

# Canadian Carbon Pricing Systems

2025 Review

February  
2026

Jason Wang, Ian Sanderson, Will Noel

prepared for the IISD and Global Affairs Canada



# Canadian Carbon Pricing Systems

## 2025 Review

Jason Wang

Ian Sanderson • Will Noel

February 2026

---

The Pembina Institute is a national non-partisan think tank that advocates for strong, effective policies to support Canada’s clean energy transition. We use our expertise in clean energy analysis, our credibility as a leading authority on clean energy, and our extensive networks to advance realistic climate solutions in Canada.

©2026 The Pembina Institute <http://www.pembina.org/>

---

## Acknowledgements

The Pembina Institute wishes to thank the International Institute for Sustainable Development (IISD) and Global Affairs Canada for their generous support.



The Pembina Institute acknowledges that the work we steward and those we serve span across many Nations. We respectfully acknowledge the space our organization is headquartered in as the traditional and ancestral territories of the Blackfoot Confederacy, comprised of the bands Siksika, Piikani, and Kainai, the Îyârhe Nakoda Nations, including the bands of Goodstoney, Chiniki, and Bearspaw, and the Tsuut’ina Dené. These Lands are also home to the Métis Nation of Alberta — Region 3 whose Peoples have deep relationships with the Land.

These acknowledgements are some of the beginning steps on a journey of several generations. We share them in the spirit of truth, justice, reconciliation, and to contribute to a more equitable and inclusive future for all of society.

## Disclaimer

This document is an independent report prepared exclusively as information for IISD and Global Affairs Canada. The views and opinions expressed in this report are those of the author(s).

The information, statements, statistics and commentary (together the 'information') contained in this report have been prepared by the Pembina Institute from publicly available material. The Pembina Institute does not express an opinion as to the accuracy or completeness of the information provided, the assumptions made by the parties that provided the information or any conclusions reached by those parties.

The Pembina Institute have based this report on information received or obtained, on the basis that such information is accurate and, where it is represented to The Pembina Institute as such, complete.

# Contents

- Executive summary ..... 1
- 1. Canadian context..... 4
  - 1.1 Governance ..... 4
  - 1.2 Emissions ..... 5
  - 1.3 Purpose of industrial carbon pricing..... 7
- 2. Types of industrial carbon pricing systems in Canada ..... 9
  - 2.1 Cap-and-trade systems ..... 9
  - 2.2 Intensity-based systems..... 11
  - 2.3 Key components of industrial carbon pricing systems ..... 13
- 3. Federal Output-Based Pricing System ..... 17
  - 3.1 Summary ..... 17
  - 3.2 System history..... 18
  - 3.3 Emissions coverage ..... 19
  - 3.4 Reporting and verification approach ..... 21
  - 3.5 Outcomes ..... 21
  - 3.6 Market information..... 21
  - 3.7 Use of proceeds ..... 22
  - 3.8 Market analysis ..... 22
  - 3.9 Looking ahead..... 23
- 4. Alberta Technology Innovation and Emissions Reduction..... 24
  - 4.1 Summary ..... 24
  - 4.2 System history..... 25
  - 4.3 Emissions coverage ..... 26
  - 4.4 Reporting and verification approach ..... 28
  - 4.5 Outcomes ..... 28
  - 4.6 Market information..... 29
  - 4.7 Use of proceeds ..... 29
  - 4.8 Linkages..... 29
  - 4.9 Market analysis ..... 29
  - 4.10 Looking ahead..... 30
- 5. B.C. Output-Based Pricing System ..... 31
  - 5.1 Summary ..... 31
  - 5.2 System history..... 32
  - 5.3 Emissions coverage ..... 32
  - 5.4 Reporting and verification approach ..... 34
  - 5.5 Outcomes ..... 35

5.6	Market information.....	35
5.7	Use of proceeds .....	35
5.8	Market analysis .....	36
5.9	Looking ahead.....	36
6.	Ontario Emissions Performance Standard .....	38
6.1	Summary .....	38
6.2	System history.....	39
6.3	Emissions coverage .....	39
6.4	Reporting and verification approach .....	42
6.5	Outcomes .....	42
6.6	Market information.....	42
6.7	Use of proceeds .....	42
6.8	Market analysis .....	43
6.9	Looking ahead.....	43
7.	Quebec cap-and-trade .....	45
7.1	Summary .....	45
7.2	System history.....	46
7.3	Emissions coverage .....	46
7.4	Reporting and verification approach .....	48
7.5	Outcomes .....	49
7.6	Market information.....	49
7.7	Use of proceeds .....	49
7.8	Linkages.....	49
7.9	Market analysis .....	49
7.10	Looking ahead.....	50
8.	Key lessons and reflections .....	51
8.1	Successes.....	51
8.2	Recent system issues and maintenance options .....	51
8.3	Outlook .....	53
	Appendix A. Glossary.....	55

# Figures

- Figure 1. Canada's historic emissions, emissions projections, and emissions targets. ....5
- Figure 2. Canadian emissions by province and industry, 2023 .....6
- Figure 3. Change in Canadian emissions by sector .....7
- Figure 4. Map of Canadian carbon pricing systems and regions covered in this report .....9
- Figure 5. How a cap-and-trade carbon pricing system works ..... 10
- Figure 6. How an intensity-based emissions trading system works (for facilities with a sector-wide intensity benchmark) ..... 12
- Figure 7. How headline and traded carbon prices in Alberta’s industrial pricing system have differed over time ..... 14
- Figure 8. Total emissions and emissions subject to industrial carbon pricing for provinces and territories covered by the federal OBPS, 2023 ..... 18
- Figure 9. Alberta’s total emissions and emissions subject to industrial carbon pricing, 2023 .....25
- Figure 10. B.C.’s total emissions and emissions subject to industrial carbon pricing, 2023.....31
- Figure 11. Ontario’s total emissions and emissions subject to industrial carbon pricing, 2023 .....38
- Figure 12. Quebec’s total emissions and emissions subject to industrial carbon pricing, 2023 .....45

# Tables

- Table 1. Pro and cons of cap-and-trade systems..... 11
- Table 2. Pro and cons of intensity-based systems..... 12
- Table 3. Headline carbon price under the federal OBPS and benchmark criteria ..... 13
- Table 4. Fixed and non-fixed emission stringency factors for Ontario .....41

# Executive summary

Canada's province of Alberta implemented North America's first industrial carbon pricing system in 2007. Since 2019, large industrial emitters in every region of Canada have been covered by either the federal carbon pricing system or a regional system if it meets the federal benchmark criteria, which is periodically assessed by the federal government. In this way, the federal system acts as a backstop industrial carbon pricing system.

This report examines the histories and designs of five major Canadian carbon pricing systems: Alberta's Technology Innovation and Emissions Reduction (TIER) regulation, British Columbia's Output-Based Pricing System (OBPS), Ontario's Emission Pricing System (EPS), Quebec's cap-and-trade system, and the federal OBPS.

For each section, we provide an overview of the industrial and emissions context for each system and outline their approaches to benchmarking, compliance flexibility, stringency adjustments, and other key design parameters. We also review market outcomes, highlighting risks such as credit oversupply and uncertainty, and distill lessons learned from each system's implementation.

Overall, we have seen that **Canadian carbon pricing systems have prevented Canada's emissions from growing and have attracted decarbonization investment**, while protecting the competitiveness of regulated industries. However, design and maintenance choices have recently undermined the effectiveness of some systems.

**Several systems in Canada are currently in or at risk of credit oversupply**, which is hindering the incentive for decarbonization investment. For example, in 2025 credits in Alberta's TIER system traded with 40–80% discounts against the direct payment options for system compliance. Historically in Alberta and other Canadian systems, credits are discounted around 10–20%. Furthermore, the volatility in Alberta's 2025 credit prices have caused concern to investors. These ongoing issues demonstrate that systems need be consistently strengthened over time to drive deeper emissions reductions. Continuous monitoring, transparent reporting and timely adjustments are needed for pricing systems to achieve stated emission reduction and economic competitiveness objectives.

When designed and maintained well, industrial carbon pricing systems are widely regarded as an economically efficient policy to drive large emissions reductions while protecting the competitiveness of industries. However, there is room for improvement in Canada's systems, especially to increase **market transparency and linkages**. In most systems, information on

credit markets, especially with transaction volumes and prices, is difficult to obtain or not public at all.

Overall, the historic and ongoing accomplishments and issues with Canada's industrial pricing system highlight several **lessons that are important to creating and operating successful carbon pricing systems**:

1. The most important policy outcomes in pricing systems are reducing emissions while protecting competitiveness. However, these are lagging indicators and adequate data may be difficult to collect. Thus, the key challenge for both intensity-based emissions trading systems and cap-and-trade systems is to maintain a **sufficient effective carbon price** that matches the stringency of emissions reduction requirements with industry's capacity to sustain investments in decarbonization projects and thus reduce emissions. The main system aspects to achieve this balance are to adjust:
  - tightening rates for intensity benchmarks and caps
  - the headline carbon price
  - market rules surrounding credit transactions such as limits in time or volume for usage.

Engagement with both system participants and external entities, including from other systems, is important to balancing stringency with capabilities.

2. System issues such as credit oversupply must be addressed swiftly. Provinces must match credit market supply and demand to emissions reduction progress, which requires continuous monitoring and adjustments. The federal government must be diligent in effectively evaluating regional systems against its benchmark and decisive in enforcing its backstop when regional systems fall short.

Investors in decarbonization projects and in emissions offsets and credits rely on long-term predictability and stability in carbon pricing systems, which is threatened by oversupply and even more so by how long oversupply lasts. Guardrails against volatility allow investors to build trust in systems and allocate capital into them.

3. Economic, social and political contexts have shaped design choices and led to Canada now having four major intensity-based emissions trading systems and one cap-and-trade system, each with unique characteristics and outcomes. Linking the systems and their credit markets is widely recognized as important to increase market liquidity and stability, which in turn provide confidence to investors. However, market linkages also create risks, such as credit oversupply that could affect multiple systems. Jurisdictions need to be coordinated and aligned on policy approaches and outcomes to successfully link markets. To date in Canada, there has been limited interprovincial, federal-provincial and national coordination to achieve more system linking, except for the long-

term integration of Quebec and California cap-and-trade systems. Further strategic policy linkages may be necessary to facilitate more carbon market linkages.

A scheduled review in 2026 for the federal and regional industrial carbon pricing systems is expected to address some issues that have arisen since the last review in 2022, such as credit oversupply. Despite many stakeholders — including many in industry — already favoring industrial carbon pricing as a flexible system for emissions reductions, supporters of carbon pricing must anticipate opposition to stronger industrial pricing and they must clearly communicate its environmental and economic benefits. Doing so is essential to maintain support for the policy over time and ultimately ensure its lasting and positive impact.

# 1. Canadian context

## 1.1 Governance

Since 1867, Canada has been a confederation where provincial governments have jurisdiction to govern natural resource development.<sup>1</sup> The federal government governs issues that span provincial borders or are international, including fisheries, wildlife conservation and international affairs like trade negotiations. Recently, Canada’s federal government has transferred or agreed to transfer province-like responsibilities to its three territories.

Beginning around 2007, some provinces, including Alberta, Quebec and British Columbia, set up industrial carbon pricing systems.<sup>2</sup> In 2019, Canada’s federal government set a national backstop to ensure all provinces and territories are covered.<sup>3</sup> Provinces and territories may implement their own system, but those systems must be deemed by the federal government to have outcomes that meet federal minimum greenhouse gas (GHG) emissions stringency standards, known as the federal benchmark criteria. If those regions do not meet these criteria, the federal carbon pricing system is implemented instead as a backstop.

Though the implementation of the backstop was legally challenged by several provinces, the Supreme Court of Canada ruled in a landmark 6–3 decision that establishing minimum national standards of GHG price stringency falls under the federal government’s power via the “national concern” branch of the Peace, Order and Good Government clause of the Constitution Act, 1867.<sup>4</sup> This ruling confirmed that Parliament may regulate GHG emissions at a national scale, even in areas that overlap with provincial jurisdiction.

---

<sup>1</sup> Environment and Climate Change Canada (ECCC), “Jurisdiction, duties and authorities,” March 19, 2020. <https://www.canada.ca/en/environment-climate-change/corporate/transparency/briefing-materials/corporate-book/jurisdiction-duties-authorities.html>

<sup>2</sup> Julia-Maria Becker, *Pricing Carbon Pollution in Alberta* (Pembina Institute, 2019). <https://www.pembina.org/pub/pricing-carbon-pollution-alberta>

<sup>3</sup> For more information, see ECCC, “Update to the Pan-Canadian Approach to Carbon Pollution 2023–2030.” August 5, 2021. <https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/carbon-pollution-pricing-federal-benchmark-information/federal-benchmark-2023-2030.html>

<sup>4</sup> Supreme Court of Canada, “References re Greenhouse Gas Pollution Pricing Act,” *Cases in Brief*, March 25, 2021. <https://www.scc-csc.ca/judgments-jugements/cb/2021/38663-38781-39116/>

## 1.2 Emissions

Canada accounts for **under 2% of global GHG emissions**<sup>5</sup> but in 2024 was the country with the 11<sup>th</sup> highest absolute emissions globally and 12<sup>th</sup> highest in GHG emissions per capita.<sup>6</sup>

Relative to its baseline year of 2005, Canada's emissions trajectory has stabilized and began a downward trend. Its nationally determined contributions under the Paris Agreement and its national *Net-Zero Emissions Accountability Act* are, compared to 759 MtCO<sub>2</sub>e in 2005, a reduction of 40–45% levels by 2030, 45–50% by 2035, and to have net-zero emissions by 2050 (Figure 1).<sup>7</sup> In 2023 Canada's total GHG emissions (excluding land use, land-use change and forestry) were **694 MtCO<sub>2</sub>e**, a drop of 65 MtCO<sub>2</sub>e (-8.5 %) since 2005.

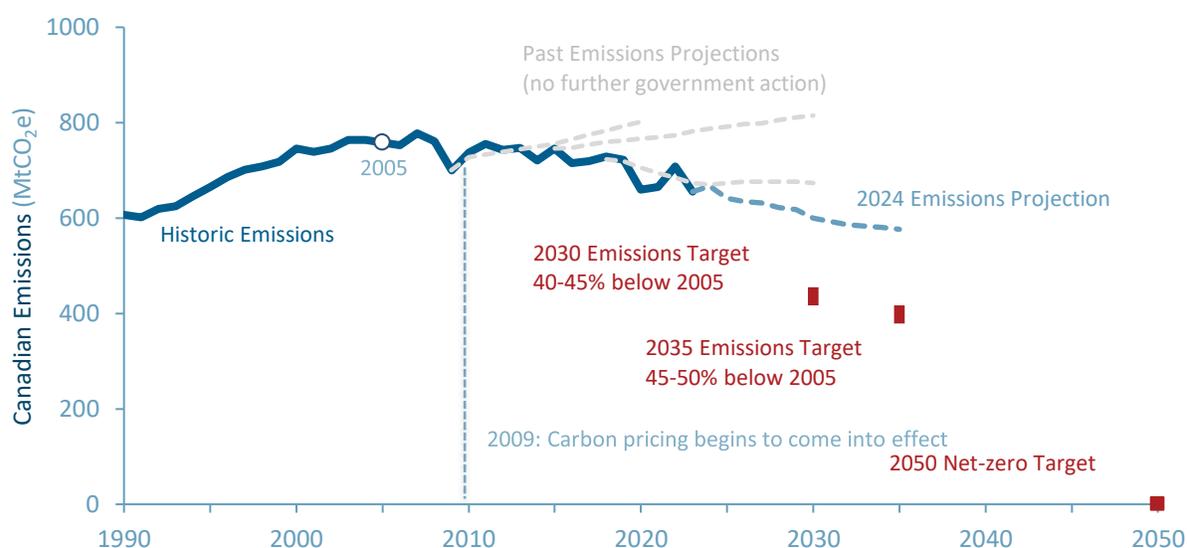


Figure 1. Canada's historic emissions, emissions projections, and emissions targets.

Industrial carbon pricing was first introduced in 2007 and compliance began in 2009, contributing to emissions deviating from past projections.

