A Carbon Signal Industry Can Use

Insights from industry experts on effective industrial carbon pricing in Canada



November 2026

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PEMBINA Institute

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The Pembina Institute recognizes that the work we steward and those we serve span the lands of many Indigenous Peoples. We respectfully acknowledge that our organization is headquartered in the traditional territories of Treaty 7, comprising the Blackfoot Confederacy (Siksika, Piikani and Kainai Nations); the Stoney Nakoda Nations (Goodstoney, Chiniki and Bearspaw First Nations); and the Tsuut'ina Nation. These lands are also home to the Otipemisiwak Métis Government (Districts 5 and 6).

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

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Executive summary

Industrial carbon pricing is intended to put a financial value on reducing greenhouse gas emissions and influence business decisions. Its success, however, depends on much more than the price published in policy. Companies respond to the costs and values created by the system, the durability of its rules, the available markets for carbon credits, the technologies and infrastructure to reduce emissions, and the competitive conditions in which they operate.

This report draws on 21 interviews with large companies, industry associations, regulators, researchers, and other stakeholders. The interviews were designed to capture a range of experiences, not to provide a statistically representative survey of Canadian industry.

The research identified seven findings. Taken together, they show that the headline carbon price alone does not determine whether carbon pricing influences investment and other business decisions.

Key findings

- **Carbon pricing must be durable enough to influence long-term investment.** Companies need confidence that carbon values, rules and enforcement will persist long enough to incorporate them into business decisions.
- **The effective carbon value matters, not just the headline price.** Benchmarks, allocations, credit prices and compliance options can substantially change the incentive experienced by an individual facility or project.
- **Carbon markets need to function, not simply exist.** Businesses need sufficient flexibility to be able to buy, sell and bank credits, and enough confidence to value them with reasonable certainty.
- **Differences between carbon pricing systems become a concern when they create unnecessary barriers to compliance and investment**. The issue is not variation itself, but the additional costs and complexity that result when credible credits, protocols and emissions reduction outcomes are not recognized across jurisdictions.
- **Competitiveness impacts are real, and they vary substantially.** Exposure depends on the facility, product, market, ability to pass on costs, available emissions reduction options and policies faced by competitors. Tariffs and changing trade relationships can further alter that exposure.

- **Trusted emissions information is becoming economic infrastructure.** Reliable measurement, reporting and verification affect carbon-credit value, investment decisions and the ability to demonstrate carbon performance in international markets.
- **Carbon pricing alone cannot overcome every barrier to industrial decarbonization.** Larger investments may also depend on enabling infrastructure, technology readiness, access to capital, commercialization support, workforce development or regulatory changes.

Recommendations

Based on these findings, Canada should:

1. **Provide a durable basis for long-term investment** through greater certainty around future carbon values, benchmarks, rules and enforcement.
2. **Assess the effective carbon value companies face,** not just the headline price.
3. **Strengthen the functioning of carbon markets** through greater transparency and clearer rules.
4. **Improve interoperability across carbon pricing systems** through better recognition of credible credits, protocols and emissions reduction outcomes across **Canadian carbon pricing** systems.
5. **Address competitiveness based on actual exposure**, including facility and market conditions, competitor policies, tariffs and changing trade relationships.
6. **Strengthen emissions measurement, verification and comparability** so that carbon markets, businesses and trading partners can rely on the information behind reported emissions and reductions.
7. **Use complementary measures when carbon pricing alone cannot close the investment gap**, targeting clearly identified barriers that prevent emissions reduction projects from proceeding.

1. Introduction

Industrial carbon pricing is intended to put a financial value on reducing greenhouse gas emissions from large industrial facilities. In Canada, this happens through a mix of federal, territorial and provincial systems. The rules differ across jurisdictions, including how emissions obligations are calculated, how carbon credits are created and used, and how companies can meet their compliance requirements.

Those differences matter, but they are only part of the story. A carbon pricing system can look coherent on paper, but businesses may experience it very differently in practice.

Much of the discussion to date has focused on the design of industrial carbon pricing. Topics often debated include the level of the carbon price, how quickly it should increase, which industries should be covered, and how federal and provincial systems should interact. While important, these questions do not reveal how these systems are experienced by the businesses expected to make investment and operational decisions in response to them.

The central question explored in this report is:

> **What does industry need for carbon pricing to influence investment and other business decisions?**

"Other business decisions" include operational and compliance planning, participation in carbon markets, decarbonization activities, and responses to changing competitive and trade conditions.

To answer this question, we conducted 21 interviews with representatives from seven stakeholder groups involved in or affected by Canada's carbon pricing systems:

- large industrial companies
- industry associations
- technology and project developers
- industry-adjacent and advisory organizations
- regulators
- non-governmental organizations and think tanks
- academic researchers

The interviews explored how carbon pricing influences investment decisions, competitiveness, emissions accounting, carbon markets, and trade-related considerations.

In our previous report, *Carbon Pricing at the Border*, we examined carbon pricing across major national and international jurisdictions and assessed how well Canada's carbon pricing systems, based on their design, support industrial competitiveness in global markets.

This report builds on that work by examining how industrial carbon pricing operates in practice in Canada and how those experiences compare with its intended design.

1.1 Research scope and limitations

The report does not assume that a headline carbon price, benchmark or policy requirement incentivizes all businesses as intended or in the same way. It also does not assume that there is one unified industry view.

