
Obstacles to Carbon Pricing In Canadian Provinces

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RESEARCH REPORT

Obstacles to Carbon Pricing In Canadian Provinces

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Key messages

- Market-based instruments (MBIs), either under the form of emissions trading or carbon taxation, have been increasingly popular in OECD countries and, in Canada, at the sub-national level.
- Québec, Alberta, British Columbia and, to a lesser extent Manitoba, have all successfully adopted and implemented carbon pricing policies, while Ontario and Saskatchewan have proposed to adopt MBIs though implementation has not yet proceeded.
- The implementation of MBIs began in 2007, after the Harper government decided not to implement any such instrument at the federal level, allowing provinces to experiment without creating redundant carbon pricing schemes.
- Three important types of obstacles to the adoption and implementation of MBIs are identified amongst Canadian provinces: administrative obstacles associated with a lack of environmental and climate change policy capacity, political obstacles associated with the provincial party system and salience of MBIs during elections, and finally economic obstacles, especially the policy preferences of main provincial industries.
- MBIs remain popular amongst Canadians and different strategies can be adopted to overcome obstacles to their implementation. Policy capacity can be secured rapidly through inter-jurisdictional cooperation and/or by using central agencies such as the ministry of finance or specialized regulatory bodies rather than environment ministries. In provinces where resistance to market-based approaches is more significant, a narrow-based carbon tax or limited form of emissions trading (such as credit-based emissions trading) can be implemented as a first step toward a more comprehensive and effective market instruments. These instruments can also be used to augment financial resources to increase climate change policy capacity or funding for new technologies that might, in the long run, help reduce compliance costs associated with more stringent MBIs.

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1. Introduction

The topic of this report is the adoption and implementation of market-based instruments (MBIs) by Canadian provinces as an integral part of climate change policy. Market-based instruments, including cap-and-trade systems and carbon taxes, are effective and efficient tools to reduce GHG emissions (Stern, 2007). MBIs are policy instruments which use price signals to provide incentives to industries and consumers to reduce their emissions of greenhouse gases (GHGs). There are a variety of forms of MBIs, including cap-and-trade systems and carbon taxes. Cap-and-trade systems entail a sector- or economy-wide quota on emissions, which is allocated or sold amongst individual firms in the form of special permits known as emission allowances. Firms can reduce emission to meet their individual quota and sell their excess allowances or, if unable to reduce emissions in-house, buy allowances from those that can. A carbon tax is a charge applied either to emissions produced by industries or to products purchased by consumers on the basis of their carbon content.

MBIs have become increasingly common in climate policy since the adoption of the 1997 Kyoto Protocol, which included three such instruments, also known as flexibility mechanisms: emissions trading (ET), the clean development mechanism (CDM), and joint implementation (JI). Furthermore, cap-and-trade systems are currently also used around the world at the national and subnational level, including in North America in the framework of two regional carbon markets—the Western Climate Initiative (WCI) and the Regional Greenhouse Gas Initiative (RGGI)—and in Europe—where the European Union operates the largest carbon market to date, the European Union Emissions Trading System (EU ETS). Additionally, many countries have explored other forms of carbon pricing mechanisms, especially carbon tax, in the case of Northern European countries.

Discussion of MBIs at the federal level in Canada has not yielded any meaningful result, which has provided an opportunity for the developments of these instruments at the sub-national level, in minimizing the risk of redundancy between federal and provincial efforts. Since 2007, provincial governments have successfully implemented various forms of MBIs, including a cap-and-trade system (in Québec), narrow-based carbon taxes (Québec and Manitoba), a broad-based carbon tax (British Columbia), and a credit-based emissions trading system (Alberta). However, important setbacks have also been observed in recent years. For instance, the efforts of Ontario, British Columbia and Manitoba, which have pledged their intention to implement emissions trading, have not been successful to date. Furthermore, Saskatchewan and the Maritime Provinces, despite showing awareness of MBIs, have yet to implement any such instrument. This report

discusses the obstacles to the adoption of MBIs associated with the administrative, political, and economical context of each province.

With this in mind, the main objectives of this study are to:

- 1) Review the progress made by provincial governments in implementing MBIs for climate change policy.
- 2) To identify the most important factors preventing or delaying adoption of MBIs by the provinces.

In the context of recent climate change policy-making in Canadian provinces, two obstacles are deemed important to explain the general lack of progress of some provinces on MBIs: (1) lack of policy capacity for climate change policy and (2) high salience of the issue of climate change MBIs during elections, associated with a party system where the main contender is party located to the right of the political spectrum in relation to the governing party. The political context surrounding climate change policy-making in Ontario played an important role in stalling the development of emissions trading in the province in the aftermath of the 2011 election.

Additionally, a third factor, the policy preferences of important provincial industries, especially the oil and gas sector, can provide an explanation as to why specific forms of MBIs, such as cap-and-trade, have not been implemented. Although industry preferences have not prevented provinces from adopting some types of MBIs, such as credit-based trading system (ex. Alberta) or carbon tax (ex. British Columbia), in some instances industry preferences did represent an obstacle to the adoption of cap-and-trade system with a hard cap on emissions, such as the one designed in the framework of the Western Climate Initiative (WCI)—a partnership of sub-national jurisdictions led by California aimed at developing a regional emissions trading scheme. This is the case of British Columbia where ongoing development of the oil and gas sector in the province, and the difficulty for these industries to grow under a cap-and-trade system is an important obstacle to the further implementation of an emissions trading in the province. However, the oil and gas sector has shown a readiness to work in the framework of a credit-based emissions trading system, as the example of Alberta shows.

Obstacles to MBIs can be overcome. Considering the lack of climate change policy capacity, small carbon taxes have been implemented early on using a variety of administrative bodies, including provincial energy market regulatory agencies and ministries of finance. These taxes provide opportunities to gather resources for building additional policy capacity or creating partnership for MBI implementation. The

commitment of provincial premiers can also greatly accelerate climate change policy capacity building and increase interdepartmental cooperation.

Additionally, the development of regional emissions trading schemes in North America, especially the Western Climate Initiative (WCI) and Regional Greenhouse Gas Emitters (RGGE), which are now both operating, provide substantial opportunities for smaller provinces to benefit from regional cooperation in order to elaborate a framework for emissions trading. Integrating these markets might also provide to their industries and electric utilities an opportunity to contribute to reducing GHG emissions at lower costs than if they rely simply on reduction of emissions in their own operations. Smaller provinces could also benefit from their integration in the emerging North America carbon markets, by developing carbon offsets that could be either used by their industries and electric utilities or sold to facilities in other jurisdictions.

As for political context, political parties that occupy the centre-right wing of provincial party system are generally better positioned to build consensus around the implementation of market-based climate policies. For these political parties, promoting MBIs does not constitute an important political risk and might even represent an opportunity, as the examples of BC and Québec Liberals have shown.

Although the presence and expansion of the oil and gas sector might render difficult the adoption of a hard cap on emissions in some provinces, many forms of MBIs can be implemented and gradually rendered more effective at curbing GHG emissions.

Other obstacles have been examined, such as differences in public opinion on MBIs and governing party ideology. However, they do not appear to represent obstacles to the implementation of MBIs. To the contrary, carbon pricing is increasingly popular among Canadians and elected officials of all political stripes have expressed support for such instruments. Also contrary to what could have been expected, right or centre-right governments are the ones that have implemented MBIs in Canadian provinces. The conclusion my analysis leads to is that only provinces that have devoted a relatively high level of financial resources to environmental regulation and develop early organizational capacity for climate change policy-making have been able to implement emissions trading. However, other forms of MBIs, especially carbon taxation, can be implemented early and be used to obtain additional resources for climate change policy-making. Although cap-and-trade system and broad-based carbon tax might be difficult to implement in some provinces, opportunities to adopt narrow-based carbon tax and credit-based emissions trading system are present and could constitute important first steps to increase resources and mobilize provincial actors toward the transition to a low carbon future in Canada.

Since we are still at an early stage of the formation of carbon markets in North America, it might be more important for provincial governments to adopt and implement some politically acceptable form of MBI rather than to develop a specific type. Once the principle is established that GHG emissions should be reduced, in either intensity or absolute levels, and that a pricing mechanism should be put in place to create incentives to do so, modifications to existing policy instruments always remain possible. This process of accommodating various constituencies is common in the climate change policy-making process and gradual adjustments are possible in order to preserve and enhance the effectiveness and efficiency of market-based policies (Hahn and Stavins, 2011).

