



THE UNSAVORY PANCAKING OF CANADA'S CLIMATE REGULATIONS:

A High Cost Climate Strategy
Canadian Businesses Find
Hard to Swallow

March 2019

Part of the Regulatory Series: RegulateSmarter.ca



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INTRODUCTION

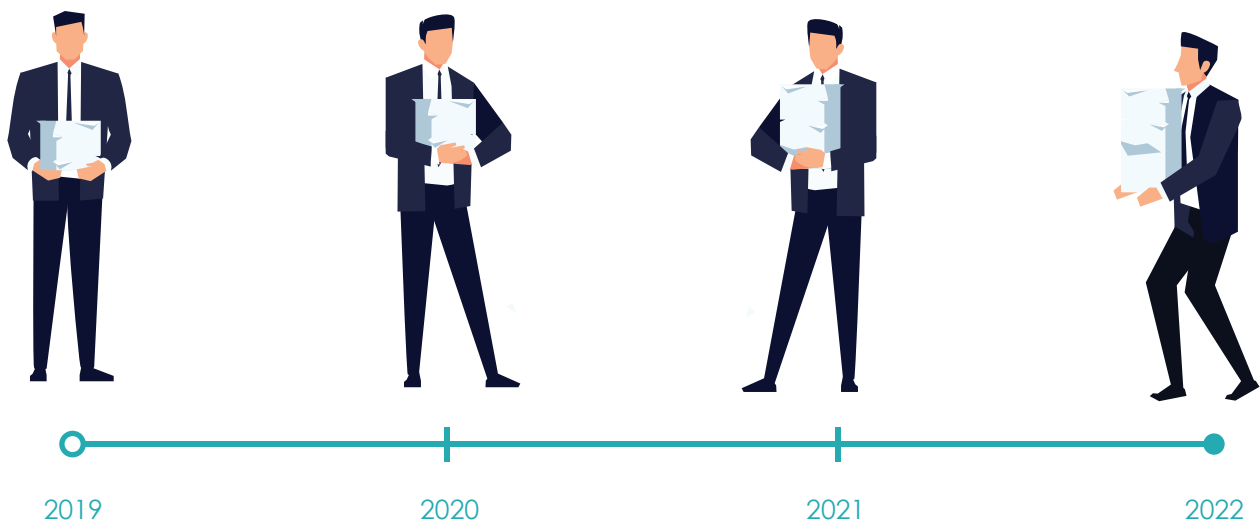
This regulatory report outlines the cumulative costs of climate policy in Canada. Climate change is a defining issue of our times, and Canadian businesses have a role in combatting it.

However, it is imperative that we create climate policy that allows Canada to pursue effective greenhouse gas (GHG) emissions reductions at the lowest possible cost to Canadians and Canadian businesses.

This report brings into focus the higher costs for businesses that may occur from an inefficient interaction of the Output-Based Pricing System

(OBPS) and the Clean Fuel Standard (CFS). If not addressed, the layering or pancaking of different carbon prices and increased cost of compliance from jurisdictional overlaps will needlessly raise the cost of compliance for Canadian businesses.

The Pan-Canadian Framework on Clean Growth and Climate Change (PCF) is a policy package that includes both ever-evolving and unpriced pathways to compliance (implicit carbon pricing) and a set market price on carbon that will increase over time (an explicit carbon price). The PCF forms the cornerstone of Canadian federal climate policy. Core to its objective is the creation of a national price on carbon that increases incrementally from \$20 per tonne of carbon dioxide equivalent (tCO₂e)



in 2019 to \$50/tCO₂e in 2022. Implicit carbon pricing mechanisms include an OBPS for large industrial facilities,¹ regulations on methane reduction, the CFS and the phase-out of coal-powered electricity by 2030. When combined with other regulations, putting a price on carbon is forecast to be responsible for 73% of reductions in Canada by 2030.² The Canadian Chamber of Commerce encouraged these efforts but also made it clear that the costs of new climate policies should be offset by other regulatory reductions.³

Unfortunately, the PCF creates notable inefficiencies in how the OBPS and the CFS interact. These inefficiencies range from inflexible compliance options, steep costs for energy-intensive trade-exposed (EITE) industries that depend on transportation networks and the duplication of standards and regulations at provincial and federal levels. This report argues that these factors will make compliance inefficient and emission reductions more costly and will increase costs to small businesses and Canadian households.

