be calculated relative to compliance obligations due to the following:

    - **Markets clear against obligations, not emissions**: OBPS credit demand is driven by net compliance obligations (emissions above benchmarks), not total covered emissions.
    - **Avoids miscalibration in benchmark-covered sectors**: Covered emissions can be very large while obligations are small; tying the buffer to covered emissions can over- or under-shoot the intended level of scarcity.

[6] Dale Beugin, Rick Smith, and Ross Linden-Fraser. "Industrial carbon pricing faces two threats that demand urgent attention," June 4, 2025. https://440megatonnes.ca/insight/industrial-carbon-pricing-threats-that-demand-urgent-attention

- **Aligns with federal benchmark assessment logic**: Equivalency assessments already test whether projected obligations exceed unit supply.
- **Supports stability and price formation**: A buffer tied to obligations more directly ensures net scarcity, improving market stability and maintaining intended marginal price signal.

Transparency

Public reporting

Key market data and metrics

- *What type of credit price information is required to support decision making?*

  Publishing all pricing information outlined in Appendix C would significantly enhance transparency for market participants and observers. Greater transparency in carbon pricing has broad support from industry[7], academics, and other key stakeholders, as it strengthens market confidence and decision-making. At a minimum, systems should disclose the minimum, maximum, and average volume-weighted credit prices, disaggregated by vintage, as these metrics provide sufficient insight for effective market analysis and informed compliance strategies.

- *Is information on trading volumes required?*

  Yes. Trading volumes provide valuable information on market liquidity, evolving supply–demand conditions, compliance behaviour, and the degree of market participation and concentration. When paired with robust and transparent credit price information, this data would support a clear and timely assessment of OBPS market performance and functioning.

- *What other metrics should systems consistently publish?*

  Positions of covered firms: total covered emissions, compliance obligations, means of compliance (i.e., use of credits, offsets and payments), and banked compliance units and expiry dates.

[7] Batu, Jay, Nicholas Rivers, Brendan Frank, and Chloe McElhone, *Survey Results: OBPS impacts on large emitters* (Clean Prosperity, June 2025), https://cleanprosperity.ca/wp-content/uploads/2025/06/OBPS-impacts-on-large-emitters.pdf

Reporting frequency and transparency

- *What reporting frequency, for instance quarterly or annually, is feasible for OBPS carbon markets, and what operational or technical constraints could impact this schedule?*

  Transaction data, including volume, price, vintage, and trading party, should be reported to regulators in real time. This level of transparency would benefit both regulators and market participants by providing access to up-to-date information on market pricing and liquidity. Implementing this would require time, as much of this data is not currently reported.

  Public reporting of emissions and market data should be done at a minimum annually, with a report that includes credit price details (minimum, maximum, and trade-weighted average), overall credit supply and demand, and offsets. In addition, regulators should publish a quarterly trading report containing settlement prices and trading volumes. New Zealand's Emissions Trading Scheme provides a useful precedent, publishing quarterly reports that disclose ETS market movements. [8]*What time delay is acceptable between a reporting period and publication?*

  We recommend requiring compliance reports to be submitted within three months of the end of the compliance period, consistent with timelines in other major emissions trading systems, including the EU ETS.[9] Shorter reporting timelines would enable more timely public disclosure of data, improving market transparency and price discovery.

  More timely data publication also benefits regulated firms by reducing uncertainty around credit supply–demand dynamics and supporting more informed compliance and investment decisions. The EU ETS publishes data typically within 5 months of the end of a compliance period.

Confidentiality and practical constraints

- *What operational, technical, or regulatory constraints might limit a jurisdiction's ability to publish this data, and what solutions would be recommended to address those constraints?*

  Regulators should not limit the publication of market data by default. Where legitimate competitiveness concerns exist, covered facilities should be permitted to submit a detailed, justified confidentiality request. For example, Alberta's TIER Regulation includes a process

[8] Environmental Protection Authority (EPA), "ETS unit movement," webpage, Government of New Zealand, updated January 9, 2026, https://www.epa.govt.nz/industry-areas/emissions-trading-scheme/ets-reports/unit-movement/

[9] European Commission, "Monitoring, reporting and verification," webpage, Directorate-General for Climate Action, https://climate.ec.europa.eu/eu-action/carbon-markets/eu-emissions-trading-system-eu-ets/monitoring-reporting-and-verification_en

for regulated parties to request that certain submitted information be kept confidential, subject to a director decision.[10] This appropriately places the onus on facilities to demonstrate that disclosure would create a genuine commercial risk and provides a clear basis for withholding information or applying measures such as aggregation or masking where warranted.

- *Which methods or strategies, such as data aggregation, masking, or delayed publication, would be most effective to maintain confidentiality when reporting price and market trade data while ensuring meaningful transparency?*

  Data aggregation and masking are acceptable methods for maintaining confidentiality, as granular details are not necessary for assessing market performance. Aggregating or masking data strikes the right balance between transparency and confidentiality without compromising the ability to monitor and improve the system. However, delayed publication should be avoided because timely access to data is critical for evaluating market functioning and determining whether adjustments are needed.

