

# A multi-stakeholder approach to carbon pricing in Canada

Tian Lin & Linda Bui

Centre for Critical Development Studies, University of Toronto Scarborough

Corresponding author: [tnlin19@gmail.com](mailto:tnlin19@gmail.com)

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**Executive Summary:** This policy memo presents an overview of the history of carbon pricing in Canada and the current debate on this topic in relation to the key stakeholders involved. Over the past decades, provinces and territories have been the innovation hubs and leaders of addressing climate change issues. The Paris Agreement in 2015 has served as an impetus for the federal government of Canada to take greater strides in reducing greenhouse gas emissions through carbon pricing. With the aim of concerting efforts to meet decarbonization commitments in the Paris Agreement, the federal government has required all provinces and territories to implement a federally approved carbon pricing mechanism by the end of 2018. Since carbon pricing touches upon environmental, economic, and political dimensions in the Canadian landscape, various stakeholders have strongly held opinions on this public policy issue. Opponents to carbon pricing, including the Premier of Saskatchewan, argue that carbon pricing will negatively harm the regional economy and have instead advocated for renewable energy initiatives. In the tide of growing uncertainty over the political as well as environmental feasibility of carbon pricing, the federal government should give subnational governments the freedom to explore alternatives to carbon pricing to ensure the long-term viability of mitigation policies.

## I. Introduction

In January 2018, the federal government of Canada released a technical paper requiring all provinces and territories to have a carbon pricing system in place by the end of the year (Environment and Climate Change Canada, 2017). In this release, the federal government indicated that this policy initiative is critical in achieving Canada's commitments to the Paris Agreement, which entails a 30% reduction in total greenhouse gas (GHG) emissions below 2005 levels by the year 2030 (Environment and Climate Change Canada, 2017). While the carbon pricing initiative aims to achieve this environmental goal, this policy direction has evoked strong opinions among various stakeholders across Canada.

Political campaigns for the 2018-2019 provincial and federal elections, along with public concerns about national economic interests, has enmeshed details of carbon pricing within a complex network of discussions, with the involvement of various

interested parties. Environmental science commentary and advocacy have influenced these political debates in addition to major media outlets taking positions on the matter. Debates over the implications of carbon pricing have moved beyond strictly environmental issues. Specifically, public opinions are now widely exchanged over the socio-economic costs, political feasibility, and constitutional authority of the federal carbon pricing scheme (Soloducha, 2018; Wudrick, 2018). Critics of this policy have proposed alternative approaches to carbon pricing, including, but not limited to, carbon capture and renewable energy incentives, as means of placing an implicit cost on GHG emissions (Brax, 2017; Wall, 2017; Jeffords, 2019).

Given the rapid changes in the development of this topic, our research seeks to fill the literature gap on the roles and perspectives of key stakeholders shaping the debate over carbon pricing in Canada. In

recognizing the federal political system and regional diversity of Canada, as well as the uncertainty arising from carbon pricing, we recommend the federal government take a more inclusive approach to address climate change mitigation by allowing provincial governments to implement initiatives most suitable for their constituents and administrative domain. While it is beyond the scope of this policy memo to determine if carbon pricing is the most effective policy approach to mitigate the effects of climate change, this memo does recognize that carbon pricing alone is not a panacea to the growing problems attributed to GHG emissions.

## II. Policy challenges for carbon pricing

### *i. Carbon pricing history in brief*

Enforcing a price on negative market externalities such as GHG emissions was first introduced by English economist Arthur Cecil Pigou in the 20th century. Pigou (1920) saw the imposition of taxes on negative market externalities – such as the negative side-effects of market transactions on third parties – as a means to force producers and consumers to internalize these costs, and in turn, correct market inefficiencies. The level of tax, as argued by Pigou (1920), should be equal to the marginal damage costs of the externality, also known as the social costs. Social costs of GHG emissions including carbon dioxide are the present monetary value of the incremental damage from small increases in emissions.

Stemming from Pigou's argument, there are two types of carbon pricing currently conceptualized in environmental economics: i) carbon taxes, and ii) carbon cap-and-trade systems. Carbon taxes refer to levies placed on either actual GHG emissions or on sources of GHG emissions such as carbon-emitting fuels; the latter is also widely described as an excise tax (Narassimhan et al., 2017). Alternatively, cap-and-trade systems, commonly referred to as emissions trading, establishes a cap on total emissions – or the intensity of GHG emissions per unit output – and any firms exceeding this cap must purchase emission allowance units from other firms within the trading market (Narassimhan et al., 2017). In theory, both mechanisms can lower the level of GHG emissions by equating the costs of abatement with the estimated benefits of abatement (Frank, 2014). In other words, after carbon pricing is in place,

if the cost of consumption or production is higher than the benefits derived from those activities, then actors will likely adjust their behavior to achieve higher satisfaction.