About this Study:

This report is part of a larger research project. The findings presented here are based on analysis of data gathered in government documents, media content, and confidential interviews carried out between 2010 and 2012 with industry representatives, elected officials, and public servants involved in climate change policy-making in the Canadian provinces. These sources have been used to build case studies of MBI implementation at the provincial level in Canada.

2. Market-based instruments

Market-based instruments (MBIs) can be conceived as part of the toolbox of governments, as one of the several tools that can be used to achieve specific objectives (Hood and Margetts, 2007; Howlett, 2011). More precisely and in the context of environmental policy, MBIs are “regulations that encourage behavior through market signals rather than through explicit directives regarding pollution control levels or methods” (Stavins, 2005: 1).

The advantages of using MBIs become especially clear when we compare these instruments to other forms of government intervention such as command-and-control regulation or voluntary programs. MBIs provide the financial incentives necessary for behavioral changes while allowing for maximum flexibility as to how individuals and organizations choose to achieve emission reductions (Stern, 2007; Field and Olewiler, 2011). MBIs are usually adopted as part of a comprehensive mix of policy instruments, which include subsidies along with informational and regulatory instruments for the purpose of accelerating technological innovations to provide more options to firms and citizens to reduce their GHG emissions (Stern, 2007: 393-94 and 427-28). Subsidies and other financial instruments can also be used to compensate those affected by the regressive impacts associated with MBIs (Serret and Johnstone, 2006).

A first important distinction should be made between carbon taxes and emissions trading, although in practice much more variation amongst instruments exists. Carbon taxes are directly linked with the quantity of GHG emissions released (Lamhauge and Cox, 2013: 12). In practice, a carbon tax is often applied on various fuels and varies in function of their emissions content. Alfred Pigou proposed environmental taxation as early as 1920 and they have been used in many sectors and for many purposes, including reducing GHG emissions. Northern European countries were the first to adopt explicit carbon taxation, starting with Finland in 1990, then Norway and Sweden in 1991, Denmark in 1992, and Germany in 1999 (Harrison, 2010). Since then, a carbon tax was discussed during the 2008 Canadian federal election (Harrison, 2012), in France in 2010, and was implemented in Australia (Gauvin and Lachapelle, 2012).

In the case of an emissions trading system, government establishes a sector- or economy-wide quota on emissions, which is distributed (either allocated or sold) amongst individual firms in the form of special permits known as emission allowances (Lamhauge and Cox, 2013: 12). Two methods to distribute emissions permits exist. They can be auctioned or granted for free either on the basis of past emissions (Lamhauge and Cox, 2013: 12)—a practice also called, grandfathering—or past performance in terms of emissions intensity. While grandfathering is applied in the European Union Emissions

Trading System (EU ETS) more recent trading systems, such as the Western Climate Initiative trading system, tend to use past performance in an effort to address the issue of over-allocation, an important challenge of the EU ETS.

A first generation of emissions trading systems, sometime described as credit-based trading systems, was implemented as early as 1977 in the United States to address concerns about air quality (Hansjürgens, 2005: 6-7). A second generation of trading systems, known as cap-and-trade systems, has emerged in the US with adoption of the 1990 amendments to the *Clean Air Act* in effect since 1995 to address the problem of the acidification of the atmosphere created by sulfur dioxide emissions, and more commonly known as acid rain. It was followed in 1994 by the implementation of the Regional Clean Air Incentives Market (RECLAIM) in southern California, which addressed airborne NO_x and SO_x emissions and, from 1999 to 2002, the US Ozone Transport Commission (OTC) NO_x Budget Trading Program for electricity generators in Eastern states (Hansjürgens, 2005: 4).

Emissions trading was first proposed by Crocker (1966) and Dales (1968) (Hansjürgens, 2005: 5) and the idea to apply it to climate change emerged in 1989, in a paper written by Michael Grubb (Newell and Paterson, 2010: 94-96). It was formally proposed in the framework of the Kyoto Protocol negotiations by the United States in December 1996 (Newell and Paterson, 2010: 25-27). The text of the accord finally adopted included three flexibility mechanisms: emissions trading, the clean development mechanism, and joint implementation. Signed in 1997, the protocol was ratified by Canada in December 17, 2002 and came into force in 2005 after Russia's ratification.¹

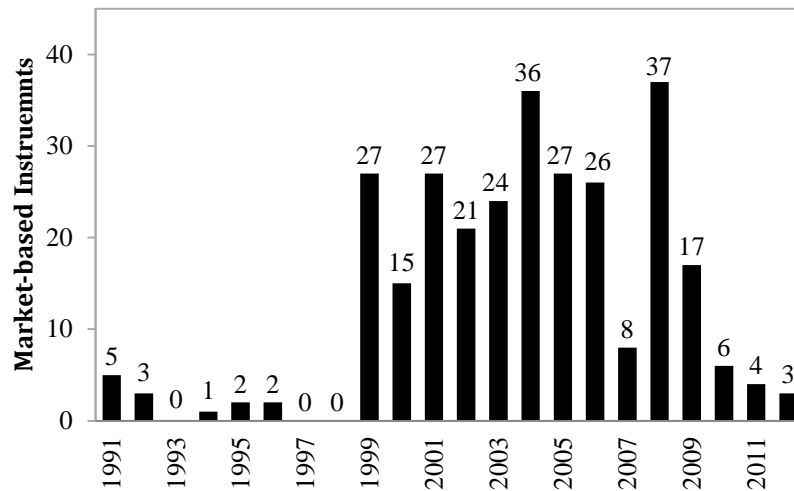
A proposal for an emissions trading scheme emerged in Europe with the 2000 publication of a Greenbook on the subject by European Commission. At least two countries also had experience with emissions trading at that time: Denmark's CO₂ 1999 emissions trading system which included only electricity utilities starting and the United Kingdom's 2002 emissions trading system (Hansjürgens, 2005). In January 2005, the EU ETS, which includes between 10,000 and 12,000 emitters, began its activities (Hansjürgens, 2005; Hoffman, 2011). By the mid-2000s, the establishment of a carbon price was understood as the 'the first essential element' of climate change policy (Stern, 2007: 349).

¹ Canada withdrew from the Kyoto Protocol in December 2011, following the Durban climate change conference.

2.1 MBIs in the World

According to the IEA and OECD (2013), about 300 MBIs have been adopted or implemented worldwide at the national or sub-national level since 1991 (see Figure 1), including emissions trading systems, white certificates (energy efficiency certificate trading systems), green certificates (renewable energy certificate trading systems) and taxes related to climate change—which include carbon taxes and tax incentives. Most of these emerged after 1999, two years after the adoption of the Kyoto Protocol. As of 2012, 63% of these MBIs were in force, while the implementation of 14% had come to a close, 18% were superseded, and 5% were planned to come into effect in the coming years (IEA and OECD, 2013).

Figure 1. Market-based Instruments for Climate Change Policy in the World since 1991



Source: IEA and OECD Database on climate change policies and measures, 2013

Many factors account for the diffusion of MBIs and this process was by no mean automatic but rather the outcome of the work done by countless public officials, civil servants, and experts working in academia, ENGOs, and the private sector. Both the Kyoto Protocol flexibility mechanisms, especially the Clean Development Mechanism (CDM), and the European Union Emission Trading System provided high profile example of how such instruments could be implemented.

2.2 MBIs in Canada

In Canada, the first experiment using MBIs involved both federal and provincial governments in the GERT pilot program. The experiment started in November 1995 as an item of the first British Columbia Greenhouse Gas Action Plan (GERT, 2002: 1) and rapidly expanded as other provinces, including Alberta, Nova Scotia, Québec, and

Saskatchewan, and the federal government (via Natural Resources Canada and Environment Canada) got involved (GERT, 2002: 91-94). One of the activities of the GERT program was to organize emissions trading among a few participating companies. Other partners in the program were the main Canadian industrial associations—seven in total including the Canadian Association of Petroleum Producers, the Canadian Electricity Association, Canada Pulp and Paper Association—and two environmental organizations including the Pembina Institute and the West Coast Environmental Law Association (GERT, 2002: 3-4). Carbon pricing mechanisms, more specifically carbon tax, were also promoted by several Canadian academics, including Mark Jaccard (Jaccard et al., 2002; Simpson et al., 2007). Academics were also closely associated with the implementation of several BC climate change policies, including the 2008 carbon tax (confidential interviews with public servants and public officials).