Data source: Environment and Climate Change Canada<sup>8</sup>

<sup>5</sup> ECCC, *National Inventory Report 1990–2023: Greenhouse Gas Sources and Sinks in Canada* (2025), Executive Summary. <https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/sources-sinks-executive-summary-2025.html>

<sup>6</sup> European Commission Joint Research Centre, *EDGAR (Emissions Database for Global Atmospheric Research) Community GHG database* (2025). [https://edgar.jrc.ec.europa.eu/report\\_2025](https://edgar.jrc.ec.europa.eu/report_2025)

<sup>7</sup> ECCC, “Canada’s 2035 emission reduction target,” February 12, 2025. <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/2035-emissions-reduction-target.html>

<sup>8</sup> ECCC, *National Inventory Report 1990-2023*, Part 3, Annex 10: Canada’s Greenhouse Gas Emission Tables by Canadian Economic Sector (2025), Table A10-2. <https://data-donnees.az.ec.gc.ca/data/substances/monitor/canada-s-official-greenhouse-gas-inventory/B-Economic-Sector/?lang=en>

ECCC, “Greenhouse gas emissions projections.” <https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/projections.html>

It is important to note that there is a wide range of industrial characteristics in each of Canada's provinces. Being the second-largest country geographically in the world, Canada has substantial regional diversity in population, industrial structure, resource endowments, electricity grids, and climate. In 2023, 79% of Canada's emissions were concentrated in the provinces of Alberta, Ontario, Quebec, and British Columbia, where most of the population and heavy industry is located.<sup>9</sup> The oil and gas sector was the largest-emitting sector with ~28% of total emissions, transportation with 22%, buildings at 13%, heavy industry (e.g. manufacturing and chemicals) with 11%, agriculture representing 10%, and the remainder coming from electricity, waste or other emitters (Figure 2).

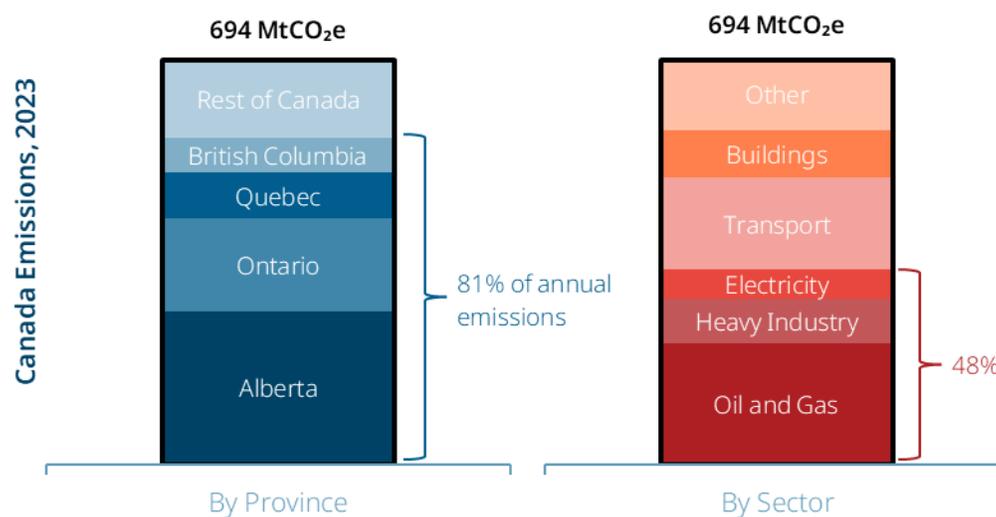


Figure 2. Canadian emissions by province and industry, 2023

Data source: Environment and Climate Change Canada<sup>10</sup>

Furthermore, even within a sector there can be important nuances. For example, the oil and gas sector comprises several subsectors including conventional oil, conventional gas, unconventional gas, mined oilsands, and in-situ oilsands, each with unique operational and emissions qualities.

Between 2005 and 2023, most of Canada's 65 MtCO<sub>2</sub>e reduction came from electricity (with a -58% sectoral change) and heavy industry (-11%), while oil and gas (+7%), transport (+0.2%), buildings (-2%) and agriculture (+6%) changed much less (Figure 3).

<sup>9</sup> ECCC, *National Inventory Report 1990-2023*, Part 1, Table ES-3.

<sup>10</sup> ECCC, *National Inventory Report 1990-2023*, Part 3, Table A10-2 and Annex 12: Provincial and Territorial Greenhouse Gas Emission Tables by Canadian Economic Sector.

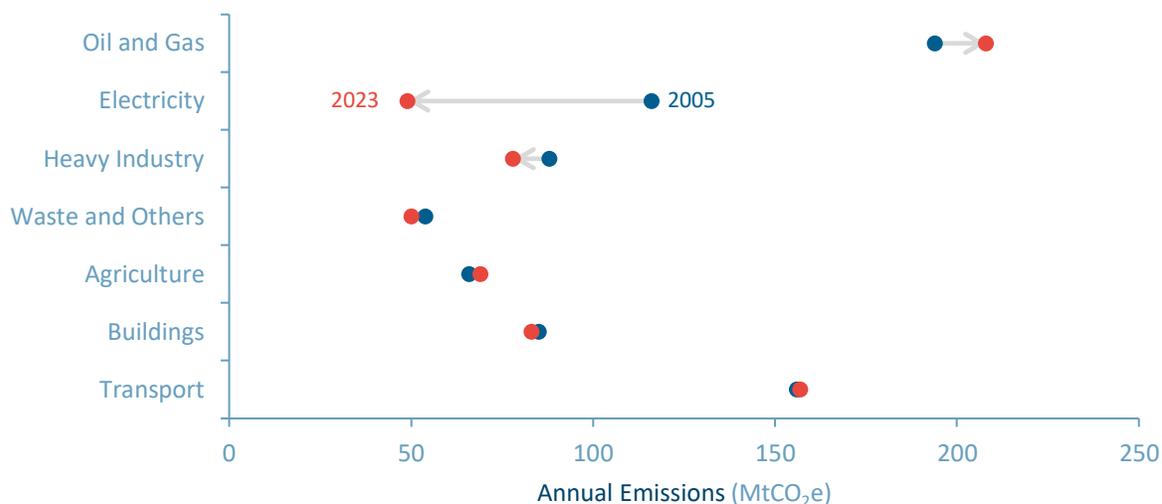


Figure 3. Change in Canadian emissions by sector

Data source: Environment and Climate Change Canada<sup>11</sup>

Large industrial sites are a big subset of national emissions: 1,862 facilities reported 291 MtCO<sub>2</sub>e in 2023, making up about 40–45% of the national total.<sup>12</sup>

### 1.3 Purpose of industrial carbon pricing

Canada's industrial carbon pricing framework is designed to give large emitters a strong financial incentive to cut emissions by assigning a clear cost to carbon pollution. The key advantage of industrial carbon pricing is that it can achieve emissions reductions while minimizing the overall cost of achieving these reductions and protecting the competitiveness of industry.<sup>13</sup> Since many of Canada's industrial base exports its production (especially the oil and gas, heavy industry and forestry sectors), competitiveness is an important policy goal in Canada. Under this approach, facilities that reduce their emissions below required levels can generate

<sup>11</sup> ECCC, *National Inventory Report 1990-2023*, Part 3, Table A10-2.

<sup>12</sup> ECCC, *Overview of 2023 Reported Emissions: Facility Greenhouse Gas Reporting Program*. <https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/facility-reporting/overview-2023.html>

<sup>13</sup> Sarah Dobson and Jennifer Winter, "Assessing Policy Support for Emissions-Intensive and Trade-Exposed Industries," *School of Public Policy Research Papers* 11 (University of Calgary, 2017). <https://doi.org/10.11575/sppp.v11i10.43673>

Government of Canada, "Strengthening carbon markets," November 9, 2025. <https://www.canada.ca/en/environment-climate-change/news/2025/11/strengthening-carbon-markets.html>

Stefan Labbé, "Canada's climate fight hinges on industrial carbon price, say experts," *BIV*, April 18, 2025. <https://www.biv.com/news/environment/industrial-carbon-pricing-most-effective-for-emissions-reduction-international-competitiveness-say-experts-10496921>

tradeable credits, which can be sold to other firms or used to help reduce the costs of adopting low-carbon technologies. When paired with a predictable, long-term increasing carbon price, an industrial carbon pricing system can provide businesses with predictability about the value of investments in emissions reductions and encourage innovation.

According to the Government of Canada, an effective industrial carbon pricing system requires the following five elements:<sup>14</sup>

**1. Predictable and durable**

Carbon markets should provide price certainty over an extended time horizon so participants can plan for the future with confidence in the value of their investments.

**2. Cohesive and consistent**

Where different jurisdictions operate independent systems, they should maintain the same standards of emissions reductions while also minimizing administrative burden and maximizing economic efficiency.

**3. Incentivize investment**

Effective carbon markets drive investment in emissions-reduction technologies and foster the growth of clean energy and clean technology, leading to emissions reductions.

**4. Transparent**

Carbon market participants have access to timely, transparent information needed to make informed compliance and investment decisions.

**5. Protect competitiveness**

Carbon markets should protect against adverse competitiveness impacts and carbon leakage by keeping compliance costs low.

---

<sup>14</sup> Government of Canada, *Driving Effective Carbon Markets in Canada (2025)*, 3. <https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/carbon-pricing-benchmark-consultation/Discussion-Paper-Driving-Effective-Carbon-Markets-Canada.pdf>

## 2. Types of industrial carbon pricing systems in Canada

Canada has two forms of industrial pricing systems (Figure 4): cap-and-trade and intensity-based, described below. This report covers the one cap-and-trade system and four intensity-based systems in detail in Sections 3 through 7.

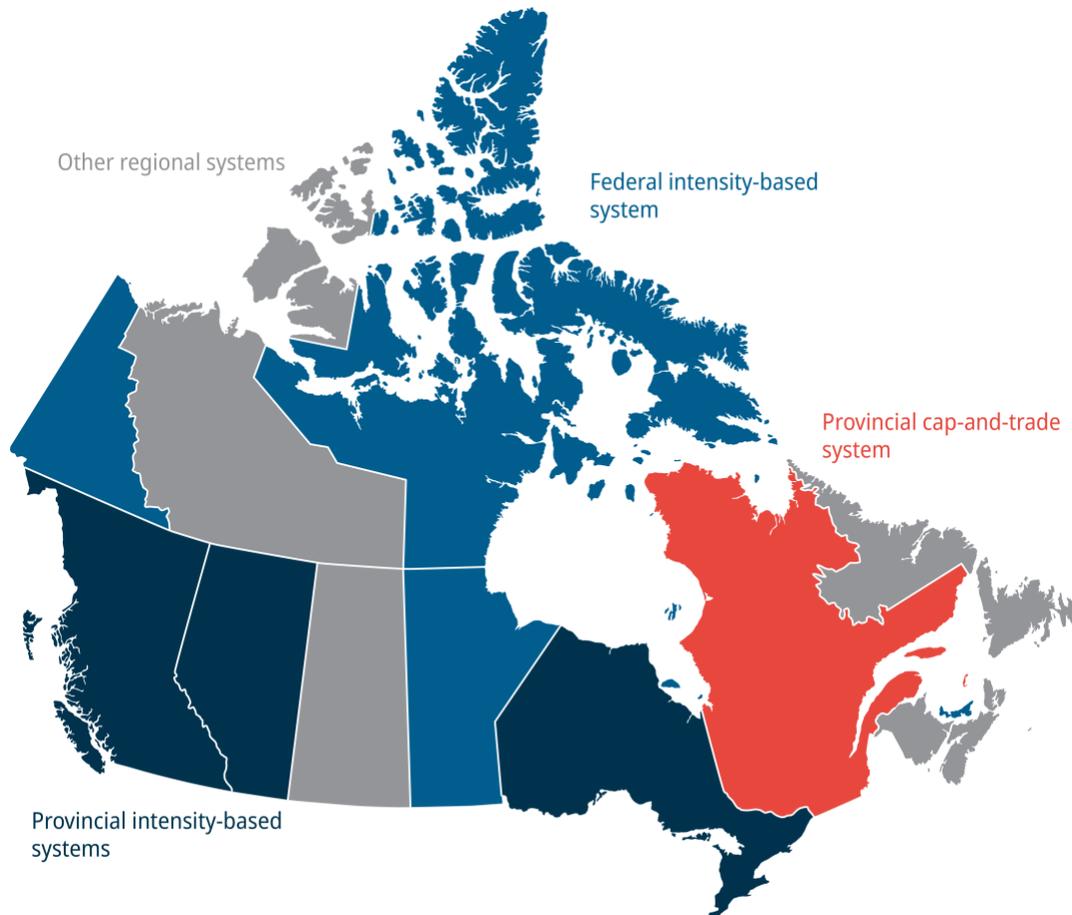


Figure 4. Map of Canadian carbon pricing systems and regions covered in this report

### 2.1 Cap-and-trade systems

A cap-and-trade system limits greenhouse gas emissions by establishing an annual limit, or cap, on total emissions covered by the system. This cap declines over time. Regulated entities must hold one emissions allowance for each tonne of greenhouse gases they emit, but they are able to trade allowances with each other (Figure 5). The total number of allowances issued corresponds to the level of the cap.

Once a cap is established, governments generally will distribute allowances for free to trade-exposed industry at some benchmark level of performance (or historical levels of emissions), with the remainder being auctioned. Firms whose production is less GHG-intensive than the benchmark can trade their surplus allowances on the open market, while firms whose production is more GHG-intensive than the benchmark must purchase additional allowances through trading or at auction.

Free allowances protect competitiveness and limit carbon leakage by keeping the average costs of carbon low. The system still sends a strong pricing signal because any emissions over the benchmark will cost the full carbon price, and production at less than the benchmark results in surplus allowances that can be sold at market prices. Auctioning of credits also generates revenue for the government.

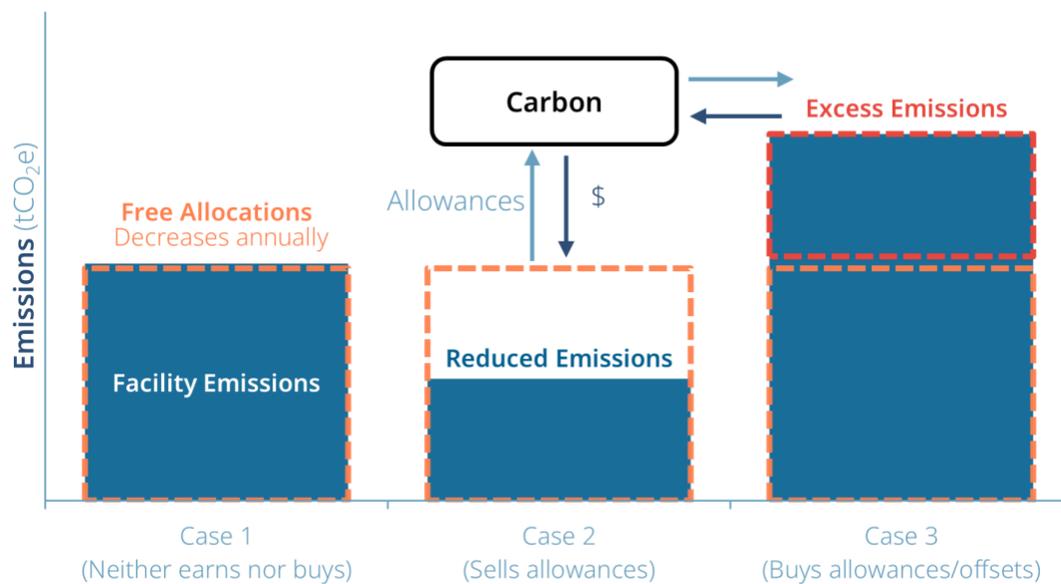


Figure 5. How a cap-and-trade carbon pricing system works

The price on carbon in the system is determined by the balance between supply of allowances and demand from regulated emitters. The government may wish to implement a system for regulating the supply of emissions allowances to address imbalances and to ensure price stability, such as the Market Stability Reserve in the EU Emissions Trading System.<sup>15</sup>

<sup>15</sup> European Commission, “Market Stability Reserve (Energy, Climate change, Environment).” [https://climate.ec.europa.eu/eu-action/carbon-markets/eu-emissions-trading-system-eu-ets/market-stability-reserve\\_en](https://climate.ec.europa.eu/eu-action/carbon-markets/eu-emissions-trading-system-eu-ets/market-stability-reserve_en)

Table 1. Pro and cons of cap-and-trade systems

Pros	Cons
<p>Certainty in emissions reductions</p> <p>A declining cap sets a clear limit on total emissions, aligning policy with legislated targets and providing a transparent trajectory for reductions.</p>	<p>Market volatility risk</p> <p>Allowance prices can fluctuate with economic conditions and policy expectations, creating uncertainty unless stabilizers (price floors/ceilings, reserves) are well designed.</p>
<p>Cost-effective emission reductions</p> <p>Trading helps ensure emissions are reduced where it's cheapest to do so, lowering overall system costs compared to uniform regulation.</p>	<p>Equity and competitiveness trade-offs</p> <p>Free allocation can protect exposed sectors but reduce revenue and emissions covered by a carbon price.</p> <p>Without targeted supports, costs can be unevenly felt across regions and income groups.</p>

## 2.2 Intensity-based systems

An intensity-based system establishes emissions performance standards for industrial sectors and their products based on emissions intensity, often referred to as benchmarks. The benchmarks are based on a historic, multi-year baseline and define an allowable level of emissions per unit of production. They can be established sector-wide or be facility-specific. Facility-specific benchmarks may comprise several product-specific benchmarks determined by the weighted sum of the benchmarks for each covered product during the baseline period. Some product-specific benchmarks are shared across all facilities (e.g., industrial heat and hydrogen).