Instead, the research examines where experiences align, where they differ, and what those differences can tell policymakers about the conditions that shape business and investment decisions. The research was designed to capture a range of experiences with industrial carbon pricing, investment, competitiveness and trade. It was not intended to provide a statistically representative survey of Canadian industry.

Further information on the research approach is provided in Appendix A, and the full set of interview questions is provided in Appendix B.

The interviews did not reveal a single, uniform experience.

Industrial facilities differ in how they produce goods, how much they emit, the technologies available to reduce those emissions and the markets in which they compete. Technology developers face a different set of questions, including whether the value created by emissions reductions is sufficiently reliable to support investment in new products or processes. The interview analysis also identified different perspectives on trade exposure and competitiveness, including evidence that these risks can vary considerably across products and facilities.

Regulators, advisory organizations, researchers and non-governmental organizations added perspectives on how the systems function beyond individual facilities. Their views helped assess whether issues raised by businesses appeared elsewhere in the system and where experiences differed.

The purpose of the research was not to identify a single industry perspective. Rather, it was to understand what different stakeholder groups are experiencing, where common themes recur and where circumstances lead to different views on how carbon pricing affects investment, competitiveness and emissions reduction decisions.

To support candid discussion and protect participant confidentiality, the findings in this report are generally attributed by stakeholder group rather than to specific individuals or organizations.

1.2 How we analyzed the interviews

The discussions were reviewed and coded for recurring themes, areas of agreement and disagreement, practical and technical barriers, investment impacts, competitiveness concerns, and trade and public policy implications.

We did not treat frequency as the only measure of importance. An issue raised by many interviewees may point to a broad challenge, but a less common observation can also expose an important limitation, risk or opportunity. The interview analysis considered how widely an issue appeared across stakeholder groups, the strength and detail of the information provided, whether similar experiences were described independently, and whether a minority perspective added something important to the overall picture.

The analysis also preserves disagreement. Where interviewees expressed different views, those differences are reflected in the report instead of being resolved into a single position. This is particularly important for questions such as competitiveness, the usefulness of carbon markets, the need for additional public support, and the role of border carbon measures, where the effect can depend heavily on the sector, facility or business model involved.

The analysis identified seven main findings. Together, they highlight the factors that influence how businesses respond to carbon pricing, how carbon markets and provincial differences affect those responses, where competitiveness concerns vary, when other barriers prevent companies from responding, and why reliable emissions information is increasingly important.

The findings are not organized around individual interview questions, and two topics explored directly in the interviews do not appear as standalone findings: a preferred carbon price level and a specific model for reinvesting carbon pricing revenues. Views on both varied by sector, technology and company circumstances. Interviewees were more consistent on the conditions that make carbon pricing useful for investment decisions. The report therefore focuses on areas of stronger convergence rather than proposing a single price or revenue-reinvestment model.

The sections that follow explore those findings in more detail, grounded in what interviewees told us about how Canada's industrial carbon pricing systems are working today.

2. Making the carbon signal work

The published, or headline, carbon price is the starting point, but it is not necessarily the financial incentive a business experiences. In this report:

- **Effective carbon value** is the financial value a business or project experiences once benchmarks, credit prices, compliance options and other system rules are taken into account.
- **Effective carbon signal** refers to whether and how strongly that value influences an investment or other business decision.

Benchmarks and compliance rules affect how much of a facility's emissions are exposed to the carbon price, while carbon credits can create additional costs or financial benefits depending on whether a company needs to buy them or can earn and sell them. Together, these factors shape the effective carbon value faced by a business.

The effective carbon signal depends on whether:

- businesses view that value and the underlying rules as durable and credible;
- credits can be traded and valued with enough confidence to support investment decisions; and
- the technical, financial, and operational conditions exist for businesses to respond.

These issues are closely connected. A future carbon price has limited value to a company if it is not expected to last. A high headline price may provide little incentive if compliance rules or low credit values mean the effective carbon value is much lower. A credit is also less likely to influence business and investment decisions when uncertainty exists around its future value or marketability.

Figure 1 illustrates the relationship between these elements and how they affect investment and other business decisions.

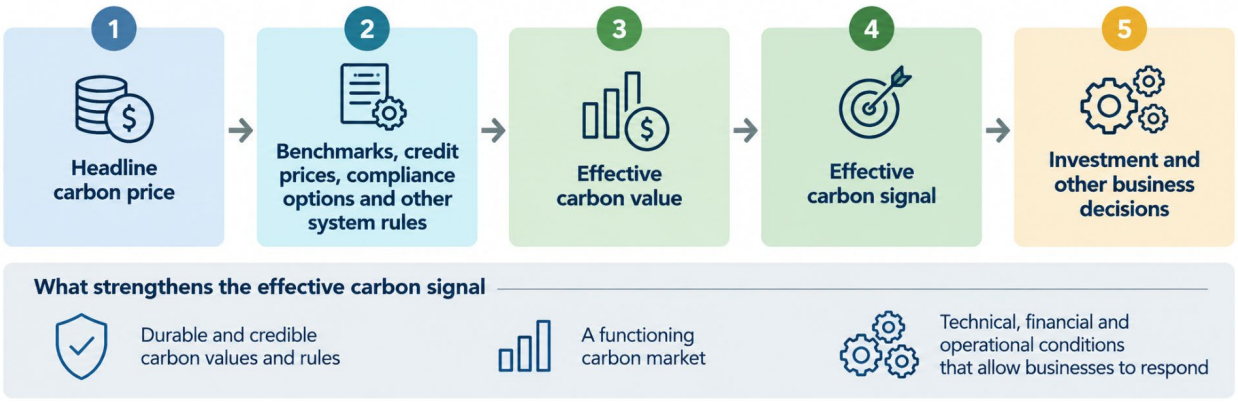


Figure 1. How a headline carbon price can translate into an effective carbon signal that influences investment and other business decisions