Despite the fact that proposals to implement MBIs have been discussed at the federal level, the nature of the discussion changed after the 2006 federal election and the first government formed by the Conservative Party of Canada. After that election, it appeared increasingly unlikely that MBIs would be implemented at the federal level. For instance, the option was dismissed both by federal Environment Ministers Rona Ambrose and John Baird. Both advocated in favor of regulatory sector-by-sector approach to climate change policy, which was also the policy publicized by the Conservatives during the 2008 federal election. That position contrasted with propositions coming from federal opposition parties during the same campaign, the Liberal Party proposal of a revenue neutral carbon tax (the Green Shift) while the NDP proposed a cap-and-trade system (Harrison, 2012).

Both Foreign Affairs Minister Lawrence Cannon and Environment Minister Jim Prentice in November 2008 mentioned the possibility of a North American cap-and-trade system after the election of U.S. President Barack Obama (CBC, 2008). However, the political willingness of the Conservatives to implement such measure was never tested as the U.S. Senate failed to pass a cap-and-trade legislation similar to that adopted by the U.S. House of Representatives shortly before the December 2009 Copenhagen Climate summit.

In recent years, Canadian provincial governments, including Alberta, Québec, and British Columbia, have been far more active than the federal government when it comes to the question of climate change and the implementation of innovative policy instruments (NRTEE, 2012: 31; Holmes et al., 2012). Table 1 (next page) provides information about MBIs adopted by Canadian provinces. A first observation that can be made is that MBIs have been implemented since 2007 a fact that is significant if one

considers the important changes in federal climate change policy that have occurred since the 2006 election.

A second observation is that among Canadian provinces, four types of MBIs have been implemented: narrow-based carbon taxes (in Québec and Manitoba), broad-based carbon tax (in British Columbia), cap-and-trade emissions trading in the framework of the WCI (in Québec), and credit-based emissions trading (in Alberta).

The most important distinction between broad-based carbon tax and narrow-based carbon tax is the number of activities targeted, or the tax base. In a nutshell, the tax base is much larger in the case of a broad-based carbon tax, such as the British Columbia carbon tax, than in the case of the Manitoba and Québec carbon tax (see Table 2). Manitoba's emissions tax applies only to different types and grades of coal. In the case of the Québec's carbon tax—officially named the annual duty to the green fund—it applies to coal and various fuels (including gasoline, natural gas and heating oil). In contrast, the BC carbon tax applies to twenty fuels, including jet and aviation fuels.

Looking across provinces, a number of similarities and differences appear. The prevailing carbon price varies from \$3 per tCO₂e, in the case of Québec Green Fund Levy to \$30 per tCO₂e in the case of the British Columbia carbon tax. It is worth noting that the BC carbon tax was first implemented at the level of \$10 per tCO₂e in 2008, then increased to \$20 per tCO₂e in 2009, and finally reached \$30 per tCO₂e in 2010.² The coverage of the MBIs also varies. While industrial process emissions are not covered by the BC carbon tax, they are included under both Alberta and Québec emissions trading systems. In the cases of Québec and Manitoba narrow-based carbon tax, the coverage is limited respectively to fossil fuel importers and coal users. Finally, the fiscal use of the carbon taxes varies. Although the British Columbia government adopted a wide range of fiscal measures so that no additional revenues would be gathered through the carbon tax, what is often referred as revenue neutrality, a similar commitment is not present in other provinces. For instance, in Québec, the \$200 million of additional revenues brought by the carbon tax has been used to finance Québec's climate change action plan.

² The carbon price is more difficult to assess in the cases of Alberta and Québec since it depends of several factors including the availability and the price of credit offsets, which are not made publicly available. Finally, in Québec and WCI, different prices apply to allowances of different vintages.

Table 1. Market-based Instruments in Canadian Provinces

Provinces	Instrument	Level	Status	Enabling legislation	Related regulation
BC	Cap-and-trade / WCI	-	Emissions trading regulation proposed on October 22 nd , 2010, not adopted as of 2012.	Greenhouse Gas Reduction (Cap and Trade) Act (S.B.C. 2008, c.32)	Emission Offsets Regulation (B.C. Reg. 393/2008); Reporting Regulation (B.C. Reg. 272/2009);
	Broad-based carbon tax 2008-	10-30\$ tCO ² e	Legislation adopted on assented July 1 st , 2008.	Carbon Tax Act (S.B.C., 2008 Chap. 40)	-
AB	Credit-based trading system 2007-	15\$ tCO ² e (or offsets)	Regulation approved on June 27 th , 2007, implemented.	Climate Change and Emissions Management Act (S.A. 2007, c.4)	Specified Gas Reporting Regulation (Alta Reg. 251/2004); Specified Gas Emitters Regulation (Alta Reg. 139/2007); Administrative Penalty Regulation (Alta Reg. 140/2007; O.C. 289/2007); Climate Change and Emissions Management Fund Administration Regulation (Alta Reg. 120/2009; O.C. 252/2009)
SK	Credit-based trading system	-	Management and Reduction of GHG Regulation proposed on March 22 nd , 2012 but not adopted as of 2012.	Management and Reduction of Greenhouse Gases Act draft or not?	-
MB	Cap-and-trade / WCI	-	No draft regulation for reporting or trading proposed as of 2012.	The Climate Change and Emissions Reductions Act, CCSM c.C135	-
	Narrow-based carbon tax 2012-	10\$ tCO ² e	Introduced on June 7 th , 2011, assented on June 16 th , 2011 and implemented on January 1 st , 2012.	The Emissions Tax on Coal Act (C.C.S.M. c. E90); adopted as part of the Budget Implementation and Tax Statutes Amendment Act, 2011 (SM 2011, c. 41, Sch. A)	-

Provinces	Instrument	Level	Status	Enabling legislation	Related regulations
ON	Cap-and-trade / WCI	-	Emissions Trading (commitment under the WCI and Qc-Ont. MOU). No draft regulation for emissions trading proposed as of 2012.	An Act to amend the Environmental Protection Act with respect to greenhouse gas emissions trading and other economic and financial instruments and market-based approaches (S.O. 2009 c.27)	Greenhouse Gas Emissions Reporting (O. Reg. 452/09)
QC	Narrow-based carbon tax 2007-2012	3\$ tCO ₂ e	Regulation approved on November, 28, 2007	An Act Respecting the Régie de l'Énergie (L.R.Q., c. R-6.01)	Annual Duty Payable to the Green Fund, RRQ, C. R-6.01; Décret 1049-2007)
	Cap-and-trade / WCI 2012-	10.75\$ tCO ₂ e (or offsets)	Emissions trading regulation approved on December 14th 2011 Annual cap on December 16th 2011; linking with California carbon market approved on November 13th 2013; first auction took place on December 3rd, 2013.	Environment Quality Act (c. Q-2)	Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere, RRQ, c Q-2, r 15; Regulation respecting a cap-and-trade system for greenhouse gas emission allowances, RRQ, c Q-2, r 46.1, Décret, 1297-2011; Plafonds annuels d'unités d'émission de gaz à effet de serre relatifs au système de plafonnement et d'échange de droits d'émission de gaz à effet de serre pour la période 2013-2020; Décret 1181-2013, 13 novembre 2013. Loi sur la qualité de l'environnement (chapitre Q-2). Entente entre le gouvernement du Québec et le California Air Resources Board concernant l'harmonisation et l'intégration des programmes de plafonnement et d'échange de droits d'émission de gaz à effet de serre— Ratification

Table 2. Fuels included under different forms of carbon taxation in Canadian provinces