When sector-wide or product-specific benchmarks are used, the system administrator needs to decide on where the threshold shall lie. Thresholds used in Canadian systems include the best-in-class, the top quintile, and the top quartile. Many systems use a combination of benchmarks based on the structure of the sector they are being applied to.

Facilities that perform better than the standard earn tradeable emissions performance credits that can be banked or sold. Those that emit above its standard (Figure 6) must submit some form of emissions credit on the excess emissions, usually:

- a direct payment to the government or system administrator at the headline carbon price
- an emissions performance credit that is banked from a previous year or obtained from another facility in a previous year
- an emissions offset obtained from an offset project developer.

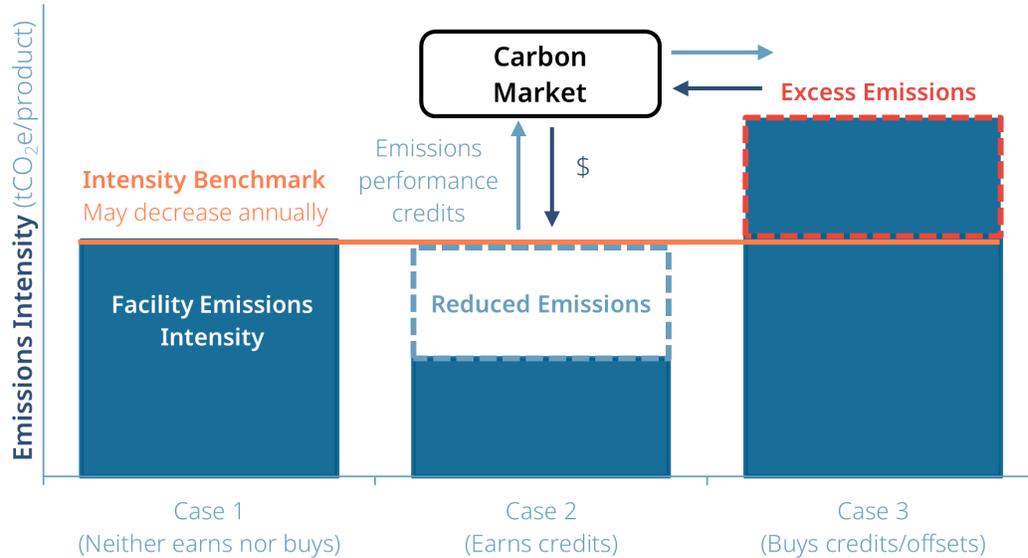


Figure 6. How an intensity-based emissions trading system works (for facilities with a sector-wide intensity benchmark)

Compliance costs are therefore linked to the amount of emissions generated per unit of output. By reducing their own emissions intensity, facilities can lower their compliance costs or generate credits, creating an ongoing financial incentive to improve emissions performance.

Intensity-based systems do not have a hard cap and rely on market signals to incentivize facilities to reduce their emissions intensities and overall emissions. The benchmark tightening rate and headline carbon price are key contributors to the market signal. Each compliance period's emissions reductions are only known after a compliance period ends.

Table 2. Pro and cons of intensity-based systems

Pros	Cons
<p>Protects competitiveness while pricing carbon</p> <p>Intensity-based systems limit carbon costs for emissions-intensive, trade-exposed sectors by pricing only emissions above a performance benchmark, reducing the risk of carbon leakage and loss of competitiveness.</p>	<p>No set limit on emissions reductions over time</p> <p>By shielding a large share of emissions from the full carbon price, intensity-based systems reduce the amount of emissions priced, lowering average compliance costs but also slowing progress toward economy-wide targets.</p>
<p>Maintains incentives to reduce emissions intensity</p> <p>Facilities that outperform benchmarks benefit from lower compliance costs or surplus credits, encouraging economic</p>	<p>Complexity and transparency challenges</p> <p>Benchmark setting, credit markets, and compliance pathways can be administratively complex, making it harder to assess actual emissions outcomes and policy effectiveness</p>

efficiency improvements and best-in-class performance.

## 2.3 Key components of industrial carbon pricing systems

### Emissions coverage

Emissions coverage and sectoral scope are largely shaped by the number and size of emitting facilities within a jurisdiction. Systems tend to focus on large emitters to avoid excessive administrative burden from regulating many small sources. Choices about what kind of sources to cover (only combustion emissions or also vented or leaked methane, industrial process emissions, indirect emissions from imported electricity, heat and hydrogen, biogenic (biomass), etc.) reflect both the dominant emissions profile and the feasibility of measurement and mitigation. These design decisions balance incentives for emissions reductions against administrative complexity and technical practicality.

### Emissions threshold

The emissions threshold (or total emissions limit) is the maximum amount of emissions allowed over a given period. In a cap-and-trade system, the cap is an absolute, declining limit on total emissions, ensuring emissions fall over time in line with climate targets. In an intensity-based system, there is no fixed cap on total emissions; instead, facilities must meet emissions-intensity benchmarks. Total emissions can rise or fall depending on production levels, even if emissions intensity improves, meaning the system drives technical efficiency gains without a direct link to absolute emissions reductions. Emissions over a given period are only known after that period ends and all reporting has been completed.

### Headline carbon price versus market price

Table 3. Headline carbon price under the federal OBPS and benchmark criteria

Compliance Year	Compliance Charge (\$ per tCO <sub>2</sub> e)
2022	50
2023	65
2024	80
2025	95

2026	110
2027	125
2028	140
2029	155
2030	170

The headline price is the cost of a direct payment to the government or system administrator, as one of the possible mechanisms for compliance. In contrast, other instruments for compliance are traded on a market and could include offsets and emissions performance credits generated in previous years. The federal government benchmark criteria have required that the headline carbon price rise from at least \$10 per tCO<sub>2</sub>e in 2018 by \$10 per year until \$50 per tCO<sub>2</sub>e in 2022, and then to rise by \$15 per year until \$170 per tCO<sub>2</sub>e in 2030.

The government's direct-pay mechanism sets a ceiling price for compliance in both cap-and-trade and intensity-based emissions trading systems. If these two prices are closely aligned, the market is seen to be well-functioning; the supply and demand of credits are in balance.

However, large discounts or price volatility create uncertainty in the market (Figure 7) and can disincentivize large-scale investment in emissions reductions.

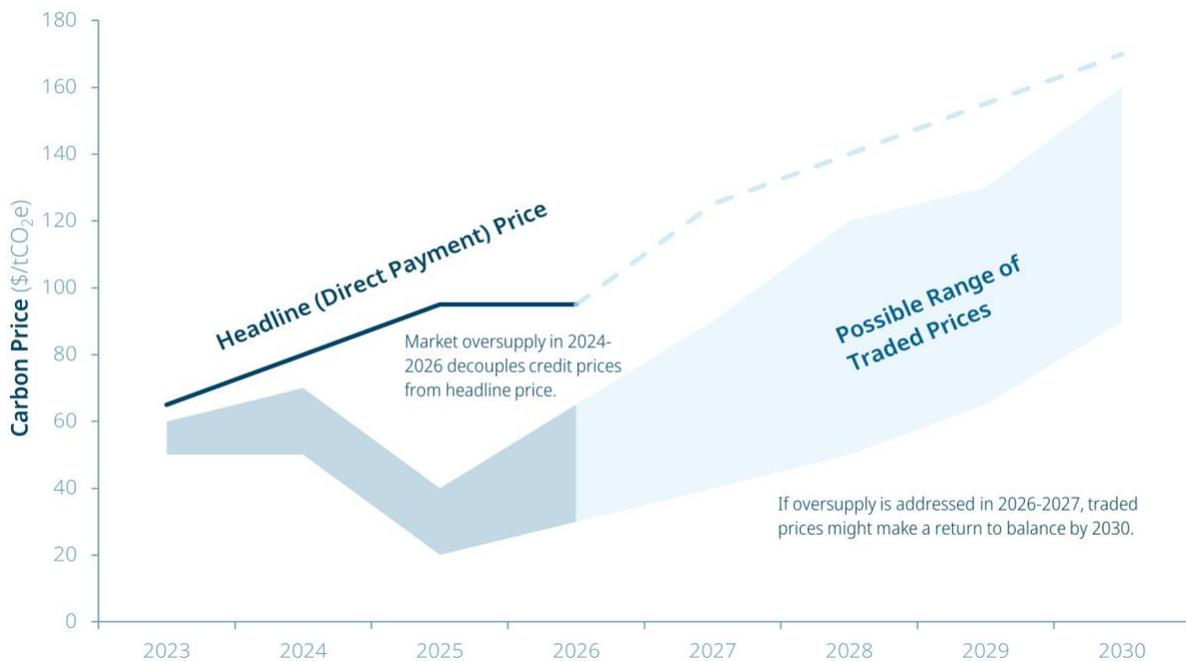


Figure 7. How headline and traded carbon prices in Alberta's industrial pricing system have differed over time

## Compliance options

When firms emit above their benchmark, they are obligated to acquire additional emissions credits or offsets to cover the overage. Providing several compliance options gives participants administrative and financial flexibility in how they meet their obligations. In addition to direct a payment option and using emissions performance credits, most Canadian systems allow the use of offsets. Some jurisdictions have implemented other compliance options like credits for making investments. However, it is crucially important that additional pathways to compliance maintain system integrity and do not weaken market demand, causing market prices to be unstable.

For example, how the use of offsets is regulated within a system is of key importance. The quality and expiry date must be closely regulated to ensure that they credibly represent emissions reductions. Where used, the Canadian systems reviewed in this report only permit the use of offsets generated within these compliance systems and not from voluntary carbon markets.

## Competitiveness and carbon leakage

Maintaining competitiveness of emissions-intensive and trade-exposed (EITE) sectors is crucial to minimize economic repercussions and carbon leakage. This is most commonly achieved through the free allocation of allowances under a cap-and-trade system, or by charging only for emissions above a sectoral benchmark under an OBPS. Both approaches preserve the marginal carbon price signal while reducing total compliance costs. Directing system revenues toward low-carbon investment can accelerate deployment of emissions-reduction technologies. Together, these measures reduce leakage risks while maintaining incentives to cut emissions and invest in cleaner production. A robust framework for assessing trade exposure is critical to ensure support is targeted and not extended to sectors where carbon pricing does not lead to significant risk of carbon leakage or lost competitiveness.

## Use of funds

Effective regulations dictating the use of funds raised from auctioning allowances or direct government sales of compliance units are important. Revenue should be used to support emissions reductions rather than funding other government needs. In Canada, provinces and the federal government have recycled portions of revenue through innovation and technology funds to support industrial decarbonization, clean technology, energy efficiency, and clean electricity. In some cases, revenue has also been used for general revenue.

## Market linkages

Market linkages allow emissions trading systems in different jurisdictions to recognize and trade compliance units and offsets across borders, enabling participants to access a larger, more liquid market. Effective linkages require strong governance, transparency, and policy alignment to ensure emissions reductions are real, comparable, and consistent with each jurisdiction's climate objectives. When well designed, linkages can lower overall compliance costs, reduce price volatility, and improve market efficiency.

While there is interest in harmonization between Canada's industrial pricing systems, there has been limited linkage to-date, although Quebec has harmonized its carbon market with California. The federal OBPS permits the use of certain offsets from provincial systems.

## Reporting

Robust reporting and third-party accredited verification are foundational to the credibility and effectiveness of a system. Standardized reporting ensures emissions data is consistent, comparable, and transparent. Accuracy is typically assessed as a matter of materiality, which for larger emitters is generally considered to be  $\pm 2\%$ .

Accredited third-party verification reduces the risk of errors or misreporting and ensures that compliance units represent verifiable emissions outcomes. In Canada, verifiers typically must be accredited for ISO 14065 by an accreditation body that is a member of the International Accreditation Forum. Site visits are usually required, and facility reports may be subject to reverifications that are initiated by the government.

## Transparency

Clear, public information on benchmark setting and tightening, credit supply and demand, use of compliance options, and actual emissions and production levels is essential to assess whether a system is driving emissions reductions and maintaining a meaningful carbon price signal. Participants must also have access to market data for effective price discovery of market-based instruments. This builds confidence that compliance flexibility is not undermining environmental integrity, helps market participants make informed investment decisions, and allows governments to evaluate whether the system remains aligned with emissions-reduction objectives over time.

# 3. Federal Output-Based Pricing System

## 3.1 Summary

The federal Output-based Pricing System (OBPS)<sup>16</sup> acts as the default industrial carbon pricing system, or backstop, across Canada. It applies to jurisdictions that do not have their own pricing system that is deemed by the federal government to sufficiently achieve the same emissions outcomes as the federal system. As an intensity-based emissions trading system, it generally takes a similar approach as Alberta’s industrial pricing system, especially the previous Carbon Competitiveness Incentive Regulation (CCIR), with some notable differences in how it treats electricity generation.

The federal OBPS applies to facilities that emit more than 50,000 tCO<sub>2</sub>e per year, with voluntary opt-in for facilities that emit at least 10,000 tCO<sub>2</sub>e per year. Emissions limits are based on product-specific benchmarks. Compliance options include a direct payment option (“excess emissions charge”), emissions performance credits (“surplus credits”), or using offsets. The federal system has its own offset protocols and allows facilities to use offsets from certain provincial protocols.

Initially used by several regions, the federal OBPS is now only in place for four provinces and territories because of equivalency agreements granted to provinces that developed their own systems (e.g., Ontario EPS). The main facilities covered are chemicals, oil and gas, lime, pulp and paper, and mining (Figure 8).

The federal OBPS was reviewed in 2022, four years after its implementation. The next scheduled review of the OBPS and the rules of it backstopping other systems is to be completed in 2026. The federal government has committed to strengthening the OBPS and upholding the equivalency requirements for each provincial system.

---

<sup>16</sup> Government of Canada, *Output-Based Pricing System Regulations*, SOR/2019-266. <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2019-266/index.html>

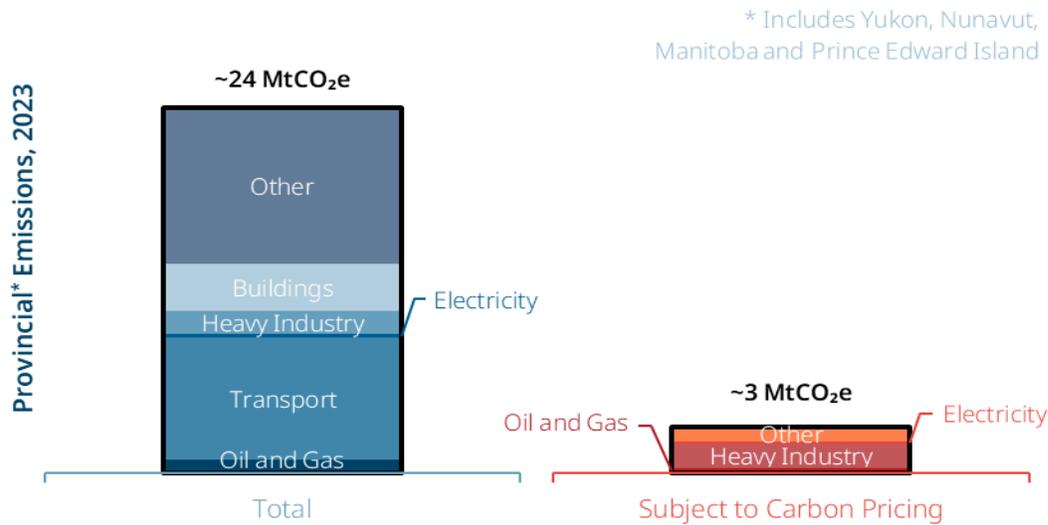


Figure 8. Total emissions and emissions subject to industrial carbon pricing for provinces and territories covered by the federal OBPS, 2023

Data source: Environment and Climate Change Canada<sup>17</sup>

## 3.2 System history

In 2016, a recently elected federal government and most of Canada's provinces established the Pan-Canadian Framework on Clean Growth and Climate Change, which established key principles for how Canada's provincial and federal governments would work together on promoting GHG emissions reduction, climate adaptation, and a clean economy.<sup>18</sup> The framework established carbon pricing as a key approach to achieve these objectives. Following this, the federal OBPS was announced in 2017, legislated in 2018, and implemented in 2019. Generally, it was modelled after Alberta's CCIR system, being an intensity-based emissions trading system using sectoral (i.e. product) benchmarks with a small number of facility-specific benchmarks. The first compliance deadline in 2020 was extended by four months due to the COVID-19 pandemic.

The OBPS was implemented nation-wide as a backstop carbon pricing system. Though the federal government's ability to do this was challenged in courts by several provinces, Canada's Supreme Court eventually confirmed that the system should stand (see Section 1.1). The design

<sup>17</sup> ECCC, *National Inventory Report 1990-2023*, Part 3, Table A12-3, A12-8, A12-12, A12-17.