High cost and layered emission reduction strategies pose the following issues:

Pathways to compliance that are inefficient and overly prescriptive increase the cost of compliance for companies. High cumulative costs can make Canada a less attractive investment environment for EITEs and lead to carbon leakage.



Stacking regulations on top of each other can create pathways to emission reductions that are unnecessarily costly. For instance, the CFS may be a sufficient pricing mechanism to reduce emissions from coal-fired electricity generation, but layering it with federal coal phase-out regulations will make compliance more expensive and administratively burdensome and may not incent additional emission reductions.

Climate policy can be politically polarizing, and high cost compliance pathways can become soft targets of new governments. This creates regulatory uncertainty and can reduce the incentive for businesses to respond to carbon pricing mechanisms or make investments in clean technologies as a means of meeting compliance obligations.



- 1 Facilities that emit more than 50,000 tCO₂e/year. Facilities that emit below 50,000 tCO₂e/year and above 10,000 tCO₂e/year have the ability to opt-in.
- 2 Jeffrey Rissman et. al., "Enhancing Canada's Climate Commitments: Building on the Pan Canadian Framework," Energy Innovation: Policy and Technology LLC, March 2018, <https://energyinnovation.org/wp-content/uploads/2018/03/Canada-Energy-Policy-Simulator-Research-Note-FINAL.pdf> (accessed Feb. 27, 2019)
- 3 Josh Wingrove and Erik Hertzberg, "Chamber of Commerce warns Trudeau on rising costs and regulations," BNN Bloomberg, July 25, 2017, <https://www.bnnbloomberg.ca/canadian-business-warns-trudeau-on-rising-costs-and-regulations-1.813185> (accessed Feb. 27, 2019)



CARBON PRICING AND THE OUTPUT BASED PRICING SYSTEM

Canada will price carbon emissions using two mechanisms.

First, in January 2019, the OBPS established a nationally-weighted sector-based approach to emissions reductions relative to productivity. Based on its relative trade exposure, each sector is shielded from 80% to 95% of emission pricing. Facilities that exceed their emissions intensity threshold will have to either pay for their excess emissions based on the national carbon price at that time (i.e. $\$20/\text{tCO}_2\text{e}$) or participate in a credit market and purchase offsets and/or surplus credits. Surplus credits are generated by companies that emit fewer emissions than their Output-Based Standard threshold in a given year. Facilities regulated under the OBPS are exempt from the federal carbon levy through a registration process administered by the Canada Revenue Agency. Secondly, beginning in April 2019, a carbon levy will be applied to fossil fuels at a rate of $\$20/\text{tCO}_2\text{e}$, which will rise annually to a price of $\$50/\text{tCO}_2\text{e}$ by 2022.

Although the OBPS may be a flexible and cost-effective means of reducing emissions from large final emitters, the mechanism depends heavily on the availability of surplus credits and offset credits for purchase. Beside the national market for surplus credits, it is possible that when industries are confined to their provincial jurisdiction to purchase offset credits, some industries will find these offset credits in



For example:

Let's take a cement company that exceeds the 50,000-tonne threshold by 20,000 tCO_2e . In 2019, that company will pay $\$20/\text{tCO}_2\text{e}$ per every tonne of emissions over the 50,000-tonne threshold minus the 90% industry shield provided by the OBPS. It should be noted that a 90% shield is very high and given to only four sectors thought to be in the highest competitive risk category. Under the 90% shield of the $\$20/\text{tCO}_2\text{e}$, the company will pay $\$2/\text{tCO}_2\text{e}$ or $\$40,000$ dollars, which must be paid either in cash, credits or offsets. By 2022, the price will rise to $\$50/\text{tCO}_2\text{e}$. Assuming the company's emissions remain the same, the company will need to pay $\$200,000$ through cash or credits to achieve compliance in 2022. This does not include any additional costs from the Clean Fuel Standard.