BC carbon tax	Québec carbon tax	Manitoba emissions tax on coal
Aviation fuel	American bituminous coal	Anthracite (and any other grade of coal)
Butane	Anthracite coal	Bituminous coal
Coke	Canadian bituminous coal	Lignite
Coke oven gas	Diesel fuel	Sub-bituminous coal
Ethane	Gasoline	
Gas liquids	Heavy heating oil	
Gasoline	Light heating oil	
Heavy fuel oil	Natural gas	
High heat value coal	Petroleum coke	
Jet fuel	Propane	
Kerosene		
Light fuel oil		
Low heat value coal		
Methanol		
Naphtha		
Natural gas		
Pentanes plus		
Petroleum coke		
Propane		
Refinery gas		

Considering now emissions trading, there are two main types: cap-and-trade and partial emissions trading system, the latter being sometimes also referred as credit-based emissions trading systems. The difference between the two is that, in case credit-based systems (also sometimes described as partial emissions trading, intensity cap-and-trade, or tradable emissions performance standard, see Rivers 2010), regulated organizations have first to meet an emission standard set for each sector or regulated entities. In credit-based system trading is possible only when there is a situation of over-compliance, which is when the regulated emissions are below the set performance standard or intensity target. Therefore credits are attributed only if the amount of emissions allowed is greater than that released (Hansjürgens, 2005: 4; Woerdman, 2004: 21). In cap-and-trade systems, firms have to cover all their emissions by securing allowances (Hansjürgens, 2005: 4; Woerdman, 2004: 21). According to Hansjürgens (2005: 4), credit-based systems can be seen as a continuation of the conventional command-and-control approach while cap-and-trade systems represent a ‘transition to market-based instruments’, which take full advantage of market forces to provide incentive to reduce emissions and the necessary information to achieve that aim.

A second difference between the Québec cap-and-trade system and Alberta credit-based system is related to the cap itself. While Alberta uses intensity targets, Québec's cap-and-trade system relies on absolute emissions cap. Intensity targets are a performance standard that requires a given firm to achieve a specified emission level for a given level of output. Absolute targets however prescribe an overall reduction of emissions, regardless of output.

2.2.1 Alberta

With passage of the 2003 *Climate Change Emissions Management Act*, Alberta became the first province in Canada to adopt climate change legislation and then implemented a credit-based emissions trading system starting in 2007. Industries are assigned intensity-based emission targets and, in order to comply with their target, regulated facilities can: 1) reduce the carbon intensity of their production—e.g. by improving their industrial processes or using more efficient technologies)—2) pay a contribution of \$15/tCO_{2e} to a technology fund, managed by the Climate Change and Emissions Management Corporation (CCEMC) for any emissions above the allowed amount; or 3) purchase credits from companies that have over-complied with their intensity targets or from carbon offset projects.

2.2.2 Québec

Québec implemented a narrow-based carbon tax in 2007, known as the annual duty payable to the green fund. However, in 2012, Québec initiated its emissions trading system, developed under the WCI framework (for more information on the Quebec-California partnership and emissions trading system, see Purdon et al., 2014). Regulated facilities are required to obtain emission allowances for all of their emissions. Industries exposed to international competition—such as mining and manufacturing—receive free emission allowances, based on their historic carbon intensity.

Six options are available to industries to facilitate their compliance the cap-and-trade system including: 1) purchasing allowances from the Québec government's strategic reserve (starting at \$40 per tCO_{2e} and increasing thereafter to \$50 per tCO_{2e}); 2) purchasing allowances from other regulated entities; 3) purchasing allowances during any one of the regular allowance auctions; 4) reducing their emissions internally; 5) purchasing carbon credits generated by emission offset projects in Québec and California; 6) securing recognition for early action to reduce emissions (ÉcoRessource Carbone, 2013). Québec's total emissions are expected to decrease under the trading system as the number of emissions allowances available will be gradually reduced and the number of offset credits entering the market is limited, creating a hard cap on emissions.

On November 5th 2013, the National Assembly of Québec adopted a motion approving the agreement between Québec and California to harmonize their cap-and-trade systems (Assemblée Nationale, 2013). Subsequently, the Quebec government adopted an order in council on November 13th ratifying the agreement (Gouvernement du Québec 2013a). A key step in this harmonized carbon market was the auctioning of allowances in Québec, which took place on December 3rd 2013. Of a total of 2,971,676 vintage 2013 allowances and 6,319,000 vintage 2016 allowances offered, 35% of the vintage 2013 and 27% of vintage 2016 allowances were sold at the minimal floor price of 10.75\$ per allowance, generating \$29.4 million in revenues for the Québec government (Gouvernement du Québec, 2013b).

2.2.3 British Columbia

In 2007, the province adopted a revenue-neutral carbon tax. Additional revenues brought in by the tax are used to reduce both income and corporate taxes. BC also used various measures to mitigate the impact of the tax on carbon intensive industries and low-income families. While the carbon tax is the key policy instrument, it is worth noting that the province also has a functioning carbon offsets market, for which the public sector has been the main buyer. This resulted from a commitment made by the Campbell government that its own operations would become carbon neutral.

Although BC and Ontario, have adopted important elements of the legislative and regulatory framework necessary for emissions trading, they have not implemented such instrument. This remains the case despite the fact that both provinces remain committed to the WCI. Manitoba is in a similar situation, although the province has made less progress in adopting its legal and regulatory framework for emissions trading.

3. Obstacles to MBIs in Canada

With the idea of market-based approaches in circulation in climate change policy circles and the realization that the federal government was not going to adopt such approach, an opportunity was created for provincial governments to implement MBIs. However, as we saw, while some provincial governments have adopted and implemented MBIs, others have not. That is, despite the fact that all provincial governments in Canada have adopted at least one climate change action plan over the last two decades and GHG emission reductions objective (Houle and Macdonald, 2011; NRTEE, 2012), which in most cases would be best most effectively and efficiently achieved by implementing MBIs along with other forms of governmental intervention (Stern, 2007). In that context, why some provincial governments were able to seize the opportunity offered by federal government inaction and adopt MBIs while other were not? The short answer is that numerous challenges and obstacles had to be overcome and that efforts by provincial governments to do so were not equally successful. Furthermore, each provincial government faces a different context, which offers different challenges and opportunities. Based on case studies of provincial climate change policy-making in Canada, obstacles or challenges met by the provinces in adopting or implementing MBIs can be grouped into three categories: administrative, political, and economic.

Administrative obstacles include provincial government capacity to carry out a vast array of tasks, from GHG emissions inventory, to drafting legislation, designing regulation, delivering permits and collecting and managing revenues amongst other tasks. Also, it should also be mentioned that provinces in which premiers have been directly involved in climate change policy-making, for instance Québec Premier Jean Charest and BC Premier Gordon Campbell, are also provinces that have very rapidly built their climate policy capacity and adopted MBIs. Provinces that have not relied on such commitment from their premier have generally been less successful. Commitment by the premiers greatly facilitates the mobilization of resources and inter-departmental cooperation, which accelerate the implementation of MBIs.

Political obstacles regroup several factors including public opinion, the provincial party system, and the salience of MBIs during provincial elections. Public opinion is not believed to be an obstacle to MBI implementation both because of their increasing popularity and the fact that their implementation in many provinces has not come to the attention of voters. However, when MBIs do come to the attention of the general public—as in the cases of the 2008 federal election, the 2009 British Columbia election, and the 2011 Ontario election—then the party system influences the strategies adopted by political parties, opposition to MBIs, and the extent to which they are implemented. Other political obstacles include federal climate change policy especially the adoption of

MBIs by the federal government, which seems to have been an important obstacle to provincial MBIs before the 2006 federal election.

Economic obstacles are associated with the specific structure of provincial economies, especially the main industrial emitters present. The important factor here is whether or not the province relies on the oil and gas sector to provide economic opportunities to develop its economy. Given the close relationship between industry and provincial governments in Canada, it is not surprising that the policy preference of industry matters. While the presence of the oil and gas industry has not prevented provinces from adopting MBIs, it constrains the form in which these instruments were implemented. The adoption of the Western Climate Initiative emissions trading framework, which includes a floor price and a hard cap of GHG emissions, is particularly challenging in provinces that rely heavily on the oil and gas sector for economic development opportunities. This is to be contrasted with Québec, where oil and gas extraction is marginal and the main source of GHG emissions, beside transportation, is the industrial sector, which includes emissions of the aluminum industry, among others.