Emissions subject to carbon pricing were estimated from facility-level data for all facilities with emissions greater than 50,000 tonnes of CO<sub>2</sub>e per year. ECCC, "Greenhouse Gas Reporting Program data search," (2024). <https://climate-change.canada.ca/facility-emissions/>

<sup>18</sup> Government of Canada, *Pan-Canadian Framework on Clean Growth and Climate Change* (2016), 8. [https://publications.gc.ca/collections/collection\\_2017/eccc/En4-294-2016-eng.pdf](https://publications.gc.ca/collections/collection_2017/eccc/En4-294-2016-eng.pdf)

of the OBPS still allowed provinces or territories to design their own pricing systems, including using carbon pricing policies that apply economy-wide, not only for industrial emitters. Provincial systems or policies are deemed to be equivalent if they would achieve sufficiently comparable outcomes as the OBPS would if it were used instead.

The announcement of the federal OBPS also included a schedule of rising headline carbon prices in the systems. Whereas Alberta's Specified Gas Emitters Regulation system, introduced in 2007, held a headline price of \$15/tCO<sub>2</sub>e until 2016, the federal system (and backstop) introduced a price schedule that would rise \$10 per year for its first five years, achieving \$50/tCO<sub>2</sub>e in 2022.<sup>19</sup> In October 2022, the headline price was announced for 2023–2030, rising faster at \$15 per year and reaching \$170/tCO<sub>2</sub>e in 2030.<sup>20</sup> In 2025, the Canadian government announced its intention to set a “multi-decade” carbon price trajectory that aims for net-zero emissions by 2050.<sup>21</sup>

## 3.3 Emissions coverage

### 3.3.1 Covered emissions

The federal OBPS is used in only four Canadian provinces/territories since the federal government has deemed that industrial carbon pricing systems in other provinces and territories can sufficiently achieve equivalent outcomes as the federal OBPS. Limited data is available about the federal OBPS. However, in 2021 it covered 256 facilities that annually emitted 56.9 MtCO<sub>2</sub>e (Figure 8).<sup>22</sup> In 2025, after Ontario and New Brunswick facilities exited the system, 41 facilities participated, 14 mandatory and 27 voluntary. Mandatory facilities are those that emit more than 50,000 tCO<sub>2</sub>e each year and the minimum volume for facilities to voluntarily opt-in is 10,000 tCO<sub>2</sub>e per year.

Its current top emitters are Koch Fertilizer (chemicals), TC Energy (oil and gas), Graymont (lime), Canadian Kraft Paper (pulp and paper), Cenovus Energy (chemicals) and Vale (mining).

In contrast to other systems, the federal OBPS separates electricity production by fuel type. In effect, this choice means that coal-fired power plants are not measured against gas-fired

<sup>19</sup> Government of Canada, *Greenhouse Gas Pollution Pricing Act*, SC 2018, c. 12, Schedule 4. <https://laws-lois.justice.gc.ca/eng/acts/G-11.55/20180621/P1TT3xt3.html>

<sup>20</sup> Government of Canada, *Order Amending Schedule 4 to the Greenhouse Gas Pollution Pricing Act*, SOR/2022-211. <https://gazette.gc.ca/rp-pr/p2/2022/2022-10-26/html/sor-dors211-eng.html>

<sup>21</sup> Government of Canada, *Canada Strong: Budget 2025*, 107. <https://budget.canada.ca/2025/report-rapport/pdf/budget-2025.pdf>

<sup>22</sup> Government of Canada, *Greenhouse Gas Pollution Pricing Act: Annual Report for 2022 (2024)*. <https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/greenhouse-gas-annual-report-2022.html>

facilities. Biomass emissions are excluded from the federal OBPS. The inclusion of other sources such as fugitive emissions depends on the sector.

### 3.3.2 Competitiveness

The OBPS's intensity-based approach is designed to protect competitiveness. In particular, emissions-intensive and trade-exposed (EITE) sectors are given a lower tightening rate than non-EITE sectors. Furthermore, while the initial benchmarks set for facilities in non-EITE sectors were 80% of their base emissions intensities, those in EITE sectors are met with a starting benchmark of 90 or 95%. In other words, non-EITE facilities needed to comply with a standard that was 20% better than their baseline, while EITE sectors had emissions intensity benchmarks that were 5 or 10% better than their baselines.

Eleven EITE sectors saw a 90% standard: base melting smelting of copper, lead, and zinc, iron ore flux pellets, metal tube production, petroleum refining, production of lubricant basestock, standalone hydrogen production, furnace (carbon) black, 2-methylpenta-methylenediamine (MPMD), and brick making. Eight sectors saw a 95% standard: nitric acid and ammonia production as well as several forms of iron- and steelmaking.

The federal OBPS does not yet include a cost containment program like Alberta's, where facilities facing excessive compliance costs may be given more lenient benchmarks.

### 3.3.3 Tightening rate

The federal OBPS employs an annual 2% tightening rate on all benchmarks except on highly trade-exposed sectors, which have a 1% tightening rate. Electricity production faces a 0% tightening rate, and a tightening rate is not applied to some emissions, such as industrial process emissions.

### 3.3.4 Headline carbon price

The federal government set the national standard for headline carbon prices in 2020. In 2025, the OBPS's headline price is \$95 and rises by \$15 per year to \$170 in 2030.

### 3.3.5 Compliance obligation

The federal OBPS operates like other intensity-based emissions trading systems. Facilities that emit under their emissions limit can apply to earn emissions credits to sell or hold for future use. Facilities that emit at their emission limit have met their obligation and do not pay for emissions or earn emissions credits. Facilities that emit above their emissions limit have a compliance obligation for each tonne of CO<sub>2</sub>e above the emission limit.

In the federal OBPS, the three options for compliance obligation are:

- a direct payment or compliance charge (excess emissions charge (EEC))
- the use of emissions performance credits (surplus credits)
- offsets, which may be generated from the federal GHG Offset System or, subject to approval, transferred from certain provincial offset protocols (e.g. Alberta aerobic composting offsets and B.C. forest carbon offsets).

EEC and offset usage are limited to 75% of their total compliance obligation. In the first two years of operation (2019–2021) there was no compliance limit. Banking of credits is allowed, with surplus credits limited to five years and offsets limited to eight years.

## 3.4 Reporting and verification approach

The federal OBPS has an annual compliance cycle. Annual and associated third-party verification reports are due June 1 of the year following the compliance period and payments are due by December 15. Reporting is completed through the federal environment ministry’s single window system, where other environmental reporting such as other air pollutants and effluent releases is submitted.<sup>23</sup>

Verifiers must be accredited for ISO 14065 by either the ANSI National Accreditation Board, the Standards Council of Canada, or an accreditation body that is a member of the International Accreditation Forum.

## 3.5 Outcomes

The federal OBPS does not implement specific emissions reduction targets. However, it is intended to align with the Canadian federal government’s general emissions reduction targets, which, relative to 2005 levels are reductions of 40–45% by 2030 and 45–50% by 2035, reaching net-zero by 2050.

Credits are typically discounted 10–15% relative to the headline carbon price. The linkage of Alberta offsets that are more discounted is likely diluting the price in the federal OBPS market.

## 3.6 Market information

The Credit and Tracking System (CATS) is run by the Government of Canada and used for administering OBPS credits and offsets, as well as credits from Canada's Clean Fuel Regulations

---

<sup>23</sup> ECCC, “Using Environment and Climate Change Canada’s Single Window,” December 1, 2023. <https://www.canada.ca/en/environment-climate-change/services/reporting-through-single-window.html>

market.<sup>24</sup> Issuances and obligations are published through CATS, as are transfers and remittances.

Publicly available data is limited. Project and credit information for offsets are listed publicly, but neither surplus credit nor offset transaction prices and volumes are disclosed.

## 3.7 Use of proceeds

Revenues are used for clean innovation programs, which have focused on industrial decarbonization or clean energy deployment. Proceeds are transferred back to regions roughly proportionately to where they were collected.

## 3.8 Market analysis

Market linkages can benefit economic efficiency but could also expose weaknesses. The federal OBPS has limited links to other systems, only recognizing offsets generated through some Alberta and B.C. protocols (and not vice versa). However, while federal OBPS credit and offset prices typically trade at around 10–15% of the headline carbon price, its linkage to Alberta — where offset prices traded around \$30/tCO<sub>2</sub>e in 2025 — has meant that federal OBPS facilities may actually be able to meet compliance at around a 60% discount.<sup>25</sup>

Internationally, the Canadian federal and provincial governments have been interested in implementing international transferred mitigation outcomes, but there has been limited regulatory movement to do so. At COP30 in 2025, Canada announced its intention to join the Coalition to Grow Carbon Markets and its support for the Open Coalition on Compliance Carbon Markets to facilitate more knowledge sharing about systems like the federal OBPS.<sup>26</sup>

As provinces have developed their own systems and then exited the federal OBPS, the credit market has fluctuated, for example when Ontario's EPS system was introduced in 2022 after three years of operating with the OBPS.

---

<sup>24</sup> ECCC, “Canada’s Greenhouse Gas Offset Credit System: Credit and Tracking System (CATS) and Public Registry.” <https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/output-based-pricing-system/federal-greenhouse-gas-offset-system/credit-tracking-system.html>

<sup>25</sup> International Emissions Trading Association, *Canada’s OBPS at a Glance (2025)*, 4. <https://www.ieta.org/uploads/wp-content/2025/09/IETA-Business-brief-Canada-OBPS-19Sept2Final.pdf>

<sup>26</sup> ECCC, “Canada advances carbon markets, methane reductions, clean energy partnerships, and international adaptation at COP30,” media release, November 17, 2025. <https://www.canada.ca/en/environment-climate-change/news/2025/11/canada-advances-carbon-markets-methane-reductions-clean-energy-partnerships-and-international-adaptation-at-cop30.html>

Another key risk is that the removal of Canada's fuel charge (economy-wide carbon price) may lead the 27 facilities that opted in to the OBPS in order to avoid paying the fuel charge to exit the system, reducing the volume of compliance demand in the OBPS. Given this system's small market size, such an exodus could severely limit its liquidity, requiring more frequent maintenance efforts to ensure economically efficient market outcomes. Linking the OBPS to other carbon markets within Canada could alleviate this issue. However, while there has been some high-level discussion about such linkages, there have not been any formal announcements or commitments.

Another ongoing challenge for the federal OBPS (and similar systems) is credit banking. With an announced schedule to increase the headline price of carbon, most facilities are incentivized to hold onto credits until they become more valuable, which dilutes the effective price despite it rising. Reviews of credit supply and demand, as well as credit usage and banking limits, will continue to be important to maintaining the carbon price signal.

### 3.9 Looking ahead

In 2026 both the federal OBPS and backstop assessment approach for all of Canada's industrial carbon pricing systems will be reviewed. The fall 2025 budget — the first of the current federal government's — signalled strengthened carbon pricing across Canada and further harmonization and linkages between markets.

In December 2025, a discussion paper was launched with questions and indicated directions for a strengthened industrial carbon pricing paradigm in Canada,<sup>27</sup> framing the review of the federal assessment approach for provincial systems in the 2027–2030 period.

It is still unclear how this could affect the OBPS's parameters, such as emissions benchmarks and tightening rates.

---

<sup>27</sup> *Driving Effective Carbon Markets in Canada.*

# 4. Alberta Technology Innovation and Emissions Reduction

## 4.1 Summary

The Technology Innovation and Emissions Reduction (TIER) regulation is an intensity-based emissions trading system. It is the third iteration of Alberta’s industrial carbon pricing system, which when introduced in 2007 was the first of its kind in North America. TIER applies to large industrial emitters that generate more than 100,000 tCO<sub>2</sub>e per year, with a voluntary opt-in for facilities that emit at least 2,000 tCO<sub>2</sub>e annually. Regulated facilities are given annual emissions limits based on a mix of sector-wide and facility-specific emissions intensity benchmarks. Facilities must fulfill a compliance obligation for any emissions that exceed their annual limit, while those that fall below their limit can earn credits for sale or future use. Compliance options include a direct payment option (“fund credits”), emissions performance credits (EPCs), offsets, carbon capture recognition or carbon sequestration credits, or investment credits granted for eligible investments in on-site emissions reductions.<sup>28</sup>

Inadequate emissions benchmark tightening has driven a supply surplus in Alberta’s credit market, further intensified by the recently frozen pricing signal<sup>29</sup> and addition of the new direct investment compliance option.<sup>30</sup> On November 27, 2025, the Government of Canada and the Government of Alberta signed a Memorandum of Understanding committing to, among other things, collaboratively make changes to TIER with the goal of achieving a minimum effective credit price of \$130 per tonne.<sup>31</sup>

---

<sup>28</sup> Government of Alberta, *Technology Innovation and Emissions Reduction Regulation* AR 133/2019, 45-49. [https://open.alberta.ca/publications/2019\\_133](https://open.alberta.ca/publications/2019_133)

<sup>29</sup> Jack Farrell, “Alberta to maintain industrial carbon price freeze for 2026, leaving Ottawa to act,” *The Canadian Press*, September 17, 2025. <https://www.cbc.ca/news/canada/calgary/alberta-carbon-price-freeze-1.7636603>

<sup>30</sup> Government of Alberta, “Modernizing TIER to secure tomorrow,” media release, September 16, 2025. <https://www.alberta.ca/release.cfm?xID=9394747127445-CoF9-96A7-43804Co8764CE1D4>

<sup>31</sup> Prime Minister of Canada, “Canada-Alberta Memorandum of Understanding,” November 27, 2025. <https://www.pm.gc.ca/en/news/backgrounders/2025/11/27/canada-alberta-memorandum-understanding>

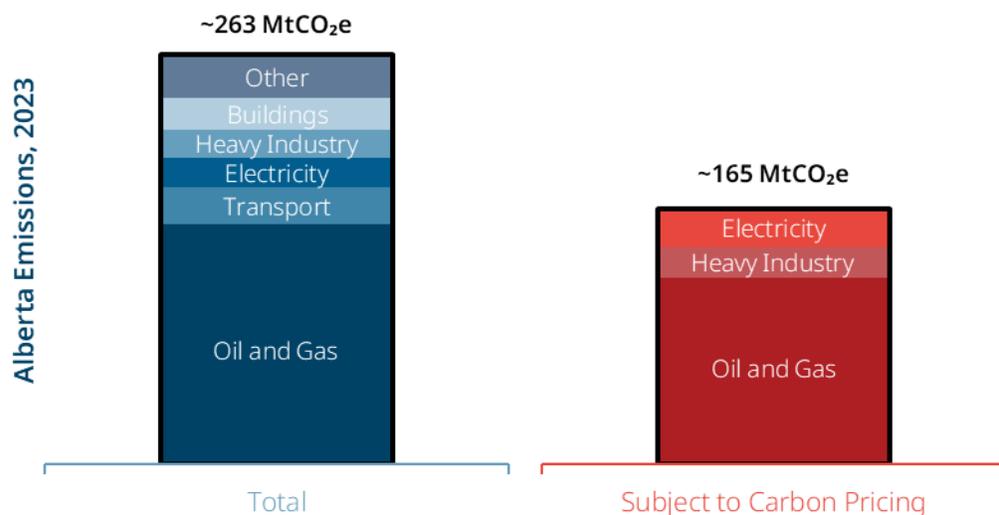


Figure 9. Alberta's total emissions and emissions subject to industrial carbon pricing, 2023

Data sources: Environment and Climate Change Canada, Government of Alberta<sup>32</sup>

## 4.2 System history

Alberta was the first jurisdiction in North America to implement a price on carbon. All three iterations of its carbon pricing system used intensity-based mechanisms.

The Specified Gas Emitters Regulation (SGER) came into effect in 2007 and regulated emissions on a facility-by-facility basis, setting targets for emitters based on their historic performance.<sup>33</sup> SGER remained in place for ten years before being replaced by the Carbon Competitiveness Incentive Regulation (CCIR) in 2018. Under CCIR, emissions intensity benchmarks were set at a sectoral level. For example, electricity production was benchmarked against a high-efficiency combined cycle natural gas plant, known as “good-as-best-gas,” while oilsands and in-situ mining were benchmarked against the performance of the emissions intensity of the facility responsible for the 25<sup>th</sup> percentile of production. This means that facilities responsible for 75% of production have higher emissions than this benchmark and so face a carbon cost, while the remaining facilities generate credits.<sup>34</sup> Other sectors had benchmarks set at 80% of the

<sup>32</sup> ECCC, *National Inventory Report 1990-2023*, Part 3, Table A12-10.