Programs to address climate change through explicit carbon pricing are relatively new and are gaining traction worldwide (Tietenberg, 2013). As of May 2018, 45 countries and 25 subnational jurisdictions, including four provinces in Canada, have adopted a carbon pricing scheme (World Bank Group, 2018). To date, regions that have adopted some type of carbon pricing measure account for 20% of total global GHG emissions (World Bank Group, 2018). While there has been a 56% increase in the revenue generated from emissions trading between 2017 and 2018, the majority of pricing initiatives are still below the threshold price of \$40 USD per ton of carbon dioxide equivalent (tCO<sub>2e</sub>) needed by 2020 to achieve the Paris target (World Bank Group, 2018).

### *iii. Federal carbon pricing developments in Canada*

With mounting political pressure to keep global temperature increases below 2°C by 2030 (Rogelj et al., 2016; Scotti, 2018), the Paris Agreement – signed at the 21<sup>st</sup> Conference of the Parties to the United Nations Framework Convention on Climate Change – and other related international treaties have served as an impetus for the federal government of Canada to take a stronger stance against GHG emissions. Since 2015, under the Liberal Party of Canada, provinces and territories must now sign onto the Pan-Canadian Framework on Clean Growth and Climate Change, in order to receive a portion of the \$62 million CAD grants made available for climate initiatives (Government of Canada, 2016).

In this framework, carbon pricing is a central component to the federal government's ambitious effort to reduce GHG emissions by 30% below 2005 levels (Government of Canada, 2016). To achieve the 2030 Paris target, Environment and Climate Change Canada released a technical paper requiring all subnational jurisdictions, including those that have not voluntarily signed the Pan-Canadian Framework, to establish or maintain a carbon pricing mechanism by the end of 2018 (Environment and Climate Change Canada, 2017). This carbon pricing mechanism must meet the federal pricing threshold outlined in the technical paper. Jurisdictions with mechanisms that do not satisfy the federal criteria must adopt the

federal backstop carbon levy (Environment and Climate Change Canada, 2017).

Under the Greenhouse Gas Pricing Act, the federal carbon pollution pricing backstop includes i) a fuel-charge that will come into force in April 2019 in four provinces and in July 2019 in two territories and ii) an output-based pricing system that was enforced on January 1, 2019. On the consumption side, the federal fuel-charge will tax fossil fuels including gasoline, diesel, and coal based on the federal benchmark rate, starting at \$20 CAD per tCO<sub>2</sub>e in 2019 with increases of \$10 CAD annually to \$50 CAD per tCO<sub>2</sub>e in 2022 (Department of Finance Canada, 2018). The federal government intends to make this carbon tax revenue-neutral by allowing households to claim rebates through the Climate Action Incentive payments.

On the production side, industries such as energy, manufacturing, and mining are subjected to a trading scheme based on their annual output-based emissions using the same federal benchmark rate as the fuel-charge (Department of Finance Canada, 2018). The federal emissions scheme covers all seven of the United Nations Convention on Climate Change GHG including carbon dioxide, methane, and nitrous oxide (Government of Canada, 2018). Within provinces where the federal backstop is implemented, industries that emit 50kt CO<sub>2</sub>e or more annually will participate in the emissions trading system (Government of Canada, 2018). Regulations for output-based pricing emissions are expected to be finalized by mid-2019, with some provisions having retroactive effects.

### **III. Subnational governments as effective actors in addressing climate change**

#### *i. Local-level innovation*

Until now, previous attempts to introduce carbon pricing at the federal level were met with successive failure, as illustrated by the Liberal Party of Canada's Green Shift platform, which arguably cost the party a political loss in the 2008 federal election (Harrison, 2012; Jaccard et al., 2016). Provinces and territories have been the innovation hubs and leaders of addressing climate change issues over the past decades (OECD, 2017). Traditionally, provincial governments have initiated carbon pricing programs in Canada, with the Government of Alberta being the first province to institute a cap-and-trade system

through the Specified Gas Emitters Regulation in 2007.

Following this event, the Government of British Columbia garnered national and international attention for implementing the first revenue-neutral carbon tax in North America (Harrison, 2012). This tax covered 70% of the province's total GHG emissions and was supported by a group of economists, with little opposition from the business community and local residents (Harrison, 2012; Pembina Institute, 2014). As of 2019, carbon pricing covers three of the four most populous provinces including Alberta, British Columbia, and Quebec. It is worth noting these three provinces represent 57% of national GHG emissions in 2016 (Environment and Climate Change Canada, 2018).