2.1 Industry needs confidence that the carbon price will persist

Major industrial capital investments are often made over decades. A company considering new equipment, a lower-emissions production process or an entirely new facility needs to assess costs and revenues well beyond the next compliance period. Carbon pricing can influence those decisions, but only if businesses have enough confidence in the future value of the system to include it in their financial models.

Certainty was one of the strongest themes across the discussions. In some cases, interviewees placed greater emphasis on certainty than on the precise level of the carbon price, with one adviser succinctly stating, “It’s not about price, it’s about certainty.” This interviewee also linked carbon pricing to long investment timelines and noted that uncertainty about future values makes it difficult to assess the return on major industrial investments.

Other interviewees echoed this concern. One industry association representative said uncertainty was suppressing investment appetite because companies were reluctant to rely on future carbon value. Similarly, the interview analysis found that carbon value plays a larger role in project economics when companies believe that it will persist over the life of an investment.

While publishing a future carbon price schedule can address one aspect of uncertainty, concerns extend beyond that. Businesses also need clarity on how benchmarks and other rules may change, how consistently those rules will be enforced, and how likely future governments are to maintain the system. One industry representative described the goal as making carbon pricing sufficiently established that it is no longer a “political football.” The same representative identified transparency and predictability as fundamental to industrial sector decision-making.

Greater certainty does not mean that every emissions reduction project becomes economical. The carbon price must also be set at a level capable of influencing decisions, and the effective carbon value experienced by businesses must be sufficient to affect project economics. Moreover, some technologies remain far more expensive than current carbon values can support, and some industrial processes have limited options to reduce emissions without major changes in technology. These issues are explored later in this report. Here, the point is narrower: businesses cannot place significant weight on future carbon value if they are not confident that value will be there.

This is not an argument for a particular carbon price level. It is an investment reality. A value written into a future policy schedule may appear significant, but if businesses heavily discount the likelihood that it will materialize, much of that value disappears from the business case.

2.2 The carbon price on paper is not always the price industry experiences

The perspectives shared highlighted why the headline carbon price cannot tell policymakers how strongly a company is incentivized to reduce emissions.

In most industrial carbon pricing systems, a facility does not simply multiply all its emissions by the headline price. Its actual obligation depends on the rules of the system. These can include a facility- or sector-level benchmark, which sets the emissions performance standard against which a company is assessed, as well as the rules governing the credits it can earn or purchase and other compliance options to meet its obligation.

The result is that the effective carbon value can differ substantially from the headline price.

A company that performs better than its benchmark may be able to generate credits with financial value. Another company may need to purchase credits or make other compliance payments. The amount either company pays or earns can also depend on the market value of credits, how much of the company's emissions are exposed to the carbon price, whether credits can be banked for future years, and what other compliance options are available under the system.

This means that two companies operating under the same headline carbon price can face very different effective carbon values. That difference can directly affect investment decisions.

One representative from a large industrial company described an emissions reduction project whose economics deteriorated when carbon-credit values fell. Once the expected credit revenue

declined, the project no longer broke even and was put on hold. The underlying technology had not changed. The value the carbon market added to the project had.

Technology and project developers raised a similar issue. A high headline carbon price may provide a much weaker incentive when the market value available to a project is substantially lower.

For policymakers, the implication is important. Raising the headline price may strengthen the incentive to reduce emissions, but it does not automatically reveal how much of that incentive reaches a particular facility or project. Understanding the effective carbon value requires looking beyond the headline price to the rules and market conditions that shape the incentive facing a business. International comparisons based only on headline prices can similarly obscure the incentives and costs businesses face.

2.3 A strong carbon price needs a functioning market

For many industrial carbon pricing systems, credits are not an auxiliary feature. They are part of how the incentive works. The ability to earn, buy and sell credits can affect both the cost of compliance and the return on emissions reduction investments.

For that mechanism to influence investment, however, businesses need reasonable confidence in credit values and in their ability to buy or sell credits when needed.

Confidence in carbon credits depends on having enough buyers and sellers, enough market information to understand their value, clear banking rules, and stable requirements on how credits can be used. For companies operating in more than one province, restrictions on where credits are recognized can add another layer of complexity.

Uncertainty can also change how companies behave. Interviewees shared cases where a carbon market formally existed, yet market participants were reluctant to trade. Sellers may hold credits because they expect them to become more valuable or more useful later, while buyers may choose another compliance option rather than purchasing at a less predictable market price.

Low trading volumes do not necessarily signal a failing carbon market as companies may hold credits for future use. A better test is whether credits can be bought, sold and valued with enough confidence to support compliance and investment decisions.

This confidence becomes more important when future credit revenue is part of a project's economics. A developer may know the technical cost of reducing a tonne of emissions, but the

investment case is much harder to establish if the future value of that reduction is opaque or highly uncertain. Some interviewees also noted that projects may rely on several sources of value, including compliance credits and other environmental attributes, instead of on a single carbon price.