Government of Alberta, *Alberta Industrial Greenhouse Gas Compliance: Summary of 2023 compliance results under the Technology Innovation and Emissions Reduction (TIER) Regulation (2024)*, 1. <https://open.alberta.ca/dataset/cocb77ca-faco-4171-89af-0048e2189120/resource/daa8cc55-c35b-40d6-9c75-1e030df36450/download/epa-alberta-industrial-greenhouse-gas-compliance-2023.pdf>

<sup>33</sup> Government of Alberta, *Technical Guidance for Completing Specified Gas Baseline Emission Intensity Applications*, Version 4.0 (2012), 9. <https://open.alberta.ca/publications/9781460104415>

<sup>34</sup> Government of Alberta, *Carbon Competitiveness Incentive Regulation Fact Sheet (2018)*, 1. [https://www.alberta.ca/system/files/custom\\_downloaded\\_images/cci-fact-sheet.pdf](https://www.alberta.ca/system/files/custom_downloaded_images/cci-fact-sheet.pdf)

production-weighted average of all facilities' emissions intensities. In 2019, TIER replaced CCIR with a hybrid-approach to benchmarks, keeping sector-wide for electricity while reverting to facility-specific performance for all other facilities.<sup>35</sup> Some product constituents of those facilities use product-specific benchmarks that are the same across all facilities such as for industrial heat (steam) and hydrogen production.

## 4.3 Emissions coverage

### 4.3.1 Covered emissions

Alberta's economy is heavily based on fossil-fuel resource development, with extractive industries accounting for one-quarter of gross domestic product and nearly 60% of annual emissions in recent years (Figure 9 **Error! Reference source not found.**).<sup>36</sup> In 2023, ten companies accounted for one-third of Alberta's overall emissions, primarily from the oil and gas (Suncor, Canadian Natural Resources, Syncrude, Imperial Oil, Cenovus, Nova Gas and Shell Canada), electricity (Capital Power and TransAlta) and chemicals (NOVA Chemicals) sectors.<sup>37</sup> In 2023, TIER covered 537 facilities and 165 MtCO<sub>2</sub>e of emissions.<sup>38</sup>

Emissions accounting for compliance excludes emissions from biomass combustion and industrial processes (except in sectors that use high-performance benchmarks). Facilities that import electricity, heat and hydrogen must report these volumes as indirect emissions, but they do not count towards regulated emissions. Instead, the emissions associated with those products are counted as regulated emissions in the facilities that exported them.

### 4.3.2 Competitiveness

Alberta's intensity-based approach limits the average cost of compliance through an emissions limit, while maintaining the marginal price of emissions as an incentive to reduce emissions intensity. Except for the electricity sector, emitters can apply for a facility-specific benchmark based on the historic performance of the facility

In the interest of protecting competitiveness, Alberta uniquely operates the Compliance Cost Containment Program for facilities that have compliance costs greater than 3% of sales or 10%

<sup>35</sup> Government of Alberta, *TIER Regulation Fact Sheet* (2023), 1.

[https://www.alberta.ca/system/files/custom\\_downloaded\\_images/ep-fact-sheet-tier-regulation.pdf](https://www.alberta.ca/system/files/custom_downloaded_images/ep-fact-sheet-tier-regulation.pdf)

<sup>36</sup> Government of Alberta, "Gross Domestic Product," (2025). <https://economicdashboard.alberta.ca/topics/gdp/>

<sup>37</sup> Environment and Climate Change Canada, "Greenhouse Gas Reporting Program." <https://climate-change.canada.ca/facility-emissions/?GoCTemplateCulture=en-CA>

<sup>38</sup> International Carbon Action Partnership, *Canada–Alberta Technology Innovation and Emissions Reduction Regulation* (2022), 2. [https://icapcarbonaction.com/system/files/ets\\_pdfs/icap-etsmap-factsheet-136.pdf](https://icapcarbonaction.com/system/files/ets_pdfs/icap-etsmap-factsheet-136.pdf)

of profits. The program provides additional compliance flexibility or free benchmark allocations for a five-year period.<sup>39</sup> Facilities must also be considered EITE and have been operating before 2023 to be eligible for the program.

### 4.3.3 Tightening rate

For the first three years after TIER replaced CCIR, from 2020 to 2022, facility-specific benchmarks started at 95% of the facility’s baseline emissions and were tightened annually by 1% while high-performance benchmarks remained constant. Starting in 2023, both high-performance and facility-specific benchmarks were set to tighten by 2% per year, with the tightening rate for oilsands mining, upgrading and in-situ facilities increased to 4% annually in 2029 and 2030.<sup>40</sup> As of December 3, 2025, pending a system review, the schedule for product benchmark tightening past 2025 has been paused.<sup>41</sup>

### 4.3.4 Headline carbon price

The TIER headline price was previously aligned with the federal system: \$95 per tCO<sub>2</sub>e in 2025 rising by \$15 annually to \$170 per tCO<sub>2</sub>e in 2030. However, in June 2025, the Government of Alberta announced a freeze on any further changes past the current \$95.<sup>42</sup> However, the governments of Alberta and Canada agreed in November 2025 to increase the effective price to \$130 per tCO<sub>2</sub>e, though it is unclear how this is defined and the timeline for the change.

### 4.3.5 Compliance obligation

Under TIER, regulated facilities that emit under their emissions limit can apply to earn emissions performance credits (EPCs) to sell or hold for future use. Facilities that operate at their emissions limit do not have to pay for emissions or use previously purchased (or earned) EPCs, as they have met their obligation for the given compliance period. Facilities that emit above their emissions must submit compliance obligations for each tonne of CO<sub>2</sub>e above their current limit. Compliance obligations may be met by submitting one or more of the following:<sup>43</sup>

- Direct payments at the current year’s headline carbon price
- EPCs earned in a prior year or purchased from another facility
- Offsets (“emissions offsets”) generated within Alberta under an approved protocol
- Carbon capture recognition tonnes or carbon sequestration credits

<sup>39</sup> Alberta, *TIER Regulation Fact Sheet*, 2.

<sup>40</sup> Alberta, *TIER Regulation Fact Sheet*, 2.

<sup>41</sup> Alberta, *Technology Innovation and Emissions Reduction Regulation*, 71.

<sup>42</sup> “Alberta to maintain industrial carbon price freeze for 2026, leaving Ottawa to act.”

<sup>43</sup> Alberta, *Technology Innovation and Emissions Reduction Regulation*, 45-49.

- Investment credits granted for eligible investments in on-site emissions reductions

Emissions credits and offsets generated in or after 2023 can be banked for up to five years, while those generated earlier than 2023 could be banked for up to eight years. In each compliance period, there is a maximum proportion of credits (emissions, sequestration and investment) and offsets that can be used to meet a facility’s emissions obligations: 60% in 2023 and earlier, increasing each year to a maximum of 90% in 2026 and thereafter.<sup>44</sup> Borrowing credits and offsets from future years is not allowed.

## 4.4 Reporting and verification approach

The compliance period for all facilities regulated under TIER is one year. Facilities submit verified compliance reports annually by June 30 the year following the compliance period. Any facilities with annual emissions greater than 1 MtCO<sub>2</sub>e must also include compliance forecasts (i.e., expected production, emissions, and credit use) in their submissions.

Third-party verification is required for all annual reports. Verifiers must be accredited for ISO 14065 by an accreditation body that is a member of the International Accreditation Forum, such as the Standards Council of Canada.<sup>45</sup> Previous versions of the regulation accepted a designation as a professional engineer or chartered accountant for verification, though this is no longer the case.

## 4.5 Outcomes

In its Emissions Reduction and Energy Development Plan, the Government of Alberta has committed to achieving a “net zero carbon neutral economy” by 2050.<sup>46</sup> Similarly, though not explicitly targeting emissions reductions, Alberta’s Renewable Electricity Act has set a target of achieving 30% of domestic electricity generation from renewable sources by 2030.<sup>47</sup>

---

<sup>44</sup> Alberta, *Technology Innovation and Emissions Reduction Regulation*, 29-33.

<sup>45</sup> Standards Council of Canada, *General principles and requirements for bodies validating and verifying environmental information*, ISO 14065:2020 (2020). <https://scc-ccn.ca/standardsdb/standards/8175443>

<sup>46</sup> Government of Alberta, *Alberta Emissions Reduction and Energy Development Plan* (2024), 6. <https://open.alberta.ca/publications/alberta-emissions-reduction-and-energy-development-plan>

<sup>47</sup> Government of Alberta, *Renewable Electricity Act*, S. 2016, c. R-16.5, 3. <https://open.alberta.ca/publications/r16p5>

Due to several compounding factors driving an oversupply in Alberta’s credit market, in 2025 credits traded around \$20 per tonne, an 80% discount to the current headline price of \$95.<sup>48</sup> In early 2026, prices have rebounded to the \$40 per tonne range.<sup>49</sup>

## 4.6 Market information

The Alberta Emissions Performance Credit Registry handles the allocation, transfer and retirement of EPCs. The Alberta Emissions Offset Registry is responsible for the registration and trading of emissions offset credits. Both registries are operated by the CSA Group in coordination with the Government of Alberta.<sup>50</sup>

Alberta publishes annual compliance results on its open data platform a few months after the compliance deadline. Results data include total regulated emissions per sector, compliance by sector, credit usage, and a summary of historic compliance results.<sup>51</sup>

## 4.7 Use of proceeds

Revenues collected from emitters are allocated to the TIER Fund, which is used to fund a variety of emissions reduction programs, innovation and climate change adaptation, and for general revenue. For example, Emissions Reduction Alberta distributes a portion of the TIER Fund through competitions and grants.

## 4.8 Linkages

TIER is not linked to other systems. However, offsets generated through some protocols are recognized under the federal OBPS.

## 4.9 Market analysis

Alberta’s use of facility-specific benchmarks and low tightening rates has contributed to a weak price signal driven by credit oversupply, with EPCs and offsets trading at around 20% of the

---

<sup>48</sup> Robson Fletcher, “Why a tonne of industrial carbon costs \$95 in Alberta but credits sell for less than \$20,” *CBC*, December 4, 2025. <https://www.cbc.ca/news/canada/calgary/alberta-industrial-carbon-tax-compliance-headline-vs-market-price-9.7002223>

<sup>49</sup> Clear Blue Markets, “Canada’s Carbon Future: Unpacking the Alberta MOU, TIER, and Federal Benchmark Review,” January 15, 2026. <https://www.clearbluemarkets.com/knowledge-base/canadas-carbon-future-unpacking-the-alberta-mou-tier-and-federal-benchmark-review>

<sup>50</sup> CSA Group, “Alberta Carbon Registries.” <https://alberta.csaregistries.ca>

<sup>51</sup> Alberta, *Alberta Industrial Greenhouse Gas Compliance*.

headline price in 2025. Moving forward, the headline carbon price freeze at \$95 per tonne and the addition of the direct-investment option for compliance threaten to erode the price signal even further, limiting continued investments in emissions reductions.

## 4.10 Looking ahead

In 2025, Alberta announced three major changes to its carbon pricing policy: freezing the TIER fund price, allowing facilities that voluntarily opted into TIER an option to opt out, and introducing direct-investment credits for compliance. The end of the consumer-facing carbon price in March 2025 will likely lead voluntary TIER participants (facilities emitting less than 100,000 tCO<sub>2</sub>e per year who had opted-in to TIER to take advantage of free emissions allocations) to opt-out of the regulation. This could further exacerbate Alberta's credit oversupply problem.<sup>52</sup>

Like other provincial carbon pricing systems, Alberta's TIER program exists under a federal equivalency agreement, allowing it to supersede the federal OBPS so long as it is achieving similar environmental outcomes. Alberta is likely out of compliance with the requirements of its equivalency agreement, due to its freeze on both its headline price and emissions benchmarks, and very low credit prices due to its oversupplied credit market. However, enforcement action has not occurred. In November 2025, the Government of Canada signed a memorandum of understanding with Alberta, in which they committed to strengthening TIER such that it achieves a minimum effective credit price of \$130 per tonne, with details to be finalized by April 2026. Also, in 2026 the federal government will undertake a planned review of its OBPS, the requirements of its carbon pricing equivalency framework, and the performance of the provincial carbon pricing systems.

---

<sup>52</sup> Scott MacDougall, *Amendments to Alberta's TIER Policy* (Pembina Institute, 2025).  
<https://www.pembina.org/pub/amendments-albertas-tier-policy>

# 5. B.C. Output-Based Pricing System

## 5.1 Summary

The British Columbia Output-Based Pricing System (B.C. OBPS) is an intensity-based carbon pricing system for large industrial emitters, operating under the Greenhouse Gas Industrial Reporting and Control Act (GGIRCA).<sup>53</sup> The B.C. OBPS applies to large industrial emitters that generate more than 10,000 tCO<sub>2</sub>e per year, with a voluntary opt-in for facilities that emit at least 1,000 tCO<sub>2</sub>e annually (Figure 10). For each covered operation, annual emissions limits are set using facility-specific or sectoral performance benchmarks that tighten over time. Facilities that emit below their benchmark limit generate tradeable performance credits, while those with emissions above their limit must meet their compliance obligation by remitting a combination of performance credits and B.C.-eligible offset units, or by paying into the system at the applicable headline carbon price. The B.C. Carbon Registry tracks the issuance, transfer, and retirement of these compliance units under the OBPS framework.<sup>54</sup>

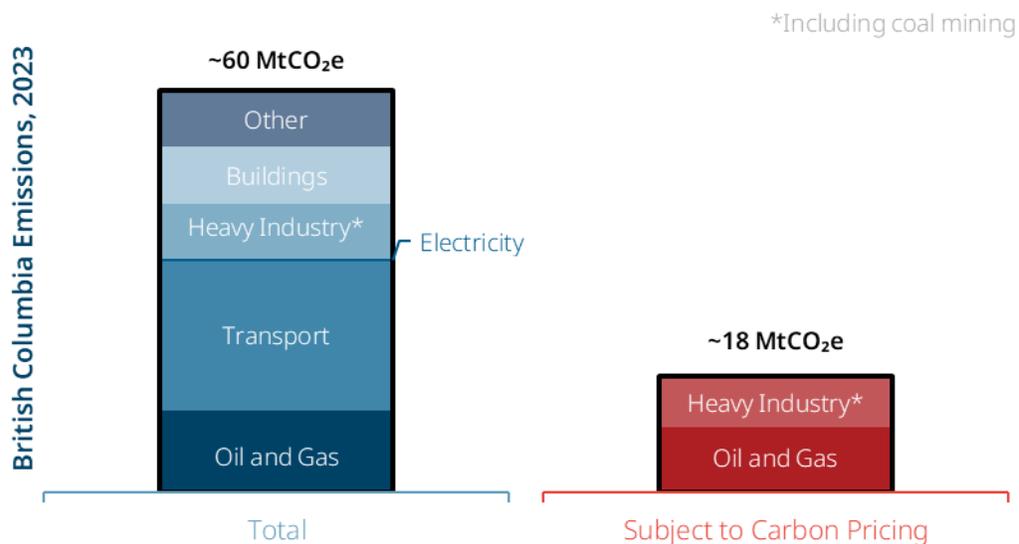


Figure 10. B.C.’s total emissions and emissions subject to industrial carbon pricing, 2023

<sup>53</sup> Government of British Columbia, *Greenhouse Gas Industrial Reporting and Control Act*, SBC 2014, Chapter 29. [https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/14029\\_01](https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/14029_01)

<sup>54</sup> Government of British Columbia, *B.C. OBPS Program and Reporting Guidance (2025)*. [https://www2.gov.bc.ca/assets/gov/environment/climate-change/ind/obps/guidance/bc\\_obps\\_guidance.pdf](https://www2.gov.bc.ca/assets/gov/environment/climate-change/ind/obps/guidance/bc_obps_guidance.pdf)

Data sources: Environment and Climate Change Canada, Government of British Columbia<sup>55</sup>

## 5.2 System history

B.C. introduced North America’s first broad-based carbon tax in 2008, designed to be fully revenue-neutral and covering virtually all fossil fuels.<sup>56</sup> In response to the implementation of the federal OBPS in 2019, British Columbia spent two years designing what became the CleanBC Program for Industry.<sup>57</sup> This was launched in 2019 and built around two components: the CleanBC Industrial Incentive Program (CIIP) and the CleanBC Industry Fund (CIF). The CIIP lowered carbon-tax costs for facilities that could show their emissions intensity matched or outperformed global best-in-class standards, thereby rewarding cleaner industrial performance. The CIF, meanwhile, provides funding to pilot, develop, and deploy projects that cut emissions at large industrial sites. In Budget 2023, the province announced a shift in how industrial emissions would be priced, phasing out the CIIP and introducing a new, intensity-based system for major emitters called the B.C. OBPS. The OBPS came into force on April 1, 2024, replacing CIIP, while the CIF continues to support industrial decarbonization initiatives.<sup>58</sup> This marked a transition from a rebate-based program to an OBPS system with a clearer performance-based price signal.

## 5.3 Emissions coverage

### 5.3.1 Covered emissions

The program is mandatory for producers of regulated industrial products under the Greenhouse Gas Emissions Reporting Regulation (GGERR) that produce emissions above 10,000 tCO<sub>2</sub>e per year.<sup>59</sup> The system covers approximately 120 facilities across the province.<sup>60</sup> Using the latest

<sup>55</sup> ECCC, *National Inventory Report 1990-2023*, Part 3, Table A12-11.