Of course, other sectors have also played a role in provincial climate change policy-making. It is the case of the electricity generation sector, which in some provinces is an important source of carbon pollution (such as Alberta or Saskatchewan), while an insignificant one in others (such as Manitoba or Québec). Provinces with both high carbon intensity and low carbon intensity electricity generation systems have adopted MBIs, although provinces that have adopted the most stringent forms of such instruments, either broad-based carbon tax and cap-and-trade, tend to also have an important renewable energy sector. However, the renewable energy industry is not directly targeted by MBIs, although they might benefit indirectly. Therefore, the preference of large industrial emitters, especially when they represent an important sector in a provincial economy, is a more important factor for understanding the development of MBIs. Of course, many provincial industries are involved in the process but given the limited space available here I focus on the Alberta oil and gas sector and the Québec aluminum industry. Both industries have been involved in their respective provincial climate change policy since the beginning, while the involvement of many other industries is much more recent. Although the transportation sector is an important source of emissions, groups representing that sector rarely emerged and have not played a significant role in provincial climate-change policy making.

Finally, it is assumed that with sufficient policy capacity, and in the absence of administrative, political and economic obstacles as described above, governments can overcome the technical challenges associated with MBIs. For instance, although some

provinces have only a small number of emitters, which might not allow a well functioning provincial cap-and-trade system, they can join a regional emissions trading system or adopt other forms of market-based instruments, including a narrow-based carbon tax. Of course, this is not that say these specific examples of MBIs do not have many technical requirements that need to be satisfy. They indeed do and it is important to recognize the work undertaken by public servants to resolve the technical issues associated with any form of MBIs and which render, along with the cooperation of the private sector, their implementation possible and successful. It is our hope that future studies on market-based climate policy in Canadian provinces will be able to better understands this crucial work and the difficult choices that have to be made in the process of MBIs implementation. Table 3 summarizes the factors considered in this report and their impact on MBIs adoption.

Table 3. Summary of Obstacles to MBIs in Canadian provinces

Type	Obstacles	Impact on MBIs	Examples
Ideational	Lack of awareness to MBIs	Since the 1997 Kyoto Protocol, market approaches to climate change policy experienced a momentum. Now all provincial governments have shown awareness to this approach.	Trend in public opinion on MBIs since the 1990s to today
Administrative	Lack of climate policy capacity	Can be understood both in terms of financial and organizational research. Sufficient policy capacity is a necessary condition for the adoption of MBIs.	Albert, Québec, and British Columbia.
	Financial resources available	Provinces that have developed emissions trading (either cap-and-trade or credit-based) have both a high level of absolute and per capita environmental public expenditures	Alberta and Québec
	Inter-departmental cooperation	Variation in policy venues can be observed from one province to the next. Each venue present different advantages and inconveniences for the implementation of MBIs.	BC BBCT (Ministry of Finance); Québec NBCT (<i>Régie de l'Énergie</i>)
	Inter-jurisdiction cooperation	Most governments that have engaged with MBIs have been involved in regional cooperation on climate change.	WCI (Québec, Manitoba, Ontario, BC)
	Commitment of Premiers	Commitment by provincial premiers have the potential to accelerate climate change policy building	Premier Charest and Campbell
Political	Public opinion	Growing support for MBIs in all provinces, which provide social license to adopt them.	-
	Issue salience of MBIs	Low in some provinces where such instruments have been implemented, high in others. Interacts with party system.	Low (QC, AB) High (ON, BC)
	Provincial party system	Important obstacle to MBIs when party systems include right-wing opposition and when MBIs are a salient issue.	Ontario
	Federal policy	Policy shift in after 2006 federal election creating opportunity for MBIs in Canadian provinces.	-
Economic	Industry preferences	Specific industries have different preferences concerning MBIs are important policy actors in climate change policy-making.	Alberta (oil and gas) Québec (aluminum)

3.1 Administrative obstacles: Financial and Organizational Capacity for Climate Change Policy

A first important obstacle to the adoption of MBIs is the lack of policy capacity specific to climate change policy-making. Policy capacity can be defined as the ability of the public administration to achieve governmental policy objectives in adopting and implementing legislations, regulations, programs, and instruments that aim at achieving a specific objective (Peters, 1996; Weiss, 1998; Howlett et al., 2011). In the case of climate change mitigation policy, this objective is to transform current energy and industrial systems to reduce emissions or to adapt to the consequences of climate change (Craft and Howlett, 2013). In turn, this ability is contingent upon the existence of an adequate policy framework along with financial and organizational resources (Willems and Baumert, 2003).

The formulation and implementation of MBIs require governments to perform several tasks, including assembling a GHG emissions inventory, adopting reduction targets, engaging in multilateral consultations and negotiations with a variety of policy actors, enacting legislation, coordinating the actions of several provincial departments, cooperating with other jurisdictions, performing economic analysis to assess the impact of the measure, and designing the necessary regulations (Willems and Baumert, 2003; Aasrud et al. 2010). When considering emissions trading, additional tasks include: to design a vast array of rules and methods to distribute emissions allowances (or emissions permits) and formulate protocols and regulations supporting carbon offset projects, to give only a few examples (Willems and Baumert, 2003; Aasrud et al. 2010).

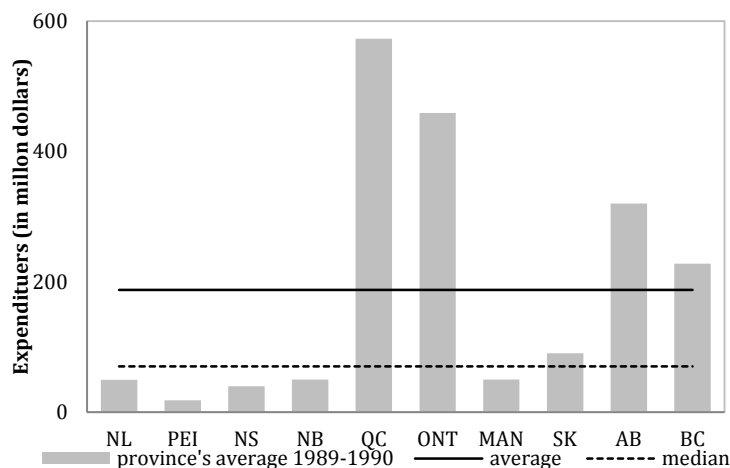
In this report, the indicators of environmental and climate change policy capacity considered include environmental sector expenditures, the creation and maintenance of a policy unit dedicated to climate change, and the adoption of a policy framework for climate change, including emission reduction targets, action plans, and legislation.

Policy capacity evolves over time and governments can engage in capacity-building activities. Capacity building, in the context of climate change policy, can be defined as the adoption and realization of a deliberate program undertaken by provincial administrations to increase its capacity for climate change mitigation or adaptation (Willems and Baumert, 2003; Aasrud et al. 2010). Such a process can be either incremental or not. Incremental capacity building involves small changes in capacity over time, in the framework of existing organizations, while non-incremental capacity building involves the creation of new organizations devoted to environmental or climate change policy and commitment to the highest level of authority.

3.1.1 Environmental sector expenditures

A first general indicator of capacity for environmental policy is provincial public environmental expenditures. This sector of public expenditures includes a broad range of activities, which share the common objective of ensuring the most ‘favorable environment for people’ and minimizing environmental degradation (Boies et al., 2008, 159). Among these expenses are included a broad range of environmental services provided by provincial governments, including ‘pollution control’ (Boies et al., 2008, 159). Figure 2 shows average provincial expenditures in the environmental sector. As would be expected, Québec, Ontario, Alberta, and British Columbia have environmental expenses far exceeding both the provincial average and the median for the period 1989 to 2009. Québec did outspend all other Canadian provinces over the period, with an average of nearly \$576 million per year, followed by Ontario (with \$459), Alberta (\$320), and British Columbia (\$228). In terms of per capita environmental expenditures (Figure 3), Prince Edward Island is leading followed by Alberta, Saskatchewan, Newfoundland and Labrador, Québec and New Brunswick, which are all above provincial average for the 1989 to 2009 period.