shorter supply and far more expensive than others.⁴ For example, some companies work in provinces with waste facilities that can be cheaply upgraded to cut emissions, while in other jurisdictions, the investments to create additional emission reductions may cost more. Differences in emission reduction costs across Canada's jurisdictions will make offset credits less costly in some provinces than in others, making some provinces much higher cost jurisdictions in which to operate. Unfortunately, these price differences will be further exacerbated by the requirement that facilities covered by the OPBS can only achieve 75% of their compliance through surplus credits and offset credits; the other 25% must be paid in cash.⁵ This provision will artificially limit the demand for surplus credits and offset credits and will discourage green

operations from supplying the market with offset credits as fully as they might if compliance were more flexible. This will create inefficiencies that will needlessly increase the cost of compliance.

Without a robust and dynamic interprovincial offset credit market, the OBPS system will punish some producers while reducing the operating costs for others who may in fact be higher emitters. The success of the OBPS system will hinge heavily on the ability of decision-makers to create an open interprovincial national offset credit market in Canada. The OBPS, in addition to measures like the CFS and methane reduction regulations, will likely add significant costs to doing business in Canada and will continue to erode overall competitiveness.



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- 4 Tracy Snoddon, "Carbon Copies: The Prospects for an Economy-wide Carbon Price in Canada," C.D. Howe Institute E-Brief, September 15, 2016, 4
 - 5 Environment and Climate Change Canada, Output-Based Pricing System Webinar, January 25, 2019



CLEAN FUEL STANDARD

The federal government published its Regulatory Design Paper for the CFS on December 20, 2018, but the CFS will require further stakeholder consultation before it is complete.

The intent of the CFS is to create a “performance-based approach that would incent the use of a broad range of low carbon fuels, energy sources and technologies, such as electricity, hydrogen and renewable fuels, including renewable natural gas.”⁶ The CFS is designed to achieve 30 MT of emission reductions annually by 2030 by applying the standard to liquid, gaseous, and solid fuels used in transport, industry and buildings.

After additional consultations, the government will decide how regulated parties can comply with the CFS. For now, the federal government has signalled that for regulated parties that cannot switch to lower carbon intensive fuels, integrate zero-emission vehicles or reduce lifecycle carbon intensity of fuels, purchasing credits will be a key compliance option.

Credits will be generated by “actions that improve carbon intensity throughout the lifecycle of the fuel.”⁷ These measures include reducing the carbon intensity of a fossil fuel throughout its lifecycle, supplying low-carbon fuels, like ethanol, or specified end-use fuel switching. Environment and Climate Change Canada has proposed that facilities must emit at least 10,000 tCO₂e/year to be eligible to generate credits, though ideally, there would be no minimum threshold to participate as this creates an artificial limit on available credits. Credits will be tradeable among regulated parties within each fuel stream (liquid, gaseous, solid), with a proposed 10% limit on the exchange of credits across fuel streams.⁸ In addition, some EITE industries, although affected by the CFS as fuel consumers, are not eligible to generate or exchange compliance credits to lower the cost of complying with the CFS. These limitations and inefficiencies in the model will raise the costs of the system without making the CFS more efficient and reducing emissions.

6 Environment and Climate Change Canada, “Clean Fuel Standard Regulatory Framework,” Canada Gazette, Vol. 151, No. 51, December 23, 2017, <http://gazette.gc.ca/rp-pr/p1/2017/2017-12-23/html/notice-avis-eng.html> (accessed Feb. 27, 2019)

7 Ibid.

8 Ibid.



HIGHER CUMULATIVE COSTS

As suggested, there are instances where inefficiencies in the interaction between the CFS and the OBPS will make it harder to comply with the system and potentially make emission reductions more expensive than needed.