Government of British Columbia, “Industrial Facility Greenhouse Gas Emissions Reporting,” July 8, 2025. <https://www2.gov.bc.ca/gov/content/environment/climate-change/data/industrial-facility-ghg>

<sup>56</sup> Government of British Columbia, “Balanced Budget 2008: B.C.’s Revenue-neutral Carbon Tax.” [https://www.bcbudget.gov.bc.ca/2008/backgrounders/backgrounder\\_carbon\\_tax.htm](https://www.bcbudget.gov.bc.ca/2008/backgrounders/backgrounder_carbon_tax.htm)

<sup>57</sup> CleanBC is British Columbia’s provincial climate and clean-energy plan that outlines policies, regulations, and investments to reduce greenhouse gas emissions, transition to a low-carbon economy, and expand clean energy across the province.

<sup>58</sup> Government of British Columbia, “Transitioning from the CleanBC Industrial Incentive Program to the B.C. Output-Based Pricing System,” May 1, 2024. <https://www2.gov.bc.ca/gov/content/environment/climate-change/industry/transitioning-from-ciip-to-bc-obps>

<sup>59</sup> Government of British Columbia, *Greenhouse Gas Emission Reporting Regulation*, Reg. 96/2025. Schedule A. [https://www.bclaws.gov.bc.ca/civix/document/id/lc/statreg/249\\_2015](https://www.bclaws.gov.bc.ca/civix/document/id/lc/statreg/249_2015)

<sup>60</sup> International Carbon Action Partnership, *Canada–British Columbia Output-Based Pricing System (2022)*. [https://icapcarbonaction.com/system/files/ets\\_pdfs/icap-etsmap-factsheet-70.pdf](https://icapcarbonaction.com/system/files/ets_pdfs/icap-etsmap-factsheet-70.pdf)

available data, an estimate of industrial emissions in scope of the OBPS system was 17.3 MtCO<sub>2</sub>e, coming predominantly from the upstream oil and gas sector (Figure 10).<sup>61</sup>

Covered sectors include:

- Oil and gas production and processing
- Refining and upstream petroleum operations
- Mining and mineral processing
- Cement, lime, and clinker manufacturing
- Chemicals and fertilizer production
- Pulp and paper mills
- Concrete manufacturing
- Forest products
- Metal smelting and refining
- Other EITE industrial processes with continuous emissions

Facilities must report all emissions under the GGIRCA, but not all reported emissions count toward the compliance obligation. The B.C. OBPS contains specific exceptions to prevent overlap with other emissions reduction policies in the province. Covered emissions include combustion emissions, process emissions, flaring emissions, and on-site fossil fuel use.<sup>62</sup> Emissions that are regulated elsewhere and thus excluded (not priced) under B.C. OBPS include fugitive emissions, non-useful venting (e.g. routine venting from pneumatic controllers or storage tanks, where the gas is simply released rather than captured), certain upstream oil and gas emissions not tied to processing or compression, line tracing emissions at refineries, and some biomass combustion emissions.

### 5.3.2 Competitiveness

To protect competitiveness, sector-specific reduction factors are provided to limit the number of emissions covered for the sectors whose products have disproportionately high process emissions intensities. New entrants into the system are also granted a two-year grace period before the system is applied.<sup>63</sup> B.C. does not operate any cost containment provisions.

Each regulated facility in the B.C. OBPS receives an annual emissions limit (for compliance) calculated per regulated product. That limit is generally based on production-weighted average emissions intensity (PWAEI) for their product, based on 2019–2021 provincial data.

<sup>61</sup> Pembina Institute estimate using B.C., “Industrial Facility Greenhouse Gas Emissions Reporting.”

<sup>62</sup> B.C. *OBPS Program and Reporting Guidance*, 16.

<sup>63</sup> B.C., *Greenhouse Gas Emission Reporting Regulation*, Part 5.2.

A reduction factor is applied to the PWAEI (reflecting the portion of emissions that will be priced). These factors vary by sector, with those with disproportionately high process emissions provided a higher reduction factor. On average, most products use a factor of 65%.

### 5.3.3 Tightening rates

The tightening rate for all products is 1% per year for non-process emissions. The rate for process emissions is 0%.

### 5.3.4 Headline carbon price

B.C.'s headline carbon prices for the direct payment compliance option are aligned with the federal headline carbon price schedule.

### 5.3.5 Compliance obligation

Compliance obligations can be met by one or a combination of the following:

- Direct payment (“compliance charge”) based on headline carbon price
- Earned credits from a previous year
- B.C. carbon offset units

Compliance units are either earned credits or B.C. approved offset units. Earned credits can be used, transferred, sold, or banked for future use by an operator and do not expire. Offsets are allowed as a compliance option so long as they come from projects that are approved, validated, and verified through the B.C. Carbon Registry. These units are limited to those generated within three years of the beginning of the compliance year.

The system limits how much of a facility’s compliance obligation can be met using compliance units. The total quantity of earned credits and offset units applied cannot exceed the compliance unit limit set for that compliance year. This limit was 50% of excess emissions for 2024, 40% in 2025, and 30% between 2026 and 2030.<sup>64</sup> Any remaining obligation must be fulfilled through direct payment at the headline price specified for that year’s rate schedule.

## 5.4 Reporting and verification approach

Reporting is done through the B.C. Industrial Emissions Reporting System for all regulated facilities. Annual reports are due May 31 of the year after compliance period. The report includes emissions data, production data, emissions allocation to regulated products, and compliance

---

<sup>64</sup> B.C. OBPS Program and Reporting Guidance, Table 2.

summary. For regulated operations emitting excess emissions, a Compliance Obligation Report is due by November 30 of the submission period. This report is used to assess whether a regulated operation with excess emissions has met its compliance obligations.

Third-party verification is required for all annual reports. Verification bodies within B.C. are accredited by either the ANSI National Accreditation Board or the Standards Council of Canada.

## 5.5 Outcomes

Under B.C.'s Climate Change Accountability Act, the province has commitments to cutting emissions from 2007 levels of 40% by 2030, 60% by 2040 and 80% by 2050.<sup>65</sup>

The B.C. OBPS is designed to play a central role in meeting these targets. Since 2025 marks the first compliance year for the system, its actual contribution to emissions reductions will only become measurable in future reporting periods.

## 5.6 Market information

Regulated industrial operations must apply for a Regulated Operation ID using the B.C. Industrial Emissions Reporting System to register for the B.C. OBPS. Facilities wishing to opt-in may apply to the director of GGIRCA.

The B.C. Carbon Registry provides a public record of all compliance units, tracking their issuance, transfer, and retirement. By publicly documenting the movement and use of credits, the registry ensures clear oversight of how regulated operations meet their compliance obligations.<sup>66</sup> The government also releases annual facility level emissions data.

## 5.7 Use of proceeds

There is no formal law or regulation dictating the use of proceeds raised by the B.C. OBPS. A portion of the revenues supports the CleanBC Industry Fund, while the remaining funds contribute to provincial climate initiatives, including helping maintain a carbon-neutral public sector.<sup>67</sup>

---

<sup>65</sup> Government of British Columbia, "Climate Change" <https://www2.gov.bc.ca/gov/content/environment/climate-change>

<sup>66</sup> Government of British Columbia, "BC Carbon Registry." <https://carbonregistry.gov.bc.ca/bccarbonregistry/public/bc>

<sup>67</sup> *Canada–British Columbia Output-Based Pricing System.*

The CIF allocates provincial funding to industrial projects that achieve verified greenhouse gas reductions.<sup>68</sup> The CIF co-funds capital projects, operational changes, and feasibility studies that lower emissions from eligible industrial operations. Funding is awarded through competitive intakes, with priority given to proposals that demonstrate clear, quantifiable emissions reductions and strong cost-effectiveness. Projects commonly include energy-efficiency upgrades, process improvements, equipment replacements, and fuel-switching measures. The CIF remains a central tool for reducing industrial emissions under CleanBC and complements the B.C. OBPS by directing industrial carbon pricing revenues back into regulated sectors to support compliance and decarbonization.

## 5.8 Market analysis

As a new system, the B.C. OBPS will not show market outcomes until 2026. Early estimates suggest 2024 credit prices are 10–20% below the headline rate.<sup>69</sup> B.C.’s offset portfolio is growing, which may enhance cost containment and compliance flexibility but could also depress prices.

## 5.9 Looking ahead

Performance in the first compliance year will be an important indicator of whether adjustments to the system are required. As well, the federal OBPS is scheduled to be reviewed in 2026 as part of its interim review process.<sup>70</sup> Any adjustments may, in turn, require corresponding changes to provincial systems to maintain equivalency.

A key differentiating feature of the B.C. OBPS is its 30% cap on compliance units such as offsets and earned credits, which preserves a strong price signal by requiring 70% of compliance at the headline carbon price. However, this limits demand for traded credits and reduces incentives for firms to outperform benchmarks. How this impacts market function will be a key point to watch during the initial years.

---

<sup>68</sup> Government of British Columbia. “CleanBC Industry Fund,” May 6, 2025.

<https://www2.gov.bc.ca/gov/content/environment/climate-change/industry/cleanbc-industry-fund>

<sup>69</sup> International Emissions Trading Association, *British Columbia OBPS at a Glance* (2025), 3.

[https://www.ieta.org/uploads/wp-content/2025/09/IETA-Business-brief-BC\\_Sept2025.pdf](https://www.ieta.org/uploads/wp-content/2025/09/IETA-Business-brief-BC_Sept2025.pdf)

<sup>70</sup> Government of Canada, “The federal carbon pollution pricing benchmark,” March 18, 2025.

<https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/federal-carbon-pollution-pricing-benchmark.html>

The elimination of the consumer carbon tax also raises concerns about facilities exiting the OBPS, as the incentive to opt-in is no longer there.<sup>71</sup> However, this is less of a risk for the B.C. OBPS as the threshold for mandatory coverage is lower than all other systems at 10,000 tCO<sub>2</sub>e annually, meaning the system already has a broad range of coverage.

---

<sup>71</sup> Government of British Columbia, “B.C. Eliminates Carbon Tax,” March 31, 2025.  
<https://news.gov.bc.ca/releases/2025FIN0014-000280>

# 6. Ontario Emissions Performance Standard

## 6.1 Summary

The Ontario Emissions Performance Standard program (EPS)<sup>72</sup> is an intensity-based emissions trading system for large industrial emitters. The EPS has been in place since January 2022, replacing the federal OBPS that previously applied from 2019 to 2021. EPS applies to industrial emitters that generate more than 50,000 tCO<sub>2</sub>e per year, with a voluntary opt-in for facilities that emit at least 10,000 tCO<sub>2</sub>e annually (Figure 11). The program covers the same industrial sectors and greenhouse gases that were regulated under the federal system. Annual emissions limits are determined using methodologies that vary by facility type. They rely on facility-specific or sectoral emissions benchmarks that tighten each year.

Ontario is a large economy driven by its large manufacturing sector, transport demand, and buildings. Competitiveness protection is key for Ontario’s major industries which are largely exporters. The EPS was established as a made-in-Ontario solution to the federal OBPS that would allow for a system better tailored to the industrial sectors in the province and give the ability to control revenue recycling.<sup>73</sup>

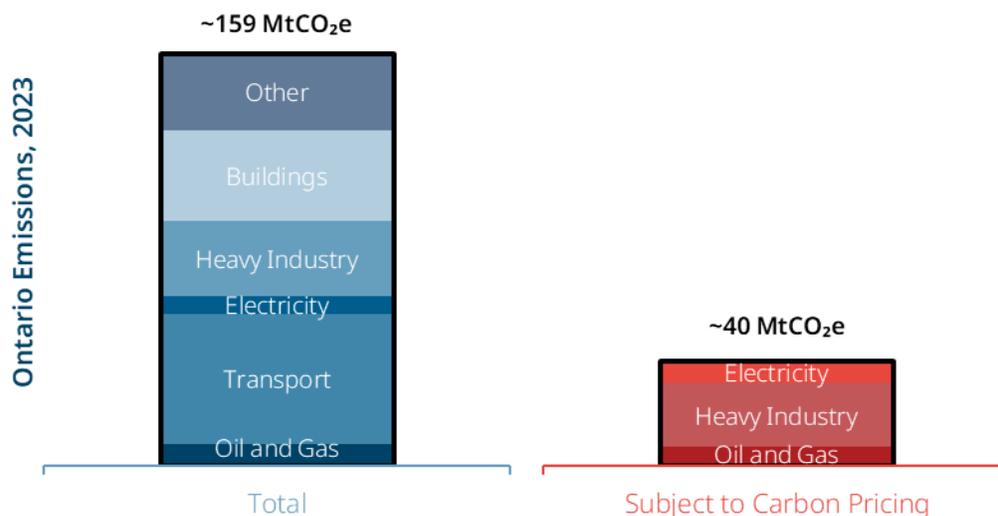


Figure 11. Ontario’s total emissions and emissions subject to industrial carbon pricing, 2023

<sup>72</sup> Government of Ontario, *Emissions Performance Standards Regulation*, O. Reg. 241/19. <https://www.ontario.ca/laws/regulation/190241>

<sup>73</sup> Government of Ontario, *Making Polluters Accountable: Industrial Emissions Performance Standards* (2019). [https://ero.ontario.ca/public/2019-07/EPS%20Regulatory%20Proposal%20%28EN%29\\_o.pdf](https://ero.ontario.ca/public/2019-07/EPS%20Regulatory%20Proposal%20%28EN%29_o.pdf)

Data source: Environment and Climate Change Canada <sup>74</sup>

## 6.2 System history

Since 2017, Ontario’s industrial carbon pricing has gone through three phases. It operated a provincial cap-and-trade system between 2017–2018 that was linked to Quebec and California’s systems. However, this was eliminated following the election of a new government in 2018. The federal OBPS was implemented as a backstop system between 2019–2021. Finally, Ontario’s own Emissions Performance Standards program, announced in 2019, has been operational since 2022.

## 6.3 Emissions coverage

### 6.3.1 Covered emissions

The EPS program applies to large industrial facilities whose activities generate significant greenhouse gas emissions and are considered EITE. A facility must participate in the EPS if it emits more than 50,000 tCO<sub>2</sub>e per year. Facilities that emit over 10,000 tCO<sub>2</sub>e per year may also voluntarily opt into the system.

The Ontario EPS covers large industrial facilities across virtually all major heavy-industry sectors and fossil-fuel electricity facilities, plus eligible smaller emitters that opt in. As of 2023, there were 91 mandatory and 120 voluntary participants which collectively emitted 42 Mt CO<sub>2</sub>e (~78% of industrial and electricity emissions) (Figure 11).<sup>75</sup>

Covered sectors include (but are not limited to):

- mining and mineral processing
- petroleum refining and upgrading
- natural gas processing and transmission
- chemicals and fertilizers (ammonia, nitric acid, synthetic resins, etc.)
- iron and steel, primary metals, cement, and lime production
- pulp and paper, wood products, glass, gypsum, bricks, clay
- alcohol production, beverage manufacturing, food processing
- motor vehicle, aircraft, and machinery manufacturing

<sup>74</sup> ECCC, *National Inventory Report 1990–2023*, Part 3, Table A12-7. Pembina Institute estimate based on facility-level data for all facilities with emissions greater than 50,000 tonnes of CO<sub>2</sub>e per year.

ECCC, “Greenhouse Gas Reporting Program data search.”

<sup>75</sup> Auditor General of Ontario, *Report on Progress to Reduce Greenhouse Gas Emissions (2025)*.

[https://www.auditor.on.ca/en/content/specialreports/specialreports/en25/AR-PA\\_PtoRGGE\\_en25.pdf](https://www.auditor.on.ca/en/content/specialreports/specialreports/en25/AR-PA_PtoRGGE_en25.pdf)

- plastic and rubber products
- electricity generation using fossil fuels

Ontario also includes an additional set of covered facilities based on specific NAICS codes, broadening coverage to major industrial manufacturing subsectors even when not listed by activity name.

The following types of emissions are included in a facility's compliance obligation: direct combustion emissions, industrial process emissions, flaring emissions, on-site fuel use, and certain venting emissions, depending on sector and measurement availability.

### 6.3.2 Competitiveness

The intensity-based approach limits the average cost of compliance through an emissions limit, while maintaining the marginal price of emissions and the incentive to reduce emissions intensity. The EPS covers more industries than required under the federal benchmark; a carbon leakage and competitiveness assessment is applied to sectors to determine if they are at medium or high risk of competitiveness impacts.<sup>76</sup>

### 6.3.3 Tightening rates

The system allows for different tightening rates (“stringency factors”) for industrial process (fixed) and non-process (non-fixed) emissions. Fixed process emissions come from chemical reactions and other sources that are difficult to abate therefore a slower tightening rate is applied to these emissions relative to non-fixed emissions. Non-fixed process emission stringency factors also tighten at different rate based on activity or sector.