Figure 2. Average Provincial Expenditures on the Environment, from 1989 to 2009 (in constant 2002 million dollars)



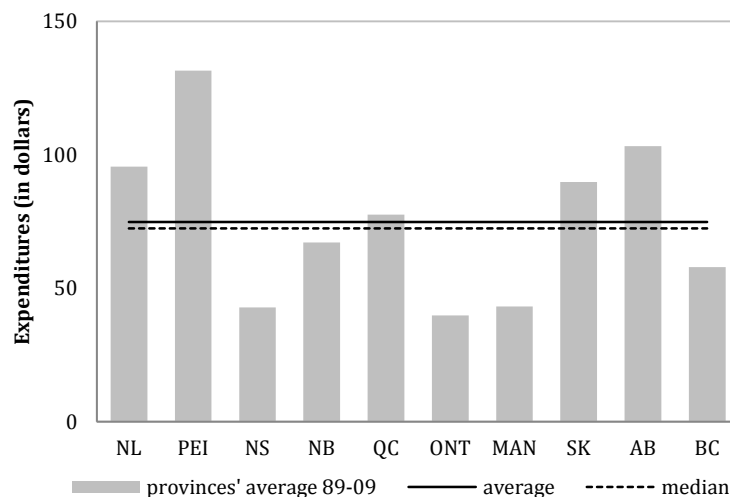
Source: Statistics Canada (2013), Table 385-0001 (provincial expenditures); Statistics Canada (2013), Table 380-0056 (Gross domestic product (GDP) indexes, annual (2002=100)), compiled using the Financial Management System (FMS).

Notes: The figure only reports provincial government expenditures and does not take into consideration expenditures by municipalities.

Both per capita and total environmental expenditures are important for understanding provincial capacity to implement environmental policy, including climate change policy. Total expenditures provide an indicator of both the overall financial resources and relative size of provincial administrations devoted to environmental policy. This is important, as sizeable organizations can be expected to be much more specialized and able to deal with highly technical issues, such as climate change mitigation.

Per capita expenses allow us to examine environmental expenditures in relation to the number of activities—or the scope of the problem—that should be regulated in order to address environmental concerns (Peters and Hoornbeek, 2005). Provinces with a higher level of per capita expenditures devoted to the environment should be in a better position to address environmental concerns than the ones with a relatively lower level of per capita expenditures.

Figure 3. Average Per Capita Provincial Expenditures on the Environment, from 1989 to 2009 (in constant 2002 dollars)



Source: Statistics Canada (2013), Table 385-0001 (provincial expenditures); Statistics Canada (2013), Table 380-0056 (Gross domestic product (GDP) indexes, annual (2002=100)), compiled using the Financial Management System (FMS).

Notes: The figure only reports provincial government expenditures and does not take into consideration expenditures by municipalities.

Table 4 presents an explanatory summarizes total and per capita environmental expenditures and climate change policy outcomes observed in the provinces. Québec and Alberta, which both have high levels of absolute and per capita environmental expenditures are the only provinces that have implemented emissions trading, although they have adopted very different systems.

Table 4. Provincial Expenditures and Climate Change Policy Outcome

		Per capita provincial environmental expenditures (and policy outcome)	
		Low	High
Total provincial environmental expenditures	High*	<p>British Columbia (broad-based carbon tax; emissions trading adopted but partially implemented)</p> <p>Ontario (emissions trading, adopted but partially implemented)</p>	<p>Alberta (credit-based emissions trading)</p> <p>Québec (emissions trading and narrow-based carbon tax)</p>
	Low	<p>New Brunswick (no MBIs)</p> <p>Nova Scotia (no MBIs)</p> <p>Manitoba (narrow-based carbon tax)</p>	<p>Newfoundland and Labrador (no MBIs)</p> <p>Saskatchewan (GHG regulation including carbon pricing proposed but not adopted)</p> <p>Prince Edward Island (no MBIs)</p>

* Total or absolute level of expenditures is deemed ‘high’ when above national average and ‘low’ when equal or below national average.

3.1.2 Policy Unit Dedicated to Climate Change Policy

Environmental expenditures are only one indicator of climate change policy capacity. Additional indicators include organizational resources, such as the creation of a policy unit dedicated to climate change policy-making, inside the provincial ministry or department of the environment or its equivalent, as presented in Table 5. It can be observed that although all provinces now have specialized units dedicated to climate change policy, many of them were only created recently. Given the fact that emissions regulations and the implementation of MBIs require that highly technical and specific tasks be accomplished (Willems and Baumert, 2003; Aasrud et al. 2010), it is very unlikely that they will be successfully accomplished in the absence of specialized policy units.

The first climate change policy units were created in Alberta, Ontario, and Québec during the year 1999-2000, while the most recently created policy unit is Newfoundland and Labrador’s Office of Climate Change, Energy Efficiency and Emissions Trading formed in 2009. Provinces that have created early climate change dedicated policy units, such as Alberta, Ontario, and Québec (1999-2000), Manitoba (2000-2001), and British Columbia (2001-2002) have all implemented carbon pricing mechanisms, although under different forms, with the exception of Ontario, which has nonetheless adopted most of the legislative and regulatory framework necessary to do so.

Table 5. Current Policy Units Dedicated to Climate Change Policy in Canada Provinces

Province	Unit (current name)	Department/Ministry (current affiliation)	A climate change policy unit is active since
British Columbia	Climate Change Secretariat	Environment	2001-2002
Alberta	Climate Change Secretariat	Environment	1999-2000
Saskatchewan	Climate Change and Strategic Planning	Environment	2008-2009
Manitoba	Climate Change and Environmental Protection	Conservation and Water Stewardship	2000-2001
Ontario	Air Policy and Climate Change Branch	Environment	1999-2000
Québec	<i>Bureau sur les changements climatiques</i>	<i>Développement durable, de l'Environnement, de la Faune et des Parcs</i>	1999-2000
New Brunswick	Climate Change Secretariat	Environment	2005-2006
Nova Scotia	Climate Change Directorate	Environment	at least 2003-2004
Prince Edward Island	Climate Change Section	Environment, Energy and Forestry	2008-09
Newfoundland and Labrador	Office of Climate Change, Energy Efficiency and Emissions Trading	Executive Council	2009-10

3.1.3 Climate Change Policy Framework

Three additional indicators of climate change policy capacity are related to the general policy framework adopted by all provinces, which include emission reduction targets, climate action plans, and the adoption of climate change related legislation. Such a framework is an important intermediary step for the adoption of MBIs (Willems and Baumert, 2003; Aasrud et al. 2010). While some provinces have adopted their climate policy framework early, others have only been able to do so recently.

Table 6 summarizes the information gathered on all indicators of climate change policy capacity, including environmental expenditures; the year of the creation of a dedicated climate change policy unit; the year of the adoption of the first GHG target; the year of the first climate change action plan; and the year climate change related legislation was passed.³ Provinces that have implemented some form of MBIs have devoted more financial resources to environmental policy, moved early to create organizations dedicated to climate change policy-making and have a comprehensive climate change policy framework, which includes both climate action plans and legislation. Alberta and Québec, which have successfully implemented emissions trading, rank first and second when we consider most indicators.

British Columbia and Ontario are usually not far behind. British Columbia developed an emission reduction targets and first climate change action plan as early as Québec. While Manitoba created early an organization devoted to climate change policy-making, the province has a relatively low level of environmental expenditures and has completed only recently its climate change policy framework with the adoption of climate change legislation. Nova Scotia enacted its first climate change related legislation at the same time as British Columbia, in 2007. The legislation included the necessary regulatory powers to implement MBIs but the province has yet to make substantial progress in implementing such instruments.

Table 6. Summary of Climate Change Policy Capacity Indicators

³ The ‘year of the first action plan/GHG target/legislation’ is only but one limited indicator and others are available, although cannot be presented here given limited space. For instance, the frequency to which climate change action plans and policy targets were updated or the number of climate change laws and regulation adopted could also have been chosen. However, even if these indicators would have been chosen Alberta, Québec, and British Columbia would remain the provinces where we can observe the most constant and prolonged effort in climate change policy-making, from the 1990s to today. However, British Columbia certainly deserves special praise for the comprehensiveness of its climate change legislative and regulatory framework despite the fact it remains incomplete at least, when considering GHG emissions trading regulation, which has not yet been introduced.