- *What should be considered justifiable grounds for limiting publication of transaction data due to competitiveness concerns for individual facilities?*

  The default assumption should be that market data is not confidential. However, facilities should have the ability to request confidentiality for specific data where a clear justification exists. For example, in highly illiquid markets, the size or frequency of transactions could allow individual facilities' activities to be inferred, in which case limited delays to data publication may be warranted.

Benchmark assessment process

- *Should the next benchmark assessment cover a shorter or longer timeframe? What are the advantages/disadvantages?*

  We propose to maintain the current four-year benchmark review but implement an annual test of systems, as proposed in the additional commentary section. This would provide regulators with confidence that markets are functioning appropriately between full benchmark assessments, as well as a clear and transparent mechanism with which to implement the backstop if systems fail to pass the tests.

[10] Government of Alberta, *Technology Innovation and Emissions Reduction Regulation*, Alta Reg 133/2019, s 28 ("Request for confidentiality"), https://kings-printer.alberta.ca/1266.cfm?page=2019_133.cfm&leg_type=Regs&isbncln=9780779851087

If this is not possible, we suggest a two-year horizon before reassessment. Systems currently are not functioning as they should, therefore it is crucial that timely assessments be done to ensure structural issues do not become endemic. This would also give regulators greater transparency regarding the impacts of any changes to the benchmark implemented as part of this process.

Disadvantages include extra administrative costs to conduct the review but with the increased data transparency suggested in this response there shouldn't be the need for additional data to be made available to conduct the review.

- *How often do systems need to be reassessed to ensure designs are generating sufficient demand to maintain credit prices?*

  Systems should be assessed annually using net demand and effective credit market price tests, proposed in this paper. These tests would indicate whether markets are functioning appropriately and could allow for less frequent benchmark assessments.

- *Should the government publish details of benchmark assessments? If so, which information is needed to support market function and at what step in the process?*

  Benchmark assessments should be published, as they effectively determine whether an OBPS system is likely to maintain a credible carbon price signal. If a system does not pass the benchmark assessment, it is critical that the reasons are clearly understood to ensure regulators can be held accountable and the process is protected from politicization. Publishing assessment details also enables independent organizations to analyze system performance and provide insights on how to address any non-compliance or design weaknesses identified through the benchmark assessment. Greater transparency around system outlooks provides market participants with increased certainty regarding future credit balances and expected pricing trajectories.

  At minimum, public reporting should include the results of the net demand modelling—system-wide demand, projected supply (including anticipated bank and offset use), the resulting net demand position, and the core modelling assumptions underpinning the assessment and scope of coverage assessment.

Additional Commentary

Backstop Implementation

Currently, there are no robust criteria to trigger the implementation of the federal backstop beyond ministerial discretion. Clear, independent criteria for triggering the implementation of the federal OBPS can ensure provinces meet their climate obligations, rather than systems that appear to be obviously out of compliance continuing to operate.

We recommend establishing annual testing of effective compliance price and net demand, as outlined previously (i.e. average annual credit market price greater than 75% of headline price). These tests provide a clear and transparent assessment of system stringency and market functioning, enabling regulators to take timely action where systems fail to meet established requirements. In the event of failing to pass one of these tests, a warning should be issued with a requirement to submit a compliance plan within one month, and a timeline of no greater than 1 year should be provided to fix the system or voluntarily accept the federal backstop before it is imposed.

Establishing these guardrails gives regulators a way to assess systems between full benchmark reviews and clear triggers for enforcing the backstop that are based on market assessment, rather than ministerial discretion.

The federal government should also ensure it has a action plans to enforce the backstop promptly if required in any jurisdiction. Quickly taking over running a provincial industrial pricing system, especially for a province like Alberta, requires significant data, staff, administrative and management capacity, some of which, such as necessary data, would need to be in place years in advance. It is possible these plans are already in place, but if not, they should be developed to address this a potential impediment to timely enforcement.

Conclusion

The Pembina Institute welcomes the opportunity to respond to Environment and Climate Change Canada's discussion paper, Driving Effective Carbon Markets in Canada. We are encouraged by the direction of the proposed policy changes, particularly the focus on strengthening industrial carbon pricing systems to maintain a credible price signal, expand coverage, and improve market transparency and stability. These reforms are especially important in the current policy context, where other climate measures have been rolled back or delayed and industrial pricing remains a cornerstone of Canada's climate competitiveness framework.

Overall, our submission supports the federal government's efforts to enhance the effectiveness and integrity of OBPS and benchmark assessment. We agree that broad and consistent coverage, robust equivalency across jurisdictions, and clear market rules are essential to supporting investment in decarbonization and ensuring fair competition within and across provinces.

In responding to selected questions in the discussion paper, we provide recommendations aimed at improving system design, reinforcing net demand and credit price formation, and increasing transparency and accountability.

Specifically, we support the following:

- Establishing a new effective compliance price test and opening the discussion of adopting market stability tools
- Establishing clear, independent criteria for benchmark assessments and backstop implementation
- Prohibiting ERAs across systems as they introduce material risks to market stability and create pathways for double crediting
- Implementing an activity-based coverage approach and including smaller facilities where gains in emissions covered justify the added administrative costs
- Improving public reporting of market data and transparency of benchmark assessment

Collectively, these measures will help ensure industrial carbon pricing systems deliver real emissions reductions, foster investor confidence, and contribute to Canada's long-term climate and economic objectives.