A functioning carbon market therefore requires more than the legal ability to create and trade a credit. Market participants need enough confidence in the rules, the market and the value of credits to influence real-world decisions.

3. Carbon pricing must work with industrial realities

Even a durable carbon price and a functioning market will not affect every business in the same way. Industries differ in what they produce, how they produce it, what markets they compete in, and what options are available to reduce emissions. These differences affect both the cost of carbon pricing and a company's ability to respond to it.

This becomes particularly relevant when carbon pricing is discussed in relation to competitiveness. Some participants described competitiveness as one of their most significant concerns. Others saw carbon costs as manageable or did not view trade or carbon border measures as especially material to their business. These distinctions, however, cannot be understood at the sector level alone.

3.1 Competitiveness impacts are not the same for everyone

Competitiveness was one of the areas where stakeholder views varied most. For some participants representing trade-exposed industries, the concern was straightforward: Canadian producers may compete with companies in other jurisdictions that face lower-carbon costs while having limited ability to pass those costs on to customers.

One industry association representative described this as a notable challenge in globally traded commodity markets, where Canadian producers are generally price takers. If a Canadian producer sells a commodity at a price set by the global market, it may not be able to raise its selling price to recover a higher domestic carbon cost. In that case, additional domestic costs may have to be absorbed instead of passed through in the product price.

At the same time, insights provided by interviewees explain why competitiveness cannot be assessed at the sector level alone. Production methods, facility age, emissions intensity, electricity and other input costs, available emissions reduction options, and markets served can all change how a company experiences carbon pricing. Facilities producing similar goods can face very different emissions profiles, capital requirements and options for reducing emissions.

Facility circumstances can also change the investment calculation. One industry association representative noted that a major emissions reduction investment may make little financial sense at a facility approaching the end of its operating life, while the same type of investment could be considered very differently at a newer facility.

These perspectives are useful for understanding how businesses perceive and respond to competitiveness pressures, but they should not be treated as a measure of actual exposure. The work done by Canada's Ecofiscal Commission on carbon pricing and competitiveness provides a useful analytical caution.[1] It identifies carbon cost and trade exposure as starting points for assessing potential vulnerability, while emphasizing the importance of factors such as a firm's cost structure, ability to pass costs through to customers, available responses to carbon pricing and the policies faced by competitors. It also cautions against assuming that all firms within a sector face the same level of exposure.

This is crucial to keep in mind when interpreting stakeholder concerns. A business may reasonably perceive carbon pricing as a competitiveness risk, and that perception can influence investment decisions. Assessing the true scale of that risk, however, requires evidence beyond the stated concern itself. Independent analysis can help determine where exposure is material, how it differs among firms and whether a policy response is warranted.

Canada's industrial pricing systems include but are not limited to: Quebec's linked cap-and-trade system and output-based approaches such as the federal government's and B.C.'s Output-Based Pricing System and Alberta's Technology Innovation and Emissions Reduction system. Output-based systems are intended to maintain an incentive to improve emissions performance while limiting the overall cost burden on industrial production. They generally apply the carbon price to emissions above a facility's performance threshold. One representative from a large industrial company emphasized the value of linking compliance obligations to emissions performance rather than applying the full carbon cost across all production.

The perspectives shared indicate that carbon pricing does not affect competitiveness uniformly. The impact depends on the individual business, facility characteristics, production processes, and market exposure. Changing trade relationships and tariffs can add another layer by altering which competitors and markets matter most over time.

3.2 Canada needs greater consistency across carbon pricing systems

Stakeholders did not broadly call for every province to adopt the same industrial carbon pricing system. Several interviewees saw value in allowing provincial systems to reflect different economic, industrial and policy circumstances. As one industry association representative put it,

[1] Canada's Ecofiscal Commission, *Provincial Carbon Pricing and Competitiveness Pressures: Guidelines for Business and Policymakers* (2015), 15–16. https://ecofiscal.ca/wp-content/uploads/2015/11/Ecofiscal-Commission-Carbon-Pricing-Competitiveness-Report-November-2015.pdf

"one size fits no one." The concern that did surface was not so much the variation itself as the unnecessary barriers that it can create.

Several practical barriers arising from differences across jurisdictions were raised:

- Credits generated in one system may not be recognized in another.
- Similar emissions reductions may be treated differently.
- Similar activities may face different compliance rules and administrative requirements.
- Protocols or emissions reduction approaches recognized in one system may not be accepted in another.

These differences can affect both compliance and investment. A company may hold a credit surplus in one jurisdiction while facing an obligation in another without being able to transfer that value between the two. Some interviewees argued that repeated protocol development and isolated credit markets can reduce market scale and create avoidable barriers for emerging technologies.

This does not, however, imply a need for a single national system. Instead, a recurring theme was the value of greater interoperability, allowing different provincial systems to remain in place while making it easier to recognize credible credits, protocols and emissions reduction outcomes across jurisdictions.

The interviews did not point to a single preferred model for achieving interoperability. Interviewees expressed support for both cap-and-trade and output-based pricing approaches, reflecting different views on how carbon markets should be structured and linked. The interview analysis did identify mutual recognition and more connected credit markets as possible ways to reduce fragmentation without requiring identical system rules.