There will also be cases where the complementary pricing provided by the CFS will create cumulative costs that will undermine the protection the OBPS provides to EITE industries against carbon pricing.

For instance, natural gas consumers will be subject to an explicit provincial/federal carbon cost relative to the volume of natural gas they consume. Under the current framework of the CFS, the same customers will be hit with an additional charge passed on by the natural gas distributors for their compliance costs in reducing the carbon intensity of the natural gas they supply. However, as the Canadian Gas Association notes, there is currently not enough renewable natural gas to supply Canada's needs and achieve compliance with the CFS. In addition, natural gas storage facilities will be subject to the requirements of the OBPS. Consequently, the supply and delivery of natural gas may be regulated thrice through OBPS, CFS and the explicit carbon price.

There will also be a stacking of costs for natural gas transmission pipelines that directly supply customers (other than a distribution company), and companies will be required to reduce the overall carbon intensity of the natural gas they deliver. CFS compliance costs interact with already locked-in operating and capital costs associated with baseline delivery charges and may be combined with associated costs incurred from compliance with the OBPS. This regulatory layering will force natural gas transmission companies to pass these costs down to end-use customers. Manufacturers, cement producers and other EITE sectors will feel these costs, especially in cases where location or the nature of production prevent switching to an alternative low carbon energy supply.

Higher cumulative costs from the stacking of the CFS will be particularly harmful to energy-intensive industries, like mining, that cannot pass their costs on through the value chain.

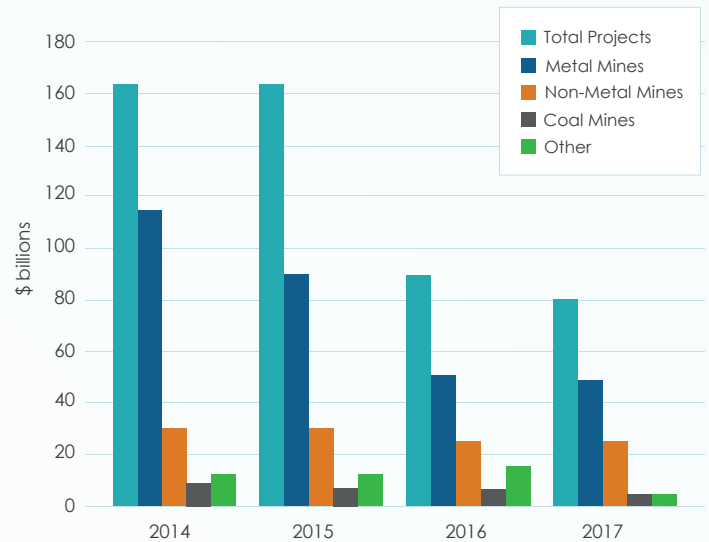
In recognition of the global trade pressures faced by EITE industries, the current OPBS proposes to shield mining operations at 80% from the carbon pricing backstop, which will reach \$50/tCO₂e by 2022. Effectively, this would mean that for the mining sector, the costs of carbon emissions above the OPBS threshold would be priced at \$10/tCO₂e. This shield was established because many other jurisdictions have yet to put a price on carbon, and many mining operations

take place in areas where they have few options to use other fuel inputs that would lower their emissions.

However, the cumulative costs of the CFS for both mining operations and the associated cost increase for using rail freight to transport minerals and metals will greatly exceed the OPBS proposed pricing of \$10/tCO₂e. In fact, 51.3% of metal and mineral products are moved by rail.⁹ The Mining Association of Canada estimates that by 2022, the direct and indirect cost of the CFS will put the cumulative cost to the mining industry at \$40/tCO₂e.¹⁰ Effectively, the cumulative costs of the CFS will reduce the OBPS's ability to shield the mining sector as an EITE industry. Higher cumulative costs will increase the price differential between mining operations in Canada and in other jurisdictions. Though investors consider many factors when planning to initiate a project, the cumulative costs of carbon pricing will likely deter some investment in the mining industry in the years to come.