Indicators	Env. exp. (1989-2009)	First climate change policy dedicated organization (up to 2012)	First GHG targets (up to 2012)	Climate change policy framework	
				First action plan (up to 2012)	First legislation (up to 2012)
Value	High/High 1- Alb. 1- Que. High (total)/ Low (per capita) 2- BC 2- Ont. Low (total)/ High (per capita) 2- NFL 2- Sask. 2- PEI Low/Low 3- NB 3- NS 3- Man.	1- Alb. (1999-00) 1- Que. (1999-00) 1- Ont. (1999-00) 2- Man. (2000-01) 3- BC (2001-02) 4- NB (2005-06) 5- Sask. (2008-09) 6- PEI (2008-09) 6- NS (2008-09) 7- NFL (2009-10)	1- Que. (1992) 2- BC (1995) 3- Alb. (2002) 3- Man. (2002) 4- Ont. (2007) 4- Sask. (2007) 4- NB (2007) 4- NS (2007) 5- PEI (2008) 6- NFL (2011)	1- BC (1995) 1- Que. (1995) 2- Alb. (1998) 3- PEI (2001) 3- Ont. (2001) 4- Man. (2002) 5- NFL (2005) 6-NB (2007) 6- Sask. (2007) 7- NS (2009)	1- Que. (2001) 2- Alb. (2003) 3- NS (2007) 3- BC (2007) 4- Ont. (2009) 5- Sk. (2010) 6- Man. (2011) 7- NB (-) 7- NFL (-) 7- PEI (-)

3.1.3 Dealing with Lack of Policy Capacity

According to provincial public servants and elected officials interviewed, there are different strategies that can be used by provincial governments to increase their capacity to implement climate change policy and MBIs. For example in British Columbia and Québec, the implementation of their respective carbon taxes was realized partly outside the ministry primarily responsible for the environment. In British Columbia, the implementation of the carbon tax was accomplished by the Ministry of Finance, which relies for specific tasks on external expertise, such as econometric modeling to determinate the impact of the measure on different groups and industries (confidential interview with a former elected official and public servants).

In Québec, the task of implementing the narrow-based carbon tax was given to the *Régie de l'Énergie*, a regulatory body in charge of regulating the Québec energy market, although the Green Fund itself is managed by the *Ministère du Développement durable, de l'Environnement et des Parcs*. The carbon tax provides the *Ministère* with additional resources to implement climate change initiatives, therefore increasing its policy capacity (confidential interview with public servant).

In the case of emissions trading, it was suggested by interviewees that most provinces, even among the ones that have devoted substantial resources to climate change policy, would not have sufficient resources to design all the necessary regulation and various technical components required for their implementation (confidential interview with public servants). Therefore, they have to rely on cooperation with other sub-national jurisdictions (confidential interview with public servants). The main venue for such cooperation is currently the Western Climate Initiative (WCI), led by California, in which Ontario, Manitoba, Québec, and British Columbia participate. Other venues have existed in the past, including Greenhouse Gas Emission Reduction Trading (GERT) program, a federal-provincial pilot program active from 1998 to 2002. Despite the fact that Alberta public servants have been involved in the GERT program, most of their emissions trading system were designed with little input from other jurisdictions, which can explain in part its distinctiveness (confidential interview with public servants). Alberta's emission trading system did require substantial and continuous effort to develop it, with the first attempt culminating in the adoption of a first climate change legislation in 2003 and regulation in 2007.

Finally, the personal commitment of the premier has been mentioned as especially important for the rapid build-up of climate change policy capacity and to secure inter-departmental cooperation to implement MBIs (confidential interviews with public servants). British Columbia is the best example of such a dynamic as much of the

legislative and regulatory framework for MBIs was adopted in 2007-2008—a task that was greatly helped by the personal commitment of Premier Campbell (confidential interviews with public servants).

3.2 Political obstacles

Policy capacity is not the only factor that has prevented Canadian provinces from implementing MBIs. Three important additional factors can account for the timing of MBIs implementation in Canadian provinces: the possibility of concurrent use of MBIs at the federal level, lack of support for MBIs among Canadians, and the use of MBIs as an electoral wedge issue.

Since the mid-2000s, the first two obstacles have been removed. First, it became apparent at that time that the federal government abandoned any serious ambition of enacting national carbon pricing mechanism. Instead it privileged a sector-by-sector command-and-control regulatory approach as an alternative, publicized during the 2008 federal election campaign to address the issue of climate change. Moreover, only slow progress was made toward its implementation. Furthermore, a majority of Canadians support market-based instruments, although variations have been observed between regions and according to the type of MBIs.

However, in the most recent nine provincial elections in BC, Alberta, Quebec, and Ontario, climate change and/or carbon tax have been salient in four, including the British Columbia 2009 and 2013 elections, the Ontario 2011 election, and the Alberta 2012 election. In two cases, the British Columbia 2009 election and the Ontario 2011 election, an opposition party has used a carbon tax—actual or rumoured—as an electoral wedge issue. In the case of the Alberta 2012 election, an opposition party has expressed scepticism toward scientific findings supporting climate change.

The extent to which the strategy of using a carbon tax as a political wedge issue is effective depends in part on the party system prevailing in a given province. The strategy has been effective in mobilizing sympathizers and stalling MBIs development in Ontario, a province characterized by a party system where a centrist government is confronted to a right-wing party as its main political contender.

A similar strategy used by the NDP in the context of British Columbia politics has not been as effective, in a party system where the opposition is formed by a progressive

party. The fact that progressive voters tend generally to support carbon taxation and other form of MBIs could explain the lack of success of such strategy in that context.

3.2.1 Federal MBIs

From 1988 to 2005, and again during the 2008 federal election, many federal MBI proposals were on the table, including the possible adoption of a federal carbon tax or emissions trading system. One of these proposals was the implementation of a regulation for large final emitters, which included an emissions trading component (Rivers, 2010). In this context, many policy actors, including various industry representatives, were reluctant to cooperate with provincial governments to implement MBIs. This lack of cooperation proved detrimental to the development of emissions trading pilot projects in the provinces (confidential interviews with public servants). Much of provincial climate change policy, especially in Alberta and Québec, during this period was driven by the provinces desire to protect and to promote their industries in a context where federal action on climate change was expected.

In Québec, the enthusiasm for the Kyoto Protocol led the National Assembly to adopt several unanimous motions in favour of the Protocol through the years. The province also adopted a series of voluntary measures aimed at gathering data on emissions and reduction initiatives taken by its industries. These programs included ÉcoGESTe—a registry of GHG emissions and voluntary reduction action by industries and institutions—and sectoral voluntary agreements with the aluminum industry (Chassé and Boiral, 2011; Macdonald et al., 2011). An important concern of the Québec government while developing these agreements was to gather information that would allow Québec industries to secure recognition for early action in the framework of future provincial or federal climate change regulation (confidential interviews with industry representatives and public servants).

Similar politics played out in Alberta. The proactive stance of the federal government in the early 2000s on the issue of climate change—including its unilateral decision to ratify the Kyoto Protocol and discussion of MBIs had the unintended consequence of compelling Alberta to claim jurisdiction and enact climate change legislation in order to prevent the federal government from regulating the Alberta industry (Houle, 2009). At the time, such federal action on climate change was perceived as detrimental to Alberta's interests by provincial policy-makers (*Ibid.*), still reminiscent of Pierre Trudeau's National Energy Policy.

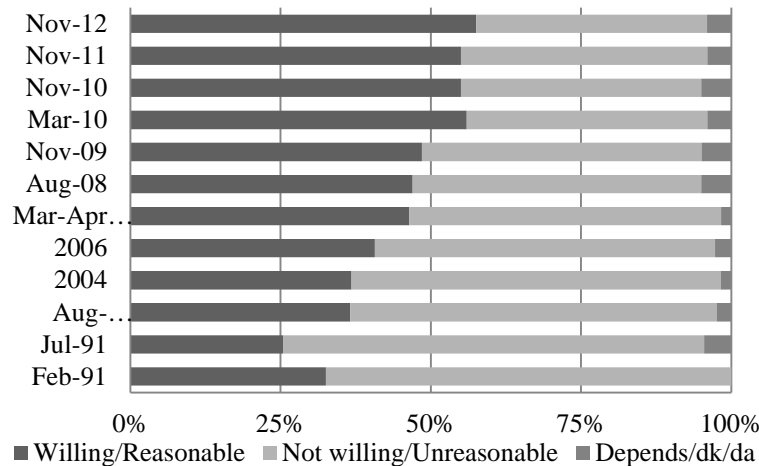
However, after the election of the federal Conservatives in 2006, it seemed increasingly unlikely that MBIs would be implemented at the federal level. This alleviated

the concern that federal and provincial governments would duplicate climate policy efforts and allowed provinces to experiment with such instruments.