The federal government's imposition of carbon pricing on all provinces and territories has contributed to a rift in the Canadian political landscape. The decision to either adopt or abandon carbon pricing schemes is central to many of the 2018-19 provincial election platforms (Libin, 2018). Differences in the perspectives of subnational governments on carbon pricing reflect the distinct and divergent needs of their constituencies. Excluding provinces that have already adopted carbon pricing schemes, it is difficult to determine whether provinces and territories are supporting the adoption of carbon pricing for environmental reasons or because they are required to do so. In either case, seven of the thirteen premiers in Canada support the creation of a unique carbon pricing plan over the standard federal benchmark (Appendix 1), signifying the desire among subnational governments to retain jurisdictional control on environmental issues.

#### *ii. Federal system challenges*

Although the federal government may have the constitutional authority to enforce carbon levies on subnational jurisdictions (Christians et al., 2018), some provinces are taking the federal government to court on this issue (McGarth, 2018; Tasker, 2018). For example, Saskatchewan Premier Scott Moe remains a prominent vocal opponent to the federal carbon pricing, arguing that such a policy will have a particularly negative impact on the province's export-based economy, which is highly dependent on the production of oil, potash, and agricultural crops (Rabson, 2017). Moe, instead, views carbon capture

and storage as a more effective means to reduce GHG emissions. For instance, his administration estimated that subsidizing carbon capture and storage would lead to an implicit carbon price of \$60-80 CAD per tCO<sub>2</sub>e, compared to the federal rate of \$50 CAD per tCO<sub>2</sub>e in 2022 (Fraser, 2017).

Energy economists see implicit carbon prices, which are hidden from consumers, as an important concept if the federal government fails to attain provincial agreement on the application of an explicit carbon price (Jaccard et al., 2016). More than the policy approach itself, Jaccard et al (2016) argue that the stringency of a policy is critical to meeting any proposed targets on the reduction of GHG emissions. As long as policymakers pay attention to the political viability of a policy, they view that the approach should not matter (Jaccard et al., 2016). The federal government should thus promote flexible approaches to climate change mitigation, which can contribute to innovative and sustainable ways of reducing GHG emissions while enhancing green growth rather than fixate on carbon pricing as the main policy solution.

### *iii. Respecting regional diversity*

According to Environment Canada, “over 85% of Canada’s total [GHG] emissions [are] emitted in areas under sole or partial provincial/territorial responsibility” (Environment Canada, 2007). This control gives subnational governments a tremendous amount of power to address environmental issues. The diversity of natural resources across Canada also requires the expertise of subnational governments to devise specific measures that are suitable to the needs and challenges of their environment. Regional differences in natural resources endowment have produced widely variable outputs in GHG emissions across Canada (Fig. 1). By having administrative staff and civil servants throughout the province and territory, subnational governments are best positioned to tackle emission levels in a specific locale.

If carbon pricing is the only mitigation tool used to meet the commitments of the 2030 Paris target, researchers have shown that the national carbon price needs to be at least \$200 CAD per ton by 2030 (Bataille & Sawyer, 2016; Jaccard et al., 2016). This price is an astounding 75% higher than the federal benchmark level. Accordingly, the uncertainty in reducing GHG emissions to 30% below 2005 levels

through carbon pricing makes this policy idea more difficult to get the buy-in of voters. Even if a carbon tax is said to be revenue-neutral, in that all revenue obtained from carbon taxes will be given back to local residents through other tax reductions and rebates, politicians will likely struggle to garner much support for this policy because of its significant visible costs (Harrison, 2012; Rabe & Borrick, 2012; Jaccard, 2018).

Key stakeholders in the Canadian economy, including the Canadian Chamber of Commerce (2018), support carbon pricing as a policy measure to tackle carbon pollution but are against its application in the northern territories, highlighting the challenges of a standard mitigation approach. Carbon pricing may not be helpful in efforts to reduce GHG emissions in regions where limited alternative sources of energy exist (Canadian Chamber of Commerce, 2018). By pushing for carbon pricing as a necessary tool to address climate change, the federal government will likely conjure public discontent for increasing costs in the standard of living along with uncertainty on the effectiveness of the policy measure in the political discourse. Accordingly, we recommend that the federal government support the development of subnational governments’ unique evidence-based policy options to contribute to targets in the Paris Agreement, as working relations between the federal and provincial government are required for a functional political system.