As the CFS applies to facilities, shipping and transportation, there are other sectors of the economy that will have to grapple with cumulative costs. Automakers, for instance, will be affected by the CFS at multiple points in their operations. For instance, many automakers ship engine components and goods from smaller plants to larger assembly plants. The CFS will increase the cost of that transportation. In addition, painting cars in Canada's winter climate requires the use of vast volumes of natural gas to heat the air so that vehicles can be painted. Much like in the case of mining, the

Major Mining Project Investment in Canada, 2014-2017



Canada remains in stiff competition with Australia for foreign direct investment in the sector. Investors consider a host of factors when choosing a jurisdiction to invest in. However, many of Canada's competing mining jurisdictions have not enforced or have repealed carbon pricing. Finding ways to close the price differential is key to balancing Canadian competitiveness with our climate pricing.

Source: Facts and Figures 2017, Mining Association of Canada, pp. 43



⁹ Mining Association of Canada, Facts and Figures 2017, 23

¹⁰ Mining Association of Canada, Clean Fuel Standard Technical Working Group, November 6, 2018, pp. 4. The estimate was developed using mining emissions data from CIEEDAC and includes metal and non-metal mining categories (excluding coal and oil sands mining). Mining rail freight data is sourced from Natural Resources Canada. Projected CFS costs-per-fuel are sourced from Clean Energy Canada. See table at the end of this document.

cumulative costs of the CFS have the potential to erode some of the coverage assigned to the auto sector through the OPBS.

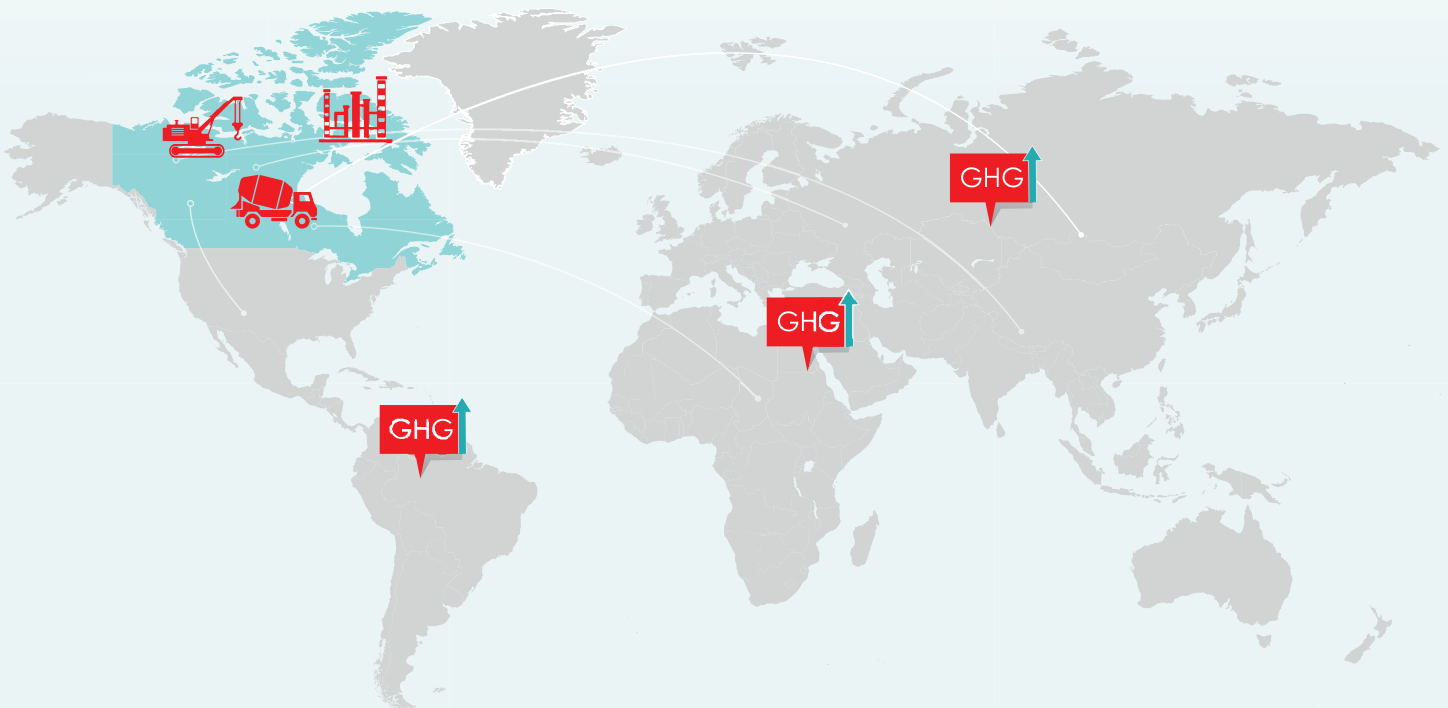
While the federal government has tried to structure its OBPS to mitigate the impacts to competitiveness and risks of carbon leakage, these measures do not consider the added cumulative costs of the CFS or other carbon pricing mechanisms put in place. There are three significant issues related to the layering of costs from carbon pricing with the CFS:

- » The cumulative costs of the CFS can erode the coverage provided by EITE industries by the OPBS. This increases the risk of carbon leakage and may drive foreign investment away from these sectors.
- » There will be increased costs through the value chain to small and medium businesses that could exceed the current rebate assigned to these companies through the assigned carbon fuel surcharge revenue.

Carbon leakage:

Climate policies that drive trade-exposed emission-intensive industries to other jurisdictions where greater emissions are created.

- » While the CFS and the OBPS are intended to interact, the compliance options available to companies do not efficiently address this interaction. Rather, companies will be forced to comply with the costs they face from the OBPS and the CFS separately.





JURISDICTIONAL CHALLENGES

Canada's unique segregation of regulatory oversight between provincial and federal jurisdictions makes it harder to align regulations to ensure the same molecule or emission source is not regulated more than once.

Currently, the federal government is working to develop an intensity-based metric for natural gas transmission pipelines for the OBPS. At the same time, British Columbia is developing a Clean Growth Program for Industry based on a global and provincially weighted average intensity metric, similar but not identical to the federal metric.¹¹ In addition, Ontario has its own made-in-Ontario approach with an “emissions performance standard for large emitters,” which may include an intensity-based measure of performance for natural gas transmission pipelines and other sectors potentially subject to the OBPS.¹²

These three different jurisdictions are each developing output-based standards that will have cost implications for companies operating

energy delivery infrastructure. It remains unclear whether there will be any coordination to ensure the standards in these three jurisdictions will be harmonized and made consistent for business. Without consistency across jurisdictions, complying with these standards may be administratively burdensome and create another cost for businesses as they manage data and ensure compliance across their operations in multiple jurisdictions in Canada.

Similarly, customers of natural gas distribution utilities in Ontario, Quebec, New Brunswick and Saskatchewan will be subject to a provincial/federal carbon price applied to the volume of natural gas they consume. In many instances, these same utilities will have to meet provincial and federal methane regulations and may be regulated by the OBPS for storage and transmission associated emissions, while also reducing the carbon intensity of the natural gas they deliver through the CFS.¹³ These layered costs will add to other capital and operational costs, which will lead to higher delivery charges. These additional costs may exceed the rebates issued to consumers on their carbon consumption. As a result, consumers will pay more for energy.

11 CleanBC, CleanBC: Our Nature. Our Power. Our Future., December 2018, 44, https://cleanbc.gov.bc.ca/app/uploads/sites/436/2018/12/CleanBC_Full_Report.pdf (accessed Feb. 27, 2019)

12 Ministry of the Environment, Conservation and Parks, Preserving and Protecting Our Environment for Future Generations, December 2018, 26

13 Enbridge, *Internal Analysis*

The proposed methane regulations for the oil and gas sector is another example. In 2017, as part of the PCF, ECCC proposed the reduction of methane emissions in the oil and gas sector from 40 to 45% below 2012 levels by 2025.¹⁴ This element will add to the cumulative costs and may very well force companies to make two sets of investments in their operations, when one investment could have been enough to meet the necessary methane reductions.

