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Discussion Paper on Carbon Tariffs and Export Rebates

Introduction: Carbon Pricing and Leakage

Carbon pricing aims to provide an incentive for industries and households to reduce their greenhouse-gas emissions. However, differing carbon prices in different jurisdictions also create an incentive for industry to relocate to where carbon prices are lowest, which could increase global emissions.

Opponents of carbon pricing argue that it will push industry and jobs outside Canada without reducing global emissions.¹ Advocates of carbon pricing acknowledge “carbon leakage” as a serious problem that policy must address.²

All provinces except Saskatchewan have signed onto the *Pan-Canadian Framework on Clean Growth and Climate Change*. One of its principles is “Carbon pricing policies should minimize competitiveness impacts and carbon leakage, particularly for emissions-intensive, trade-exposed sectors.”³

Output-Based Allocations

So far, provincial governments have tried to address carbon leakage by providing cash rebates from their carbon taxes – or free permits under their cap-and-trade systems – to emissions-intensive, trade-exposed sectors in proportion to each company’s output.

These allocations remove the incentive to relocate if their value offsets the cost of carbon pricing. Companies still have an incentive to reduce their emissions relative to their output, in order to collect more in rebates than they pay in carbon tax or to sell excess permits under cap-and-trade.

This approach can work well for the sectors covered. However, it inevitably excludes other sectors not deemed to be sufficiently emissions-intensive or trade-exposed and companies not defined as being in the qualifying sectors.

Federal Border Adjustments

The federal government will mandate a minimum carbon price across Canada, starting next year. A national carbon price prevents leakage between provinces, but subjects all provinces to the risk of leakage to the US and other countries that do not price carbon.

Ottawa can use its jurisdiction over international trade to address this problem directly, removing the need for output-based allocations. As parliamentarians⁴ and private-sector economists⁵ have proposed, the federal government could extend its national price to the carbon content of imports and rebate it on Canadian exports.

These border adjustments would remove the incentive for industry to relocate. Whether based in Canada or abroad, all companies would face the same carbon price on sales into the Canadian market. This level playing field would support domestic production to the extent it is less carbon-intensive than imports.

Of course, there would be no need for border adjustments between countries with comparable carbon prices. Such exemptions could help encourage Canada’s trading partners to also adopt carbon pricing.

A national carbon price with comprehensive border adjustments would function like the GST, which applies to domestic production and imports but is rebated on exports. This approach would cover all sectors to the extent that they are emissions-intensive and trade-exposed. It would not require arbitrary definitions of which sectors and companies qualify.

However, if policymakers prefer a targeted approach, it would be possible to enact carbon tariffs and export rebates only for particular sectors. For example, the Waxman-Markey Bill passed by the US House of Representatives in 2009 included tariffs specifically for carbon-intensive imports.⁶

Fiscal Costs and Benefits

Although output-based allocations and border adjustments serve the same economic and environmental purposes, they have very different fiscal consequences.

Output-based allocations are a cost to provincial treasuries. This cost may be manageable in some provinces. For example, only 17% of Quebec's carbon emissions are from emissions-intensive, trade-exposed sectors.⁷

By contrast, 79% of Saskatchewan's carbon emissions are from emissions-intensive, trade-exposed sectors. If it adopted cap-and-trade but provided 79% of the permits to industry for free or implemented a carbon tax but rebated 79% of the proceeds to industry, the province would retain very little revenue to compensate lower-income residents or invest in renewable power.

Across Canada, 40% of emissions are from emissions-intensive, trade-exposed sectors. Based on national emissions of 700 megatons and a carbon price of \$50 by 2022,⁸ output-based allocations would cost \$14 billion annually. This expense would not be managed as part of the federal budget, but spread unevenly among provinces.

Border adjustments would entail federal revenues from carbon tariffs and federal expenditures for export rebates. We can calculate the latter cost from Canadian data. Measuring the carbon content of imports is more challenging. The federal government would need to develop this capacity in implementing border adjustments.

The worst-case scenario would be to simply assume that production processes abroad are the same as in Canada. Based on this assumption, the carbon content of imports is about 90 megatons less than exports.⁹ At \$50 per ton, the net cost of border adjustments would be \$4.5 billion, far less than output-based allocations.

Of course, we know that production processes are more emissions-intensive in China and many other offshore manufacturers. Taking account of more energy-intensive production and more carbon-intensive energy sources abroad, the OECD estimates that the carbon content of Canada's imports is about 40 megatons more than our exports.¹⁰ At \$50 per ton, the net revenue from border adjustments would be \$2 billion.

Sufficient output-based allocations to prevent carbon leakage would substantially reduce provincial revenues from carbon pricing. By contrast, border adjustments would essentially pay for themselves within the federal budget, allowing provincial governments to collect all of the revenues from pricing Canadian-source emissions.

Trade Agreement Compliance

Both output-based allocations and border adjustments could be allowed under environmental exceptions in trade agreements. Output-based allocations might otherwise be regarded as a subsidy to domestic production that is not available to imports. By contrast, border adjustments could not be considered discriminatory because, like the GST, they simply apply the same pricing system to imports as to domestic production.¹¹

Conclusion

In pricing emissions, governments can use output-based allocations or border adjustments to prevent carbon leakage. However, federal border adjustments can be applied comprehensively across sectors, increase federal revenues rather than reduce provincial revenues, and comply more readily with international trade agreements.

References

¹ Brad Wall, open letter to Ralph Goodale, October 31, 2016.

² Merran Smith and Clare Demerse, "An Effective Carbon Price Won't Harm Canadian Competitiveness," *Globe & Mail*, May 5, 2017 (page B4).

³ Government of Canada, *Pan-Canadian Framework on Clean Growth and Climate Change: Canada's Plan to Address Climate Change and Grow the Economy* (December 9, 2016), page 7.

⁴ Erin Weir, "Rising Cost of Carbon," *Toronto Star*, October 8, 2016 (page IN11) and CBC, "Regina MP's carbon levy proposal gets support from NDP leadership candidate: Peter Julian endorsed Erin Weir's proposal," April 1, 2017.

⁵ Luc Vallée and Jean Michaud, "The Right Way to Tax Carbon: Follow the GST Model," *Financial Post*, December 19, 2016 (page FP1).

⁶ Lisa Friedman, "Possible Plan for Tariffs on Imports From China Remains Alive in House Climate Bill," *New York Times*, June 24, 2009.

⁷ Canada's Ecofiscal Commission, *Provincial Carbon Pricing and Competitiveness Pressures: Guidelines for Business and Policymakers* (November 2015), Table 2, page 15.

⁸ Environment and Climate Change Canada, "Government of Canada Announces Pan-Canadian Pricing on Carbon Pollution," News Release, October 3, 2016.

⁹ "Demand-based GHG emissions, Exports and Imports, 2013", data provided by Statistics Canada, March 30, 2017.

¹⁰ Environment and Climate Change Canada, *Carbon Dioxide Emissions from a Consumption Perspective*, February 2017 (Annex A, page 14).

¹¹ Thomas Courchene and John Allan, "Climate Change: The Case for a Carbon Tariff/Tax," *Policy Options*, March 2008.