Not every interviewee viewed variation across jurisdictions as equally problematic. Some noted that businesses accustomed to working across different regulatory systems can effectively manage jurisdiction-specific requirements. This suggests that not all differences have the same impact and that greater consistency is most useful where variation creates clear barriers to investment, compliance or market participation.

Interviewees also raised a broader concern about how Canada's collection of carbon pricing systems is understood outside the country. Differences in rules, prices and compliance approaches can make it harder for investors and trading partners to determine the effective carbon costs borne by Canadian businesses. The interview analysis found that carbon pricing system variation can complicate both cross-jurisdictional investment comparisons and Canada's ability to present a coherent carbon pricing framework internationally.

The interviews also highlighted that consistency is not only a matter of how systems are designed, but also how they operate in practice. Some interviewees questioned the value of a national benchmark when comparable obligations may not be maintained and enforced across jurisdictions. This also connects back to the investment concern raised in section 2 that rules may appear consistent on paper but provide less certainty if businesses are unsure about how they will operate over time.

Canada needs greater consistency in outcomes, recognition and enforcement without requiring identical carbon pricing systems across jurisdictions. Different systems can remain in place, and unnecessary barriers can be reduced by improving the recognition of credible reductions, credits and compliance obligations.

3.3 Carbon pricing cannot overcome every barrier on its own

Improving consistency and interoperability can address some barriers, but even a well-functioning carbon price has limits. Carbon pricing is most useful when a business has an emissions reduction option it can pursue. The technology needs to be available, the cost gap manageable, the reduction measurable and the timing compatible with the company's investment cycle. One regulator described carbon pricing as improving the business case for projects that lower compliance costs, while noting that infrastructure, electricity costs, commodity prices and regulatory certainty can still determine whether a project proceeds.

For some sectors, the available options are incremental. For others, reducing emissions may require a much larger change in technology, production processes or infrastructure. One industry association representative described situations where the carbon price increases the cost of continuing to operate, but the alternative can require very large capital investments with long payback periods. In those cases, the carbon price alone may not be large enough to trigger the investment, while a much higher price could create significant pressure on the existing business.

The interviews also pointed to barriers that sit outside carbon pricing altogether. Interviewees raised the need for enabling infrastructure, access to clean electricity, grid upgrades, commercialization support, skilled workers and sufficient manufacturing capacity. A project can have a viable technology and still be unable to proceed because the supporting conditions are not in place. This demonstrates that industrial decarbonization depends on more than the production technology itself.

The regulatory environment can also create barriers. One technology developer identified outdated product definitions as a significant obstacle to bringing lower-carbon products to

market. In that case, a stronger carbon price could improve the economics of the technology without solving the underlying problem of product or emissions reduction recognition under the existing rules.

Several interviewees also raised the role of complementary investment support. The issue was not that carbon pricing has no value. Rather, some projects remain too far from commercial viability for the carbon price alone to close the gap. One regulator noted that projects with higher-cost emissions reductions may require extra support, especially if they are important for longer-term decarbonization.

There is a further tension when compliance costs rise faster than companies can respond. Some interviewees warned that those costs can draw on the same capital that businesses might otherwise invest in emissions reduction projects. The challenge is therefore not simply to increase the financial incentive, but to ensure that businesses have realistic options to respond.

There is a clear role for carbon pricing, but it has limits. Carbon pricing can improve the economics of emissions reductions. It cannot, in isolation, support the technology, infrastructure, capital, workforce or regulatory conditions needed to make every project possible.

The million-dollar signal and the billion-dollar project

Interviewees described a fundamental challenge of scale. Annual carbon compliance costs or revenues can be in the millions of dollars, while major industrial decarbonization projects can require capital investments approaching $1 billion.

Carbon pricing can improve a project's operating economics. It increases the cost of higher-emitting production, reduces future compliance costs when emissions are lowered, and can create value through carbon credits. These effects can strengthen the business case for capital investment, but they do not necessarily overcome the large upfront cost of major industrial transformations.

For larger projects, investment tax credits, grants, and other public and private supports may be needed to bridge the upfront capital gap and help attract private investment.

Whether these projects proceed can also depend on infrastructure, technology readiness and regulatory requirements.

4. Carbon pricing needs trusted data

A carbon price only creates value if businesses, regulators and markets can trust the information behind it. That requires confidence in how emissions are measured, how reductions are verified and how consistently similar emissions reductions are credited.

Those questions affect more than regulatory compliance. They shape a company's ability to create and value carbon credits, incorporate emissions reductions into an investment case and compare carbon performance across facilities or products. The quality of emissions information is also becoming increasingly important to how Canadian businesses are assessed in international markets.

4.1 Reliable emissions information is becoming economic infrastructure

Measurement and verification were described as fundamental to a functioning carbon pricing system. One representative from a large industrial company shifted the emphasis away from the carbon price itself, stating "It's actually less about carbon pricing; it's about the protocol."

In this context, the protocol refers to the rules used to calculate and verify emissions reductions. Recognition therefore depends on demonstrating that reductions generated under one system were genuinely comparable to those recognized elsewhere.

A technology and project developer made the same point more directly: "From a scientist's standpoint, you need third-party verification." Verification provides confidence that the emissions reduction behind a credit or claim occurred and was calculated using an accepted methodology.