These cumulative impacts threaten Canadian business competitiveness and increase the risk that the layering of costs will drive business investment from Canada. The impact of higher energy costs for EITEs and the potential for carbon leakage will impact the entire value

chain of energy supply so that sectors that are technically not included in the OPBS will still be affected by the costs of the standard.

Aside from the risks and factors cited above, there remains the complexity and difficulty of building new energy pipelines in Canada. Recent examples, including the Trans Mountain and Energy East pipeline projects, show that the job of building new Canadian energy pipelines is a process overwhelmed with delays, uncertainty and high costs. If the volume of renewable and/or conventional natural gas used in Canada is set to increase because of policy measures in the PCF, then governments must work to provide regulatory stability, simplicity and certainty around pipeline construction.

RECOMMENDATIONS

Rectifying Duplicated Costs from the Application of the OBPS and the CFS

The most successful and cost-effective climate policies tend to be broad and have a low cost impact. Part of ensuring the OBPS and the CFS complement one another efficiently is making sure companies have flexible pathways of compliance at their disposal. Ideally, molecules should not be regulated multiple times. However, when this cannot be achieved, companies should be able to offset additive costs by ensuring their investments in emission reductions are also counted twice.

For instance, companies covered by the OBPS will be forced to reduce the emissions intensity of their operations by making infrastructure improvements, purchasing offsets or buying credits from facilities that emit below their respective thresholds. Because these investments reduce the emissions intensity of their operations, which is also the aim of other carbon-pricing mechanisms within the PCF, companies should be able to count these investments towards that objective. Similarly, investments made to reduce the carbon intensity of fuels must be factored into the OBPS. It will also be important to allow industries regulated by the CFS to purchase

¹⁴ Environment and Climate Change Canada, "Technical Backgrounder: Federal methane regulations for the upstream oil and gas sector," April 27, 2018, <https://www.canada.ca/en/environment-climate-change/news/2018/04/federal-methane-regulations-for-the-upstream-oil-and-gas-sector.html> (accessed Feb. 27, 2019)

credits across fuel streams without limitations. Some fuel streams may find that because of the available technology and the nature of the sector, they are able to generate credits more rapidly and cost-effectively than other sectors. Restricting credit supply to industries regulated in other fuel streams will add to the cumulative cost of the CFS policy for regulated industries where there are fewer options to drive down carbon intensity (such as solid fuels like coal and coking).

The Canadian Chamber of Commerce recommends that the CFS must not tax the same molecules twice. Where avoiding this double taxation is not possible, a double credit generation should be introduced so companies' investments in carbon credits to comply with the OBPS also count towards compliance with the CFS regulations and vice versa.

Ensuring Operators Can Comply with Standards at the Lowest Possible Cost

For many industries, complying with the OBPS will require purchasing offset credits or surplus credits. At present, the interaction of the OBPS and the CFS will create inefficiencies that will raise the cost of compliance. Currently, the OBPS has established a limit that only 75% of emissions above the OBPS threshold can be satisfied through offsets and credits. The remaining 25% must be paid in cash. This requirement will limit the demand for credits in the market and artificially lower the cost of credits. This could slow the creation of a successful credit market. In addition, capping offset and credit compliance at 75% limits the flexibility firms will have to comply with the standard and will increase the cost of compliance for businesses.

The OBPS permits offset credits to be generated and sold from a variety of sources like windfarms, solar farms and methane capture technologies in waste facilities. However, Canada currently lacks structures to support interprovincial purchases of offset credits. For instance, producers in Alberta may find the offset credits generated from a windfarm in Saskatchewan have a greater impact at a lower cost than the offset credits created by a similar project in their own jurisdiction. We need to build a successful interprovincial market across Canada to avoid creating uneven access to cost-effective offset credits.