---

<sup>76</sup> Government of Ontario, *Process for adding industrial activities to the Emissions Performance Standards Program* (2023), 6. [https://ero.ontario.ca/public/2023-07/Process%20for%20adding%20Industrial%20activities%20paper\\_Summer%202023.pdf](https://ero.ontario.ca/public/2023-07/Process%20for%20adding%20Industrial%20activities%20paper_Summer%202023.pdf)

Table 4. Fixed and non-fixed emission stringency factors for Ontario

Year		2025	2026	2027	2028	2029	2030
Fixed process emissions							
All industrial activities		-1.60%	-1.60%	-1.60%	-1.60%	-1.70%	-1.70%
Non-fixed process emissions							
Transmitting natural gas		-1.97%	-2.01%	-2.05%	-2.09%	-2.14%	-2.19%
Dairy		-1.97%	-2.01%	-2.05%	-2.09%	-2.14%	-2.19%
Generating electricity using fossil fuels	Electricity generation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Cogeneration	-1.70%	-1.73%	-1.76%	-1.79%	-1.83%	-1.86%
All other industrial activities		-1.70%	-1.73%	-1.76%	-1.79%	-1.83%	-1.86%

Data source: Government of Ontario<sup>77</sup>

### 6.3.4 Headline carbon price

The Ontario EPS is aligned with the federal standard for carbon prices, with excess emissions units purchased at \$95 in 2025 and rising by \$15 per year to \$170 in 2030.

### 6.3.5 Compliance obligation

Compliance obligations may be met by one or a combination of the following compliance instruments:

1. Excess emissions units (EEUs): These units are purchased from the Government of Ontario at the current year's headline carbon price per tonne of CO<sub>2</sub>e and must be used in the year they are purchased.
2. Emissions performance units (EPUs): These are credits earned by facilities that have emitted less than their benchmark. They can be traded between regulated facilities or banked for up to five years from when they are distributed.

Facilities owing a compliance obligation must have either enough EEUs, EPUs, or combination of the two to satisfy their obligations by December of any given year. Ontario's EPS does not include offsets.

<sup>77</sup> Government of Ontario, *GHG Emissions Performance Standards and Methodology for the Determination of the Total Annual Emissions Limit (2022)*, Table 4.1 and 4.2. [https://ero.ontario.ca/public/2022-12/GHG%20EPS%20and%20Methodology%20for%20determination%20of%20TAEL\\_December%202022%20%28EN%29.pdf](https://ero.ontario.ca/public/2022-12/GHG%20EPS%20and%20Methodology%20for%20determination%20of%20TAEL_December%202022%20%28EN%29.pdf)

There is no limit on the number of EPU's that can be used to meet compliance obligations.

## 6.4 Reporting and verification approach

The compliance period is one year. Annual reports are due in June of the year after the compliance period. This includes a GHG emissions report and electricity import report. GHG verification reports and statements are due in September.

Third-party verification is required for annual reports. Verifiers must be accredited for ISO 14065, an accreditation body that is a member of the International Accreditation Forum, such as the ANSI National Accreditation Board or the Standards Council of Canada.

## 6.5 Outcomes

The EPS does not have an explicit reduction target but supports the Government of Ontario's stated goal of reducing greenhouse gas emissions 30% below 2005 levels by 2030.

In 2025, EPU's have been transacting at a 15–20% discount relative to the headline price of carbon (and price of EEU's).<sup>78</sup>

## 6.6 Market information

No market information is available publicly. The Government of Ontario records compliance obligations and the allocation, transfer, and utilization of all EPS credits and charges through its EPS Online registry.<sup>79</sup>

Access to the registry is not available publicly and to this point details on volumes/holdings and compliance data has not been released.

## 6.7 Use of proceeds

Carbon revenues raised through the purchase of EEU's are channeled through the Emissions Performance Program (EPP).<sup>80</sup> Funds raised are reinvested to reduce GHG emissions at eligible industrial facilities, primarily by funding capital and study-based projects such as energy-

<sup>78</sup> International Emissions Trading Association, *Ontario EPS at a Glance* (2025), 4.

[https://www.ieta.org/uploads/wp-content/2025/09/IETA-Business-brief-Ontario-EPS-Sept\\_2025.pdf](https://www.ieta.org/uploads/wp-content/2025/09/IETA-Business-brief-Ontario-EPS-Sept_2025.pdf)

<sup>79</sup> Government of Ontario, "EPS Online." <https://www.eps-nre.ene.gov.on.ca/smartlets/do.aspx>

<sup>80</sup> Government of Ontario, "Available funding opportunities from the Ontario Government."

<https://www.ontario.ca/page/available-funding-opportunities-ontario-government>

efficiency retrofits, fuel switching, heat recovery, industrial process changes and carbon capture and storage. Under the EPP design, eligible EPS participants (generally those that bought EEU's and are not primarily electricity generators) can access funding roughly 1:1 with what they paid in, meaning the proceeds are intended to support decarbonization investments in the same facilities, therefore the same industrial sectors, that generated them. There are questions whether the EPP undermines Ontario's compliance with the federal carbon pricing benchmark, because it directly reduces the cost of compliance without necessarily leading to additional emission reductions than would have otherwise occurred.<sup>81</sup>

## 6.8 Market analysis

The lack of publicly available data makes it challenging to assess the functioning of the market. This opacity also means that participants struggle with price discovery.

With proceeds being recycled through the EPP on a 1:1 basis, participants may be incentivized to purchase EEU's and then apply for funding back through the EPP. This has the effect of weakening demand for credits. This could also lead to double-counting as firms receive funding for emissions reduction projects which will later generate credits. There is also some evidence that EPS revenues have been used for infrastructure projects instead of projects that yield additional GHG reductions.<sup>82</sup> This speaks to the importance of establishing strict guidelines about the use of carbon funds.

If these issues are not sufficiently addressed, the EPS could be deemed inconsistent with the requirements of its equivalency agreement with the federal government. As the federal government undertakes its planned review of the OBPS in 2026, including assessments of provincial and territorial systems for equivalency and performance, the EPS may require revision.

## 6.9 Looking ahead

The market is projected to shrink as the termination of the federal consumer fuel charge in 2025 eliminated the financial incentive for smaller facilities to opt in. Following the federal change, Ontario amended its regulations to allow facilities that had previously opted in to opt out of the system as early as 2025.<sup>83</sup> Voluntary participants made up over half of the market in terms of

<sup>81</sup> Ross Linden-Fraser, "Five choices that are breaking industrial carbon pricing," *Canadian Climate Institute*, October 3, 2025. <https://climateinstitute.ca/five-choices-that-are-breaking-industrial-carbon-pricing/>

<sup>82</sup> *Report on Progress to Reduce Greenhouse Gas Emissions*.

<sup>83</sup> Government of Ontario, "Expanding criteria for Voluntary Participants to exit the Emissions Performance Standards (EPS) program," August 14, 2025. <https://ero.ontario.ca/notice/025-0394>

facilities but represented just 7% of emissions. A shrinking market could limit liquidity and has the potential to crash prices if exiting facilities are allowed to offload remaining EPU.

# 7. Quebec cap-and-trade

## 7.1 Summary

Quebec operates a market-based cap-and-trade system, the first and currently only one of its kind in Canada.<sup>84</sup> The system sets a decreasing limit (“cap”) on total greenhouse gas emissions from covered sectors (Figure 12), with emissions allowances distributed through quarterly auctions. A limited number of free allocations are also provided for emissions-intensive trade-exposed sectors. Funds collected through auctions are directed towards climate action through the Electrification and Climate Change fund.<sup>85</sup>

Quebec is the only carbon pricing system in Canada that shares an explicit market linkage, which is to California’s cap-and-trade system. Since California is much larger than Quebec, the state is highly influential in the operations of the Quebec cap-and-trade system.

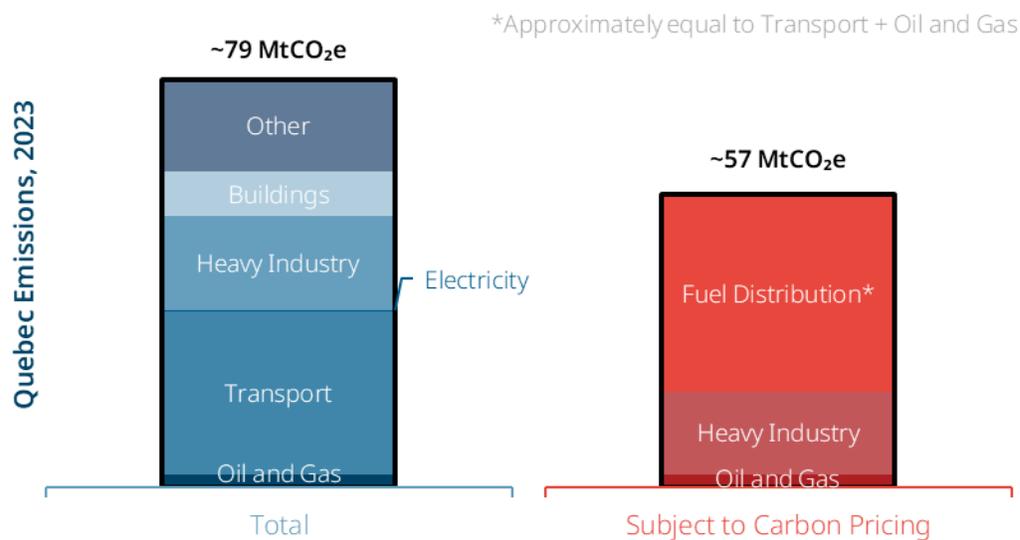


Figure 12. Quebec’s total emissions and emissions subject to industrial carbon pricing, 2023

Data sources: Environment and Climate Change Canada, Government of Quebec<sup>86</sup>

<sup>84</sup> Government of Québec, *Regulation respecting a cap-and-trade system for greenhouse gas emission allowances*, Q-2, r. 46.1. <https://www.legisquebec.gouv.qc.ca/fr/document/rc/Q-2,%20r.%2046.1?langCont=en>

<sup>85</sup> International Carbon Action Partnership, *Canada–Québec Cap-and-Trade System* (2022). [https://icapcarbonaction.com/system/files/ets\\_pdfs/icap-etsmap-factsheet-73.pdf](https://icapcarbonaction.com/system/files/ets_pdfs/icap-etsmap-factsheet-73.pdf)

<sup>86</sup> ECCC, *National Inventory Report 1990-2023*, Part 3, Table A12-6.

Government of Quebec, “Covered Emissions of the Establishments Subject to the Regulation Respecting a Cap-and-Trade System for Greenhouse Gas Emissions Allowances,” 2025. <https://www.environnement.gouv.qc.ca/changements/carbone/documentation-en.htm>

## 7.2 System history

The Government of Quebec announced the development of its cap-and-trade system in 2012, implementing it in 2013. In 2015, fuel distribution was included under the system, significantly increasing the size of the market (Figure 12). Following review, the level of free allocations allocated through the market was decreased in 2024.

Reviews and revisions of the cap-and-trade system are aligned to compliance cycles that are three years long, unlike annual cycles for other provincial systems.

## 7.3 Emissions coverage

### 7.3.1 Covered emissions

Approximately 80% of provincial emissions (79 MtCO<sub>2</sub>e per year) are covered by the cap-and-trade system, spanning 172 emitters. Facilities that emit more than 25,000 tonnes per year are required to participate, with a voluntary opt-in option for smaller facilities.

The top-emitters in Quebec are primarily in the manufacturing and heavy industry sectors, including St. Mary's Cement, Valero (oil and gas), Suncor (oil and gas), Alouette (aluminum), ArcelorMittal (steel) and Rio Tinto Alcan (mining).<sup>87</sup>

In 2025, the cap on emissions as determined by government was set at 50.3 MtCO<sub>2</sub>e. This cap will be reduced annually to approximately 44 MtCO<sub>2</sub>e by 2030 to align with the province's 2030 emissions target.

Facilities that are emissions-intense and trade exposed are granted free emissions allocations, with the level of allocations determined on a facility-by-facility basis except for aluminum, lime, and cement, which are sector-specific. Remaining emissions net of free allocations must be met with additional market-based emissions allowances, purchased via auction.

### 7.3.2 Competitiveness

To maintain competitiveness, dissuade cost passthrough to end-use consumers, and limit carbon leakage, free allocations are provided to emissions-intensive trade-exposed sectors. The number of allocations offered is dependent on several factors, including a tightening rate of at least 1%, cap decline, carbon leakage risk and the proportion of fixed process emissions.

---

<sup>87</sup> "Covered Emissions of the Establishments Subject to the Regulation Respecting a Cap-and-Trade System for Greenhouse Gas Emissions Allowances."

Emissions intensity targets for 2024 through 2030 are based on observed emissions from 2017 and 2019, as well as the 2023 intensity target.<sup>88</sup>

### 7.3.3 Tightening rate

The cap on emissions declined by 3.2% annually between 2015 and 2017, then by 3.5% per year to 2020.<sup>89</sup> Since 2021, the cap has reduced by 2.2% per year, which will continue until 2030.<sup>90</sup>

### 7.3.4 Headline carbon price

In 2012, the minimum emission unit auction price was \$10 per tonne, which has since been increased annually by 5% plus inflation. For example, the minimum auction reserve price for 2025 was \$24.73 per tonne, with an advanced auction for a limited number of 2028 allowances at that same price.<sup>91</sup> However, in November 2025, the average settlement price — which may be higher than the minimum auction price — was \$39.64 per tonne, down from a five-year maximum of \$56.61 in February 2024.<sup>92</sup>

Quebec also maintains a reserve account to sell to facilities that are short allowances, with three increasing price tiers. In 2021, the price of emissions units sold from the reserve account was set at \$41.40, \$53.20, and \$65 per tonne, with prices increasing annually by 5% plus inflation. The selling price of each category of reserve allowance has been harmonized between California and Quebec to avoid the possibility of arbitrage.<sup>93</sup>

Noncompliance may be met with a fine of \$3,000 to \$600,000 per tonne of emissions not covered.

---

<sup>88</sup> Government of Quebec, “Calculation Method Used to Determine the Quantity of Emission Units Allocated Free of Charge,” 2025. <https://www.environnement.gouv.qc.ca/changements/carbone/methode-calcul-en.htm>

<sup>89</sup> Government of Quebec, *Environmental Quality Act*, O.C. 1185-2012. [https://www.publicationsduquebec.gouv.qc.ca/fileadmin/gazette/pdf\\_encrypte/lois\\_reglements/2012A/2389.pdf](https://www.publicationsduquebec.gouv.qc.ca/fileadmin/gazette/pdf_encrypte/lois_reglements/2012A/2389.pdf)

<sup>90</sup> Government of Quebec, *Environmental Quality Act*, O.C. 1126-2017. [https://www.publicationsduquebec.gouv.qc.ca/fileadmin/gazette/pdf\\_encrypte/lois\\_reglements/2017A/103198.pdf](https://www.publicationsduquebec.gouv.qc.ca/fileadmin/gazette/pdf_encrypte/lois_reglements/2017A/103198.pdf)

<sup>91</sup> Government of Quebec, *California Cap-and Trade Program and Québec Cap-and-Trade System: 2025 annual auction reserve price notice* (2024), 1. <https://www.environnement.gouv.qc.ca/changements/carbone/ventes-encheres/budget-unites-emissions2025-EN.pdf>

<sup>92</sup> Government of Quebec, *Québec and California Auction Price History* (2025). <https://www.environnement.gouv.qc.ca/changements/carbone/ventes-encheres/historique-prix-encheres-WCI-en.pdf>

<sup>93</sup> Government of Quebec, “The Carbon Market: Sales by mutual agreement by the Minister.” <https://www.environnement.gouv.qc.ca/changements/carbone/Ventes-gre-ministre-en.htm>

### 7.3.5 Compliance obligation

Facilities that emit at their emissions limit have met their obligation and do not need to participate in emissions auctions for the given compliance period. Facilities that emit above their emissions limit have a compliance obligation for each tonne of CO<sub>2</sub>e above their limit. Facilities that emit below their emissions limit have met their obligation and can sell their excess emissions allocations via quarterly auctions.

Compliance obligations may be met by one or a combination of the following:

- allowances from auctioned emissions units
- allowances from the minister's reserve fund
- offsets
- early reductions credits earned between 2008 and 2011, introduced to reward first movers
- any other emissions allowance as determined by regulation

Under Quebec's cap-and-trade system, emissions offsets can be used up to a maximum of 8% of an entity's annual compliance obligation. Banking of allowances is allowed, though with a general holding limit that decreases along with the annual cap. Borrowing of future emissions allowances is not allowed; however, auctions offer a limited quantity of future emissions allocations that can be traded but not used until the applicable year. For example, 2025 auctions allowed the purchase of 2028 allocations.<sup>94</sup>

## 7.4 Reporting and verification approach

The compliance period for emitters is three years, though annual emissions must be reported every year. Annual reporting is due June 1 of the year after each compliance period. Emissions obligation reporting is done through the Compliance Instrument Tracking System Service. Allowances must be surrendered by November following the end of a compliance period, unless they are being banked for future use.

Third-party verification is required for all annual reports. Verifiers must be accredited in ISO 14065 or equivalent by either the ANSI National Accreditation Board or the Standards Council of Canada.