That confidence has economic consequences. If the underlying reduction cannot be demonstrated, a credit may have less value or may not be recognized at all. Inconsistent measurement can also make it harder for businesses to compare investment opportunities or demonstrate the carbon performance of a product. One regulator emphasized that carbon pricing credibility depends on emissions reductions being real, measurable and auditable, and identified consistent measurement, verification and transparent reporting as particularly important.

The discussions also surfaced a less common but important integrity concern related to emissions accounting. Accounting approaches and system boundaries can differ across domestic carbon pricing systems and carbon border measures. As a result, the way an emissions reduction is recognized under one system may not align with how the carbon performance of a product is reported under another. An industry association representative raised concerns that these differences can create opportunities for strategic use of accounting rules or emissions claims. This highlights the importance of clear and transparent accounting and verification to ensure that reported improvements in carbon performance reflect genuine emissions reductions rather than differences in how those reductions are calculated or recognized.

Measurement, reporting and verification are no longer primarily administrative requirements. They are part of the economic infrastructure of carbon pricing. They determine what can be recognized, what can be credited, what can be compared and, increasingly, what businesses can prove about their carbon performance.

5. Carbon pricing meets global trade

Carbon pricing does not stop at Canada's border. As carbon performance becomes more relevant to international trade, businesses may increasingly need to demonstrate not only that they operate under a carbon pricing system, but what carbon costs they bear and how the emissions associated with their products are calculated and how those calculations will be recognized elsewhere.

At the border, several issues raised earlier in the report converge: the carbon cost a producer bears, the credibility of its emissions data and its exposure to international competition.

Carbon border measures apply carbon-related costs to imported goods based on the emissions associated with their production. The aim is to reduce differences in carbon costs between domestic and imported products. Interviewees discussed the European Union's Carbon Border Adjustment Mechanism most often, but their observations raised broader questions about how Canadian carbon pricing and emissions performance are understood in international markets.

Interviewees did not describe this as a uniform risk. For some businesses, carbon border measures could materially affect competitiveness or market access. Others saw limited exposure based on the products they sell or the markets they serve. Technology and project developers also identified potential opportunities if trade rules increase demand for verified lower-carbon products and emissions reduction technologies.

5.1 Carbon pricing at the border

Having a carbon price is not enough to establish how a Canadian product will be treated in another market. As one interviewee put it, carbon border measures create a requirement of "having to show the numbers." That includes demonstrating the effective carbon price, meaning the per-tonne carbon cost a producer has paid, not just Canada's headline price.

Interviewees also raised questions about how emissions will be attributed to individual products. Several described product-level accounting as considerably more complicated than reporting emissions from a facility or company. Supply chains can cross multiple jurisdictions, electricity emissions can differ depending on where production occurs, and the point at which emissions are assigned to a product can materially affect the result.

Carbon border policies were also seen as continuing to evolve. One interviewee described the European Union's approach as having been scaled back and delayed from what businesses had

initially expected. The key concern was the uncertainty this created for companies preparing for future requirements.

A smaller number of interviewees raised a further concern. Where domestic carbon pricing systems and carbon border measures use different accounting approaches, businesses may face difficulties demonstrating that reported product-level improvements reflect genuine emissions reductions. Clear accounting and verification are needed to maintain confidence in those reported reductions.

This was not a widespread concern, but it points to an important integrity question. If reported emissions outcomes depend as much on accounting rules as on actual emissions reductions, those rules need to distinguish genuine lower-carbon performance from changes in accounting.

International recognition will depend on more than the existence of carbon pricing in Canada. Businesses need to be able to demonstrate what they paid, what they emitted and how those numbers were calculated.

5.2 Carbon border measures create different risks and opportunities

Most interviewees did not view carbon border measures as affecting all Canadian companies equally. Their significance depended heavily on what a company produced, where it sold its products and how exposed it was to markets applying carbon-related trade requirements.

For some interviewees, the primary concern was commercial and not administrative. An industry association representative expected large companies to be able to work through new reporting requirements. The harder question was “whether their customers will pay the premium at the end of the day.” For exporters, the risk is that buyers may resist higher prices associated with carbon costs, leaving producers to absorb some of those costs themselves.

Other interviewees saw much less immediate exposure. Some businesses did not currently sell meaningful volumes into markets with carbon border requirements and therefore did not view them as a major factor in investment or compliance decisions. One interviewee also noted that existing emissions reporting practices could make future requirements relatively manageable for some companies.

Technology and project developers offered a different perspective. Some were already seeing increased interest from companies looking for ways to reduce the emissions associated with products sold into carbon-constrained markets. For them, border measures could create commercial opportunities by increasing demand for lower-carbon technologies, materials and emissions reduction solutions, while also adding compliance requirements.

Interviewees cautioned that these impacts may change as trade relationships change. A business with little exposure today could become more affected if export markets shift, tariffs change or additional products become subject to carbon-related trade measures.

Overall, carbon border measures were not found to be either good or bad for Canadian industry. Their effect depends on the product, the market, the carbon performance of the producer and who ultimately bears the additional cost.

6. What industry needs from industrial carbon pricing

Six broader conditions emerged as important to making industrial carbon pricing more effective in supporting investments, emissions reductions and competitiveness. These conditions are not separate; they reinforce one another. The benefits of a durable carbon price depend on the strength of the signal businesses experience. Credits depend on a functioning market. And even a strong carbon signal cannot overcome every technology, infrastructure or competitiveness challenge on its own.