## **IV. Conclusion**

Canada’s commitment to decarbonization through the Paris Agreement requires an action-oriented approach to change people’s behavior without harming the economy or the wellbeing of its citizens. The current federal carbon pricing system focuses on a specific policy approach to reduce GHG emissions, ignoring alternative measures that may be more suitable for each region’s circumstances. The imposition of the federal carbon pricing system has deteriorated working relations between the federal government and some provincial governments, which makes it challenging to encourage action on a collective problem such as climate change. To promote the long-term viability of mitigation policies and local level innovations, the federal government needs to give subnational leaders the freedom to explore alternative approaches to carbon pricing.

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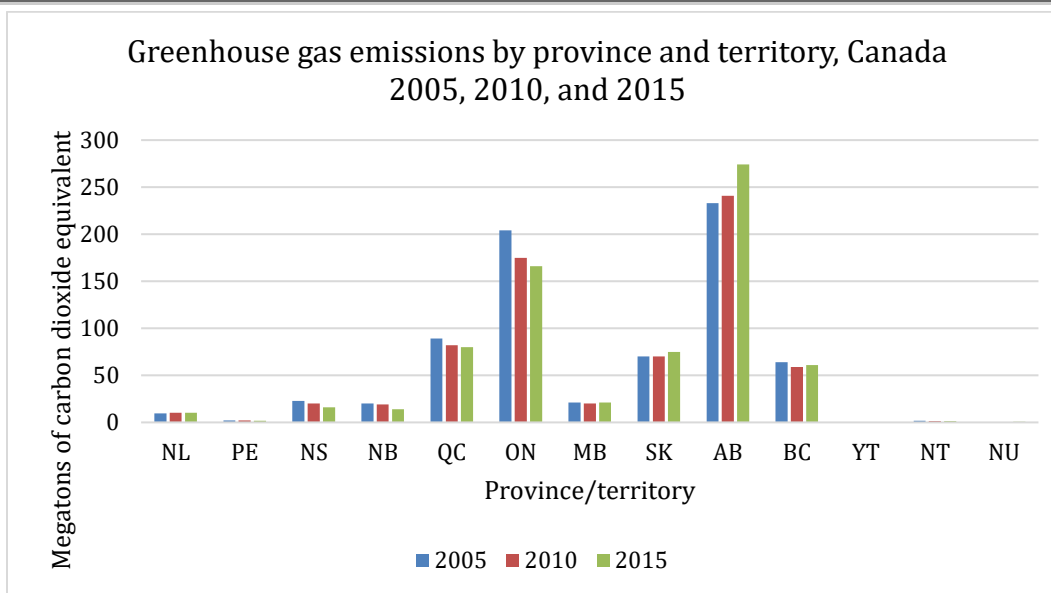


Fig. 1. Greenhouse gas emissions in Canada for 1990, 2005, and 2015. Greenhouse gas emissions measured by megatons of carbon dioxide equivalent. Data from Environment and Climate Change Canada (2017b).

**Appendix 1. Carbon pricing schemes across Canada**

Provincial/territorial jurisdiction	Instrument	Level	Enabling Legislation	Status	Note
AB	Carbon tax	\$30tCO <sub>2</sub> e	Climate Leadership Act, Climate Leadership Regulation	Increase to \$30tCO <sub>2</sub> e effective as of 1 January 2018; Expected to increase to \$40tCO <sub>2</sub> e in 2021 and \$50tCO <sub>2</sub> e in 2022	Electricity and farm fuel exempted, carbon levy exemption certificates available to eligible persons under the Indian Act
	Credit-based trading system	\$30tCO <sub>2</sub> e (or offsets)	Climate Change and Emissions Management Amendment Act	Increase to \$30tCO <sub>2</sub> e effective as of 1 January 2018	Working towards increasing market size through Renewable Energy Certificates and output allocations
BC	Carbon tax	\$35tCO <sub>2</sub> e	Carbon Tax Act (S.B.C., 2008 Chap. 40)	Increase each year by \$5 per ton until reaching \$50tCO <sub>2</sub> e in 2021	Tax expected to increase by \$5tCO <sub>2</sub> e annually; No longer revenue neutral as of 1 April 2018
	Cap-and-trade/Western	-	<i>Greenhouse Gas Industrial Reporting and Control Act</i>	Adopted 1 January 2016; Not yet implemented	-