---

<sup>94</sup> Quebec, *California Cap-and Trade Program and Québec Cap-and-Trade System*, 1.

## 7.5 Outcomes

Quebec is targeting 37.5% emissions reductions by 2030 relative to 1990 levels. They are also targeting carbon neutrality by mid-century.<sup>95</sup>

Credit prices generally rose steadily since the beginning of the system, peaking in 2024 before returning to current levels.<sup>96</sup>

## 7.6 Market information

The Western Climate Initiative maintains a registry of auctioned emissions allowances and offsets, tracking transfers between California and Quebec.<sup>97</sup>

Information on quarterly emissions auctions is publicly available, including average settlement prices and the number of allowances sold.

## 7.7 Use of proceeds

Revenues earned through auctions are directed toward climate action, such as energy efficiency, electrification and public transport, through the Electrification and Climate Change Fund. In 2025, annual revenue for Quebec was around \$1.1 billion.<sup>98</sup>

## 7.8 Linkages

Quebec linked its system with California's in 2014 through the Western Climate Initiative. Auctions for allowances are conducted jointly for the two regions. In 2024, a joint statement was issued to express interest in linking with Washington's market as well.

## 7.9 Market analysis

Quebec is the only cap-and-trade system of its kind in Canada. Its integration with the larger California carbon market (which has a cap of 267 MtCO<sub>2</sub>e, over 4.5 times that of Quebec's) offers

---

<sup>95</sup> Government of Quebec, "2030 Green Economy Plan Numerical Targets," 2025. <https://www.quebec.ca/en/government/policies-orientations/plan-green-economy/implementation/plans-numerical-targets>

<sup>96</sup> Quebec, *Québec and California Auction Price History*.

<sup>97</sup> Western Climate Initiative, Inc., "CITSS Compliance Instrument Tracking System Service." <https://www.wci-citss.org>

<sup>98</sup> Government of Quebec, "Auction Proceeds Allocated to the Electrification and Climate Change Fund," 2025. <https://www.environnement.gouv.qc.ca/changements/carbone/revenus-en.htm>

greater flexibility to large emitters, resulting in a lower effective carbon price in Quebec than the rest of the country. However, while the Quebec carbon market enjoys stability and lower prices, it is also subject to the uncertainties of California politics and policy change. For example, California delayed its system review in 2024 as it was looking to extend the cap-and-trade program beyond 2030. As a result, Quebec similarly delayed its own review, which was a key driver in reducing credit prices in 2024 and 2025.

## 7.10 Looking ahead

With California extending its cap-and-trade program through 2045, both California and Quebec require system reviews to maintain stringency. Updated draft regulations were published in November 2025.<sup>99</sup>

Quebec has notified stakeholders that changes will include continued removal of allowances to align with emissions reduction targets, limiting the use of offsets for compliance by 2030, and revising compliance periods to align with reduction target years.

The state of Washington is seeking to join the Quebec-California carbon market. It has a total emissions limit similar to Quebec at 54 MtCO<sub>2</sub>e in 2025, declining to 49 MtCO<sub>2</sub>e in 2026. It also aims to reach net-zero by 2050.

---

<sup>99</sup> Government of Quebec, *Environmental Quality Act*, O.C. 1421-2025.  
[https://www.publicationsduquebec.gouv.qc.ca/fileadmin/gazette/pdf\\_encrypte/lois\\_reglements/2025A/107798.pdf](https://www.publicationsduquebec.gouv.qc.ca/fileadmin/gazette/pdf_encrypte/lois_reglements/2025A/107798.pdf)

# 8. Key lessons and reflections

## 8.1 Successes

Canada's existing systems have shown that when designed and maintained well, industrial carbon pricing can be effective at achieving emissions reductions while protecting economic competitiveness.<sup>100</sup> Since the introduction of industrial carbon pricing in 2007 in Alberta, emissions are 8.5% lower than 2005 levels and are expected to continue lowering rather than grow, as previous projections anticipated would happen in the absence of industrial carbon pricing systems. These systems can also drive investment and innovation in new emissions reduction technologies, now being linked to decarbonization projects worth more than \$57 billion.<sup>101</sup>

Over the course of almost 20 years, Canada's industrial carbon pricing systems have evolved and adapted. Notably, in 2019 Canada's federal government introduced a minimum standard (benchmark) for pricing industrial GHG emissions and a backstop pricing system for regions that do not operate their own system that meets the benchmark. In 2020, it also introduced a carbon price schedule that escalated until 2023, providing long-term certainty.<sup>102</sup> Buy-in from stakeholders has generally increased and now, large industrial emitters across all of Canada are covered in some form of carbon pricing regime. A 2025 survey of 60 participants in Canada's intensity-based systems indicated that they have seen a net benefit to their environmental performance and attractiveness to capital investments. Furthermore, most of these respondents reported either a positive or no impact to competitiveness and profitability.<sup>103</sup>

## 8.2 Recent system issues and maintenance options

Canada's experience also shows, however, that without proactive, effective and timely maintenance, these systems can fail to meet their intended emissions reduction outcomes. Recent issues with credit oversupply and price volatility in some of Canada's industrial carbon

---

<sup>100</sup> See Section 1.2 and Dobson, "Assessing Policy Support for Emissions-Intensive and Trade-Exposed Industries."

<sup>101</sup> Ross Linden-Fraser, "Industrial carbon pricing is tied to major projects worth more than \$57 billion," *440 Megatonnes*, March 21, 2025. <https://440megatonnes.ca/insight/industrial-carbon-pricing-major-projects-worth-more-than-57-billion/>

<sup>102</sup> ECCC, *A Healthy Environment and a Healthy Economy* (2020). <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview/healthy-environment-healthy-economy.html>

<sup>103</sup> Jay Batu, Nicholas Rivers, Brendan Frank, and Chloe McElhone, *Survey Results: OBPS impacts on large emitters* (Clean Prosperity, 2025). <https://cleanprosperity.ca/wp-content/uploads/2025/06/OBPS-impacts-on-large-emitters.pdf>

pricing systems that have resulted in uncertainty for further decarbonization investments. Investors rely on long-term predictability in carbon pricing systems, which is threatened by credit oversupply and by how long issues last. Many of these issues have not been addressed yet — or are at risk of worsening.

The federal government and provincial governments that operate industrial pricing systems should address these issues swiftly. In general, the core policy outcome for pricing systems is to reduce emissions while protecting competitiveness. However, due to the lagging nature of emissions reporting and collecting economic data, these indicators are difficult to use directly. A strong system can maintain a **sufficient effective carbon price** that balances the stringency of emissions reduction objectives with the ability of system participants to decarbonize. To this end, there are several factors that system operators can adjust, such as:<sup>104</sup>

- **tightening rates** over time for facility or product emissions-intensity standards or caps, especially with more consideration given to overall emissions reduction targets<sup>105</sup>
- the **headline carbon price** each year and in future years, especially as Canada's headline carbon price schedule is only listed until 2030
- **market rules** for obtaining and using credits, such as if they can be banked, and if so, how long they are valid before they expire and the ratio of banked or traded credits compared to credits purchased directly from the government.

Other proposals in Canada to improve credit balance include more frequent (e.g. annual) adjustments to credit usage rules or the use of adaptive tightening rates that response to credit supply and demand. There are proposals too for governments to implement price floors directly or through carbon contracts for difference<sup>106</sup> and to expand coverage of industrial facilities. Some sectors are not emissions-intensive and trade-exposed and may not require the same approach to protecting competitiveness. For example, Canada's electricity sector could be fully exposed to carbon pricing by adopting a zero (0) tCO<sub>2</sub>e/MWh emissions intensity standard.<sup>107</sup>

To implement many of these changes — and generally as good practice — Canada's carbon pricing systems need greater transparency into the performance and efficacy of their market. Timely publication of data such as earned and retired credits, trading activity, and other

---

<sup>104</sup> Tim Weis and Ian Sanderson, *Measuring and Maintaining Carbon Markets in Canada* (Pembina Institute, 2026). <https://www.pembina.org/pub/measuring-maintaining-carbon-markets-canada>

<sup>105</sup> Scott MacDougall, *Pembina Institute Input to Government of Alberta's 2022 TIER Review* (Pembina Institute, 2022). <https://www.pembina.org/pub/pembina-institute-input-government-albertas-2022-tier-review>

<sup>106</sup> Grant Bishop and Michael Bernstein, *Tightening TIER for Alberta's decarbonization* (Clean Prosperity, 2022). <https://cleanprosperity.ca/wp-content/uploads/2024/07/Strengthening-TIER-for-Albertas-Low-Carbon-Growth.pdf>

<sup>107</sup> Jason Wang and Binu Jeyakumar, *Amendments to Emissions Performance Standards in Ontario* (Pembina Institute, 2022). <https://www.pembina.org/pub/amendments-emissions-performance-standards-ontario>

compliance results will help to maintain the health of these systems and build buy-in and certainty for investors and regulated facilities.<sup>108</sup>

A review is already scheduled for 2026 for the federal benchmark criteria, which will be followed by evaluating every region's system against the updated benchmark and of the federal backstop system too.

## 8.3 Outlook

### Harmonization and market linkages

These systems are also coming to an important juncture in Canadian economic and climate policy. As climate policies are increasingly becoming intertwined with economic policies, fragmentation between Canada's carbon pricing systems is also hindering the country's ability to build and grow clean industries. There are nine separate systems in Canada (the five largest examined in this report) with different design parameters.

Canada's governments have expressed interest in further harmonizing and linking these emissions trading systems.<sup>109</sup> Harmonization could result in greater liquidity in credit markets, more stability, and potentially better standing at the global stage (e.g. helping Canadian products remain competitive with the European Union's Carbon Border Adjustment Mechanism). However, it also creates more exposure to risks between the markets.

In 2025, Alberta's low emissions offset prices diluted credit prices in the federal OBPS. Announcing negotiations to restore those prices already raised them from trading in the \$20–30/tCO<sub>2</sub>e range in 2025 to \$40/tCO<sub>2</sub>e in early 2026 despite no further details on changes to Alberta's TIER system. Quebec's linkage to the much larger California cap-and-trade system has also meant that impediments in either jurisdiction have stalled the scheduled reviews for the other. In 2024 and 2025, California's delay in deciding whether to continue its cap-and-trade system resulted in both systems postponing their system reviews and in credit prices falling.

---

<sup>108</sup> Pembina Institute *Input to Government of Alberta's 2022 TIER Review. Amendments to Emissions Performance Standards in Ontario. Survey Results: OBPS impacts on large emitters.*

<sup>109</sup> ECCC, "Ministers Dabrusin and Hodgson outline Budget 2025's new Climate Competitiveness Strategy," media release. November 9, 2025. <https://www.canada.ca/en/environment-climate-change/news/2025/11/ministers-dabrusin-and-hodgson-outline-budget-2025s-new-climate-competitiveness-strategy.html>  
*Driving Effective Carbon Markets in Canada.*

## Implementation with other policies

Changes in government have brought different attitudes about which elements of these systems should be emphasized. Some believe that Canada previously had several layers of climate policy that added unnecessary administrative burden on firms while often leading to little additional emissions reductions.<sup>110</sup> Others believe that industrial carbon pricing may not be entirely sufficient to ensure long-term economic competitiveness.<sup>111</sup> While the trend in 2025 has been towards letting industrial carbon pricing stand in for other policy measures rather than complement them, the debate in Canada continues.

Unfortunately, these debates can create uncertainty for investments in emissions reduction projects, distort credit markets, and postpone progress towards innovation and emissions reductions. Supporters of industrial carbon pricing systems should frequently and adequately communicate the environmental and economic benefits of such systems to ensure their durability and effectiveness.

---

<sup>110</sup> Business Council of Alberta, “Carbon pricing works, we just need to stop getting in the way.” February 8, 2024. <https://businesscouncilab.com/insights-category/analysis/carbon-pricing-works-we-just-need-to-stop-getting-in-the-way/>

Drew Anderson and Fatima Syed, “Canada has another carbon tax. Poilievre wants to axe it too,” *The Narwhal*, March 27, 2025. <https://thenarwhal.ca/canada-industrial-carbon-tax-explainer/>

<sup>111</sup> For example, see Dale Beugin, Anna Kanduth, Dave Sawyer and Rick Smith, *Which Canadian Climate Policies Will Have the Biggest Impact by 2030?* (440 Megatonnes, 2024). <https://440megatonnes.ca/insight/industrial-carbon-pricing-systems-driver-emissions-reductions/> and “Canada’s climate fight hinges on industrial carbon price, say experts.”

# Appendix A. Glossary

Term	Description
Auction reserve price	Minimum price for emission allowances in a cap-and-trade auction.
Banking	The ability to save unused credits for future compliance periods.
Benchmarking	Setting emissions limits in an intensity-based emissions trading system using high-performance (product/sector) or facility-specific standards.
Borrowing	Using future credits to meet current compliance obligations (often restricted or prohibited).
Cap-and-trade system	A market-based system that sets a cap on total emissions and allows trading of emission allowances.
Carbon leakage	The risk of emissions shifting to jurisdictions with weaker regulations due to competitive pressures.
Carbon registry	A system for tracking the issuance, transfer, and retirement of carbon credits and offsets.
CCIR	Carbon Competitiveness Incentive Regulation: Alberta's carbon pricing system from 2018–2019.
CIF	CleanBC Industry Fund: B.C.'s fund supporting industrial decarbonization projects.
CIIP	CleanBC Industrial Incentive Program: B.C.'s previous rebate-based carbon pricing system.
Compliance instruments	Tools used to meet emissions compliance obligations, including credits, offsets, and payments.
Compliance period	The timeframe (usually annual) during which emissions are measured and reported.
Cost containment	Measures to limit the financial burden of compliance, such as offset use or price caps.
Covered emissions	The proportion of a jurisdiction's total emissions subject to regulation under a carbon pricing system.
EEU	Excess emissions units: Units purchased by Ontario facilities exceeding their emissions limits.
Emissions limit	The maximum allowable emissions for a facility or sector, often calculated bottom-up or set top-down.

Emissions trading system	A market-based system that limits greenhouse gas emissions by requiring covered emitters to hold tradeable emissions units.
EPP	Emissions Performance Program: Ontario's program recycling carbon revenues into emissions reduction projects.
EPS	Emission Performance Standards program: Ontario's output-based pricing system for large emitters.
EPU	Emissions performance units: Credits earned by facilities emitting below their benchmark in Ontario.
Equivalency agreement	Federal approval allowing provincial systems to replace the federal OBPS backstop if they meet minimum standards.
Federal backstop	The federal OBPS system applies in provinces without equivalent carbon pricing systems.
Federal benchmark	A set of minimum criteria that regional carbon pricing systems must meet to qualify for use instead of the federal backstop.
Free allocations	Emission allowances given to trade-exposed sectors to mitigate carbon leakage.
Fugitive emissions	Unintentional emissions from industrial processes, such as leaks from oil and gas operations.
GGIRCA	Greenhouse Gas Industrial Reporting and Control Act: British Columbia's regulatory framework for industrial GHG emissions.
Industrial process emissions; Fixed process emissions (Ontario)	Emissions from chemical reactions that are necessary to create certain products, such as cement, chemical processing, and other products. These emissions are difficult to decarbonize or abate.
Intensity-based emissions trading system	A carbon pricing system where emissions limits are defined per unit of output using benchmarks that are specific to facilities, products, or sectors.
Large industrial emitters	Facilities emitting above a certain threshold (e.g., >100,000 tCO <sub>2</sub> e/year). Sometimes referred to as large final emitters.
Market oversupply	A condition where more credits are available than needed, leading to lower prices.
Non-process emissions; Non-fixed process emissions (Ontario)	All industrial greenhouse gas emissions that are not fixed process emissions
OBPS	Output-Based Pricing System: A federal backstop system and provincial model for pricing carbon emissions based on output benchmarks.
Offsets	Verified emissions reductions from outside the regulated sectors that can be used for compliance.

Price path	The scheduled increase in carbon prices over time, often aligned with federal requirements.
Review periods	Scheduled evaluations of system performance and potential updates.
Secondary market	Market where emission credits and offsets are traded between entities after initial issuance.
Sectoral coverage	Industries included under a carbon pricing system, often based on emissions intensity and competitiveness.
SGER	Specified Gas Emitters Regulation: Alberta's original carbon pricing system (2007–2017).
TIER	Technology Innovation and Emissions Reduction System: Alberta's intensity-based emissions trading system for large industrial emitters.
Tightening rate	The annual rate at which emissions benchmarks or caps become more stringent. Sometimes called a stringency factor.
Transparency	Public availability of emissions and compliance data.
Use of proceeds	Allocation of revenue from carbon pricing, often toward climate action or industrial decarbonization.
Verification	Third-party review of emissions reports to ensure accuracy and compliance.
Voluntary opt-in	Option for smaller emitters to participate in carbon pricing systems.
Western Climate Initiative	A collaboration between jurisdictions (e.g., Quebec and California) for linked carbon markets.