6.1 A carbon signal industry can rely on

A central theme was the need for greater confidence that carbon pricing rules and values will persist long enough to influence real investment decisions. Predictable price trajectories, stable benchmarks, consistent enforcement and durable policy all matter if future carbon value is to be used in long-term financial planning.

For businesses making investments that may operate for decades, uncertainty can sharply reduce the value of a future carbon price.

6.2 Effective carbon value, not just headline price

Interviewees also stressed that policymakers need to look beyond the headline carbon price. Benchmarks, allocations, credit prices and compliance options determine the effective cost or value faced by a business.

One interviewee summarized the issue directly: “The effective [carbon] price has to be there, not just the top-line price.”

Determining if carbon pricing is influencing business decisions requires understanding the financial signal that reaches the facility or project, not solely the price published in policy.

6.3 Carbon markets that support investment

Where carbon credits are part of the system, interviewees emphasized the need for well-functioning carbon markets. That means enough activity to buy and sell credits when required, greater certainty in their value, clear rules for banking and recognition, and fewer barriers between credible provincial markets.

Interoperability also matters. Interviewees did not call for identical provincial systems, but they identified unnecessary barriers when credible credits, protocols and emissions reduction outcomes are not recognized across jurisdictions. Greater recognition can reduce complexity and expand market usefulness without requiring a single national system.

Some interviewees described markets that formally existed but were too small or uncertain to function effectively. One industry association representative noted that a market with very few participants was basically not large enough to support reliable buying and selling.

Market design should be judged by more than the legal ability to trade credits. It should also reflect how reliably businesses can use the market for compliance and investment planning.

6.4 Competitiveness measures that reflect actual exposure

Competitiveness concerns were raised, but they were not uniform. Exposure depended on the product, production method, emissions intensity, ability to pass costs to customers, available emissions reduction options and the policies faced by competitors.

One industry association representative captured the concern as “don’t decarbonize by deindustrializing.” Businesses operating in the same industry can face materially different risks depending on their facility, market and trade exposure.

Interviewees also cautioned that competitiveness exposure can change over time. Tariffs and other shifts in trade policy can alter export markets, import competition, and the assumptions used to assess which businesses are most exposed. Competitiveness assessments therefore need to reflect current business and trade conditions rather than assume that exposure remains fixed.

6.5 Emissions information businesses and markets can trust

Interviewees emphasized the need for emissions information that businesses, regulators and markets can depend on. Measurement and reporting need to be consistent enough to compare outcomes, verification needs to be credible, and the treatment of emissions reductions and credits needs to be clear.

This matters domestically because carbon credits and compliance obligations depend on those numbers. It also matters internationally as businesses are increasingly asked to demonstrate the emissions associated with their products and the carbon costs they have paid. One interviewee

emphasized that recognition ultimately depends on clearer emissions measurement and third-party verification.

Trusted emissions information is part of what makes the carbon signal credible and meaningful.

6.6 Additional supports for industrial decarbonization

Finally, interviewees were clear that carbon pricing can strengthen a business case without being sufficient to overcome every barrier. High-cost technologies, infrastructure constraints, commercialization challenges, workforce needs and regulatory barriers can all prevent an otherwise promising investment from proceeding.

As one interviewee stated: “For decarbonization to work, it ultimately has to be profitable.” The same interviewee described carbon pricing as one tool that can help tip the economics of an investment toward modernization and emissions reductions.

Where the remaining gap is large, interviewees saw a role for other enabling measures, including targeted public or private investment, investment tax credits, infrastructure support and project-development support. The consistent point was that these tools work best when they address a clearly identified barrier and help unlock additional emissions reductions rather than only offset the cost of compliance.

7. From findings to action

The interview findings suggest several actions for federal, provincial and territorial policymakers. These recommendations focus on the design and implementation of industrial carbon pricing systems and have implications for regulators and program administrators as well. They reflect the themes identified through the research but should not be read as universally supported or equally applicable across all industries.

1. **Make the carbon signal durable enough for long-term investment.**

   Businesses need greater confidence that future carbon values, benchmarks and core rules will remain sufficiently stable to inform investment decisions. More predictable policy and consistent enforcement would make it easier to incorporate carbon costs, credit values and compliance obligations into long-term financial planning.

2. **Measure the effective carbon value businesses face.**

   The published carbon price does not show the full incentive experienced by a facility or project. Policymakers should assess the effective carbon value faced by businesses, including the effects of benchmarks, credit values, and compliance options to determine the strength of the signal reaching businesses.

3. **Strengthen the functioning of carbon markets.**

   Carbon credits are most useful when businesses can value, buy, sell and bank them with reasonable confidence. Greater transparency, clear rules, and sufficient market activity would strengthen confidence in the markets and support investment.

4. **Improve interoperability across carbon pricing systems.**

   Better recognition of credible credits, protocols and emissions reduction outcomes across jurisdictions could reduce unnecessary barriers without requiring every Canadian jurisdiction to adopt the same system and while making it easier for businesses to comply, invest and participate in domestic carbon markets.

5. **Address competitiveness based on actual exposure.**

   Competitiveness impacts differ across facilities, products and markets. Assessments should consider trade exposure, the ability to pass costs to customers, production methods, emissions intensity, available emissions reduction options and the policies faced by competitors. Changing tariffs and trade relationships over time also need to be considered.