	Climate Initiative				
MB	Carbon tax	Establishes flat price of \$25tCO <sub>2</sub> e	The Climate and Green Plan Implementation Act	Tax will be introduced as of 1 September 2018	No intention to increase tax to meet federal benchmark in 2022; Premier plans to remove the carbon tax altogether; Federal carbon pricing will be in effect January 2019
	Cap-and-trade/ Western Climate Initiative	-	No legislation adopted as of October 2018	-	-
NB	Carbon tax	\$10tCO <sub>2</sub> e	Gasoline and Motive Fuel Tax Act	Adopted and implemented 1 April 2018	Levy applies only to gasoline and diesel fuels used in transportation while all other fuels and sectors are exempt; Tax expected to increase to \$50tCO <sub>2</sub> e by 2022
	Cap-and-trade	-	No legislation adopted as of October 2018	-	Will accept the federal backstop output-based pricing system for large emitters producing more than 50,000tCO <sub>2</sub> e y <sup>-1</sup>
NL	Carbon tax	\$20tCO <sub>2</sub> e	Revenue Administration Act	Effective 1 January 2019	Exemptions will apply to emissions from venting and fugitives in the oil and gas sector including heating fuels and aviation fuels
	Cap-and-trade	\$20tCO <sub>2</sub> e	Management of Greenhouse Gas Act	Effective 1 January 2019	
NS	Carbon tax	-	No legislation adopted as of October 2018	-	-
	Cap-and-trade	-	Environment Act	Effective 1 January 2019; released the Quantification, Reporting and Verification of Greenhouse Gas Emissions (QRV) Regulations	Facilities generating 50,000tCO <sub>2</sub> e or more per year are required to submit annual reports adhering to the QRV regulations by May 1 and have their data verified by September 1



ON	Carbon tax	-	No legislation adopted as of April 2018	-	-
	Cap-and-trade/ Western Climate Initiative	\$18tCO <sub>2</sub> e (or offsets) - 2017 prices	Climate Change Mitigation and Low-Carbon Economy Act	Repealed in July 2018	Ontario cap-and-trade cancelled as of July 2018 through Cap and Trade Cancellation Act, 2018 (Bill 4); Federal backstop system in effect January 2019
PE	Carbon tax	-	No legislation adopted as of October 2018	-	No provincial emission reduction target in place but contributes to the regional target set by the Conference of the New England Governors and Eastern Canadian Premiers (NEG-ECP); Province exempted from federal carbon pricing but will need to impose increases in fuel prices
	Cap-and-trade	-	No legislation adopted as of October 2018	-	
QC	Carbon tax (2007-2014)	\$3tCO <sub>2</sub> e	An Act Respecting the Régie de l'Énergie	No longer enforced since 2014	-
	Cap-and-trade/ Western Climate Initiative	\$18tCO <sub>2</sub> e (or offsets) - 2017 prices	Regulation respecting a cap-and-trade system for GHG emission allowances	-	Applies to companies that emit 25,000tCO <sub>2</sub> e annually; Linked with California emissions market
SK	Carbon tax	-	No legislation adopted as of October 2018	-	Government's white paper on climate change (2017) opposes carbon pricing and advocates for C capture and sequestration; Federal backstop system in effect January 2019
	Cap-and-trade	-	No legislation adopted as of October 2018	-	
NT	Carbon tax	\$20tCO <sub>2</sub> e	Petroleum Products Tax Act	Effective 1 July 2019	Rate will increase to federal benchmark of \$50tCO <sub>2</sub> e by 2022
	Cap-and-trade	-	No legislation adopted as of October 2018		
NU	Carbon tax	-	No legislation adopted as of October 2018	-	Will adopt federal backstop system; effective July 2019

	Cap-and-trade	-	No legislation adopted as of October 2018	-	
YT	Carbon tax	-	No legislation adopted as of October 2018	-	Will adopt federal backstop system; effective July 2019
	Cap-and-trade	-	No legislation adopted as of October 2018	-	

**Tian Lin** is a monitoring and evaluation consultant working on forest landscape restoration in Southeast Asia. She has worked at the intersection of environmental policy and forest management in Thailand and Myanmar and has completed a thesis on the contribution of community forestry to climate change adaptation. She received her Bachelor's degree in International Development Studies from the University of Toronto Scarborough. Her research interests include land tenure reforms, agroforestry adoption, and financial viability of community-based enterprises.

**Linda Bui** is currently a Legislative Intern, as part of the Ontario Legislature Internship Programme, at Queen's Park, Toronto, Canada. She holds a B.A. in International Development Studies from the University of Toronto Scarborough. Active in global and local sustainability issues, Linda has served as a member of the City of Brampton's Environmental Advisory Committee and Grow Green Network in her municipality and on the World Youth Parliament for Water as a North American representative. Twitter: @lindahuyenbui

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