Canada's carbon credit market is still in the early phases of development. However, the OBPS and the CFS will drive many industries to seek compliance by purchasing offset credits to meet the industrial average for their sector. While Canada's carbon credit market remains underdeveloped, it is possible that demand for offsets could exceed those available offsets. This imbalance has the potential to significantly increase the upfront costs to industries covered in the OBPS and, later, the costs to consumers. These will create higher costs in the market as producers' inability to shop for surplus credits or offset credits outside their jurisdictions will create artificially high and low offset credit costs. This price distortion will add to the cumulative cost of complying with these standards and could create carbon leakage within Canada's internal economy.

The Canadian Chamber of Commerce recommends that the federal government ensures carbon markets in Canada permit interprovincial purchases of offset credits. Moreover, credits generated through the CFS must be interchangeable across fuel streams. This would allow industries that will be forced to

pay under the CFS but that are not eligible to generate credits towards it, the opportunity for more flexible and cost effective compliance.

In addition, the government must ensure the creation of a national surplus credit and offset credit market. At present, offset credits generated in the OPBS must stay in the provincial system established by the federal backstop. Achieving a robust national offset credit market will require the government to clarify that corporations, and not just governments, are eligible to purchase interprovincial offsets.

AND

The Canadian Chamber of Commerce recommends that the carbon credit market in Canada provide an interim measure to ensure costs are manageable until demand for offset credits for compliance is better understood. The government should establish a temporary price floor and ceiling for offset credits. This measure must be temporary and should exist only to ensure there are enough offset credits available for large emitters to achieve compliance. Phasing out these measures will be key to making sure the compliance system creates additional reductions and does not behave simply as a new layer of carbon tax.

Layering Carbon Pricing Regulations Hurts Canadian Competitiveness

As demonstrated in this report, layering implicit carbon pricing regulations, such as the CFS, the OBPS or methane regulations, with explicit carbon pricing mechanisms like the carbon levy, can create greater costs for both industries and consumers. Energy affordability is key to Canada's economic competitiveness, and the impacts of additional implicit carbon pricing costs must be carefully balanced so energy remains affordable for households, and businesses remain competitive with other jurisdictions that may not face the same regulations. Policymakers must continue to be attentive to how implicit and explicit carbon pricing makes Canada a more expensive place to invest in energy-intensive projects when compared to other jurisdictions.

The Canadian Chamber of Commerce recommends that emission reductions be approached in a manner that balances the environment, the economy and energy affordability. In addition, to ensure Canada remains competitive against international jurisdictions without implicit and explicit carbon pricing, policymakers must look for other sources of cost reduction in Canada's regulatory environment.



APPENDIX

Cumulative Cost Estimate for the Mining Sector in Canada

Conservative Cumulative Cost Estimate: Direct and Indirect Carbon Pricing and CFS Costs											
Accounts for estimated rail flow through base on rail freight volume as a proxy for indirect carbon cost exposure											
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CFS	Millions (\$)										
Mining	23.3	29.3	35.3	41.3	47.2	53.2	63.9	74.6	85.4	96.1	106.8
Rail FT (53.3%)	9.6	13.5	17.3	21.6	25	28.8	36.5	44.2	51.9	59.6	67.3
Carbon Pricing	\$30/t	\$40/t	\$50/t	\$50/t	\$50/t	\$50/t	\$50/t	\$50/t	\$50/t	\$50/t	\$50/t
	Millions (\$)										
Mining (20%)	36.7	48.9	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1
Rail FT (53.5%)	77.5	103.4	129.5	129.5	129.5	129.5	129.5	129.5	129.5	129.5	129.5
Cumulative Cost	147.1	195.1	243.2	253.5	262.8	272.6	291	309.4	327.9	346.3	364.7
	\$/tGHGe										
Cumulative Cost-Per-Tonne	\$24.08	\$31.93	\$39.80	\$41.49	\$43.01	\$44.62	\$47.63	\$50.64	\$53.67	\$56.68	\$59.69
Metal and Non-Metal Mining 2015 Emissions	6.11	MT									

Source: Mining Association of Canada Estimate.