6. **Strengthen emissions measurement, verification and comparability.**

   Reliable emissions information underpins carbon markets, investment decisions and, increasingly, international trade. More consistent measurement, credible verification and clearer treatment of emissions reductions and credits would make it easier for businesses to demonstrate both their carbon performance and the carbon costs that they face.

7. **Use complementary measures when carbon pricing alone cannot close the investment gap.**

   Carbon pricing can improve project economics, but some investments face barriers that it cannot overcome on its own. Where infrastructure, commercialization, workforce, regulatory, or cost constraints remain, targeted enabling measures should be used to address those barriers directly. These measures can include investment tax credits and project-development support that help mobilize private investment and enable additional emissions reductions.

The findings do not point to one preferred carbon price, one national system or one solution for every industry. Instead, they reveal that how a carbon pricing system functions matters as much as the price itself. An effective carbon signal is one that businesses can understand, rely on, and respond to when making investment and other business decisions.

Appendix A. Research approach

A.1 Interviews

Twenty-one stakeholder interviews were conducted between June and early August 2026. The interviewees represented seven stakeholder groups:

- large industrial companies
- industry associations
- technology and project developers
- industry-adjacent and advisory organizations
- regulators
- non-governmental organizations and think tanks
- academic researchers

Stakeholders were selected to capture a range of experiences with industrial carbon pricing, investment, competitiveness, carbon markets and trade. The sample was designed to gather a diversity of perspectives rather than to produce a statistically representative survey of Canadian industry.

A.2 Interview approach

The interviews were semi-structured and followed a common set of questions, with additional probes used when relevant to the interviewee's experience. This approach allowed consistent themes to be explored across stakeholder groups while leaving room for interviewees to raise issues, examples and perspectives that were not anticipated in advance.

The discussions covered a range of topics, from the role of carbon pricing to Canada's readiness for carbon border measures. The full set of questions and prompts is provided in Appendix B.

A.3 Interview analysis

Interview records were reviewed and coded for recurring themes, areas of agreement and disagreement, practical and technical barriers, investment impacts, competitiveness concerns, and trade and public policy implications.

The importance of a finding was not determined by frequency alone. The analysis also considered:

- how broadly an issue appeared across stakeholder groups
- the strength and detail of the perspectives provided
- the extent to which similar experiences were described independently
- whether a less common perspective identified an important risk, limitation or opportunity

Differences in perspective were retained rather than resolved into a single industry position. This was particularly important for issues such as competitiveness, the usefulness of carbon markets, the role of complementary supports and the significance of border carbon measures, where effects can vary considerably by facility, business model and market.

A.4 Confidentiality and attribution

The research was designed to support candid discussion. Findings are therefore generally attributed by stakeholder group rather than to specific individuals or organizations, and identifying details have been withheld where they could allow a source to be inferred. Direct quotations are used selectively where they clearly illustrate a finding. The purpose of attribution throughout the report is to preserve the type of perspective being expressed while protecting the identity of individual interviewees.

Appendix B. Interview questions

1. How does your organization currently view industrial carbon pricing in Canada?

Probe: Is it primarily seen as a cost, an investment signal, a competitiveness risk, a decarbonization tool, or something else?

2. What parts of Canada's current carbon pricing approach are working well, and what parts create challenges?

Probe: Are the main challenges related to price levels, how the price is applied, provincial differences, administrative complexity, emissions accounting, reinvestment, or policy uncertainty?

3. How does variation between federal and provincial carbon pricing systems affect your sector or organization?

Probe: Does this variation create challenges for investment decisions, competitiveness, emissions reporting, compliance planning, or how Canadian goods are understood in international markets?

4. Where would greater national consistency matter most?

Probe: Would consistency be most important for price levels, coverage, how carbon costs are applied, emissions measurement and verification, treatment of emissions-intensive trade-exposed sectors, reinvestment, or compliance flexibility?

5. What carbon price levels or price trajectories would provide a credible signal while still supporting competitiveness?

Probe: What would make a price trajectory predictable enough to support investment? What would make it feel unmanageable, uncertain, or disconnected from sector realities?

6. How does carbon pricing affect investment decisions in your sector or area of work?

Probe: Does it support confidence in low-carbon investments, create uncertainty, influence where capital is deployed, or have limited influence compared with other factors such as electricity costs, infrastructure, grants, tax credits, or market demand?

7. How should carbon pricing revenues be reinvested to support industrial transition?

Probe: Would reinvestment be most useful for capital projects, clean technology deployment, electricity infrastructure, fuel switching, carbon capture, process innovation, workforce needs, or competitiveness supports?

8. What would make reinvestment more credible and useful for industry?

Probe: Should revenues be returned to the sectors that pay into the system, pooled nationally, targeted to emissions-intensive industries, tied to performance outcomes, or delivered through existing federal or provincial programs?

9. How prepared is your sector, organization or industry for border carbon measures such as the European Union's Carbon Border Adjustment Mechanism?

Probe: Are the biggest gaps related to emissions data, product-level carbon accounting, verification, administrative burden, uncertainty about future scope, or understanding how Canadian carbon costs will be recognized?

10. What would Canada need to demonstrate for its carbon pricing approach to be viewed as credible or equivalent by trading partners?

Probe: Would this require greater consistency across provinces, clearer emissions measurement, product-level reporting, comparable carbon costs, formal recognition agreements, stronger reinvestment links, or a Canadian border carbon measure?



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