3.2.2 Public Opinion and MBIs

Recent studies show that a majority of Canadians are in favour of a broad range of market-based instruments, including cap-and-trade and carbon tax, with support varying from 50% to 63%, depending of the cost per month associated with each instrument (Lachapelle, Borick, and Rabe, 2012: 12).ⁱ When asked if they are in favor of the adoption of measures similar to the British Columbia carbon tax in their own province, 59% of Canadians living outside of BC said that they would somewhat (40%) or strongly (19%) support such a measure.ⁱⁱ This is a recent development and, as Figure 4 (next page) shows, the opinion of Canadians on the topic has changed substantially over the last two decades, with a majority of Canadians now endorsing the idea of a carbon tax. However, the support of public opinion is not enough to ensure the adoption of carbon taxation or other form of MBIs, and other factors should be considered.

Figure 4. Change in Attitudes of Canadians toward a Carbon Tax, from 1991 to 2012



Sources: Data collected by Environics and available in CORA (2013) and Environics (2012).

Notes: Sample size and margin of error varies from survey to survey, but can be as low as 2.5% 19/20 for instance, in the case of the November 2012 survey. Two distinct questions were used by Environicsⁱⁱⁱ.

3.2.3 Provincial Elections and MBIs

One of the important political factors is whether MBIs became a controversial policy issue during provincial elections. Since 2007, nine provincial elections took place in Canada’s four most populous provinces—with considerable significance for climate change policy. Table 7 provides a summary of these elections, including the main contenders, their popular support, and the number of seats they secured.

Table 7. Governing political party and main political contender in selected provinces, in post 2007 provincial elections

Province	Years	Governing political party	Main political contender	Third party
British Columbia	2013	Liberal Party (majority) 44% / 50 seats	New Democratic Party 39.49% / 33 seats	Green Party 8.01% / 1 seat
	2009	Liberal Party (majority) 46.02% / 49 seats	New Democratic Party 42.06% / 36 seats	Green Party 8.10% / 0 seat
Alberta	2012	PC Party (majority) 43.95% / 61 seats	Wildrose Party 34.49% / 17 seats	Liberal Party 9.72% / 5 seats
	2008	PC Party (majority) 52.66% / 72 seats	Liberal Party 26.37% / 9 seats	New Democratic Party 8.52% / 2 seats
Ontario	2011	Liberal Party (minority) 37.62% / 53 seats	Ontario PC Party 35.43% / 37 seats	New Democratic Party 22.73% / 17 seats
	2007	Liberal Party (majority) 42.19% / 71 seats	Ontario PC Party 31.67% / 26 seats	New Democratic Party 16.79% / 10 seats
Québec	2012	<i>Parti Québécois</i> 31.95% / 54 seats	Parti Libéral 31.20% / 50 seats	Coalition Avenir Québec 27.05% / 19 seats
	2008	Parti Libéral (majority) 42.08% / 66 seats	Parti Québécois 35.17% / 51 seats	Action Démocratique du Québec 16.37% / 7 seats
	2007	Parti Libéral (minority) 33.08% / 48 seats	Action Démocratique du Québec 30.84% / 41 seats	Parti Québécois 28.35% / 36 seats

By 2007, these provinces—British Columbia, Alberta, Québec, and Ontario—had all developed significant organizational capacity for climate change policy and were reviewing proposals to use MBIs to reduce GHG emissions. In four of these provincial elections, climate change policy was a salient electoral issue: British Columbia in 2009 and 2013 elections, Ontario 2011 election, and, Alberta 2012 election. In other cases, including all recent provincial elections in Québec, the Ontario 2007 election, and Alberta 2008 election, climate change policy received little attention. In these provinces, the adoption of MBIs could proceed without much interference from actors outside the provincial climate change policy network, which gradually emerged since the first attempt to address the issue of climate change. In these cases, the emergence of MBIs can be explained by the diffusion of the idea of a market approach to climate policy from the international level to the province and, subsequently, the building of climate policy

capacity. Climate policy capacity is understood here as the organizational and institutional framework necessary to formulate, adopt and implement climate change policy, including MBIs.

However, in elections where the issue of climate change policy proved controversial—specifically the adoption of MBIs—its impact on the policy-making process was determined in good part by the party system of that province. In Ontario where the main political opponent of the governing Liberal Party is the right-wing Ontario PC Party, the implementation of MBIs stalled. During the 2011 campaign, the issue of MBIs emerged as Liberal candidate, Dave Levac, who was parliamentary assistant to the Energy Minister, mentioned that a carbon tax was under consideration by the government (Taber and Mackreal, 2011). Although his party rapidly issued a statement contending that the candidate misspoke and that the government was actually considering a cap-and-trade system, the Progressive Conservatives nonetheless used the issue to mobilize their base (*Ibid.*). Shortly after the election, as the Liberals formed a minority government, Ontario Energy Minister Chris Bentley declared that the province was not going to implement emissions trading as expected (Public declarations of Minister Bentley, ‘Building on Rio+20’ conference organized by Sustainable Prosperity, Ottawa, March 15, 2012). Of course, several other factors might also have contributed to this decision. They include the salience of energy prices as Ontario started implementing a feed-in tariff for renewable energy and the decision to phase out coal-fired plants in the province, which provide low-cost electricity.

This contrasts with the case of British Columbia where climate change policy became salient in a context where a relatively right-wing political party, the BC Liberal Party, was confronted by a progressive opposition, the BC NDP. In such a context, the high salience achieved by the British Columbia carbon tax did not prevent its full implementation. The BC NDP ‘Axe the Gas Tax’ campaign did not have the effect intended, especially in a context where environmental groups and academics rapidly mobilized to defend the measure (CBC, 2009). Many NDP insiders consider their party’s decision to oppose the carbon tax during the 2009 election as a mistake (confidential interview with an elected official). Consequently, the party changed its position on the issue during the 2013 election, where came to support the carbon tax—although proposing a different strategy to spend the revenues generated by the measure.

The differences between the two cases could be explained by the fact that while right-wing parties can mobilize their supporters and interest groups against market approaches to climate policy, achieving the same mobilization is highly problematic for progressive parties, since they rely on an electorate generally favorable to carbon pricing mechanisms and have developed alliances, or at least mutual understanding, with

environmental organizations that support such instruments. For instance, the proportion of Conservative Party supporters in Canada that do not believe that climate change exists stood at 28% in 2011 (between January 13 to February 4), while supporters of other political parties that disagree about the existence of climate change has been observed as equal or below 10% (Lachapelle, Borick, and Rabe, 2012: 341).

However, it is possible to observe that in Canadian provinces, MBIs have been implemented under the leadership of political parties that occupy the right of the provincial political spectrum, such as the BC Liberals, the Alberta Progressive Conservatives, and the Québec Liberals, confronted with leftist or centrist political challengers.⁴ The exception is the 2007 Québec election, where the *Action Démocratique du Québec* (ADQ) emerged during the election as the main political contender of the governing Liberal party. ADQ party platform is often described as more right-wing than the platform of any other political party in Québec, including the Liberals, especially when considering privatization of the public sector, income taxation, and public spending. However, during the 2007 campaign, climate change policy did not attract any attention—including the newly implemented *Redevance sur le fonds vert*. In the following election held in 2008, the *Parti québécois* was the most serious political contender again as AQD support collapsed. The 2012 Québec election was hotly contested, with the arrival of the *Coalition Avenir Québec* (CAQ) and the relative success of the *Parti libéral* albeit under difficult circumstances. All three political parties managed to secure about a third of the popular vote. In all of Québec's recent elections, climate change policy was not a salient electoral issue and a broad consensus exists among political parties about carbon pricing, as reflected by several unanimous motion adopted by the National Assembly including the latest resolution in support of the linking of California and Québec regulatory carbon market (Assemblée Nationale du Québec, 2013).

In Alberta, the rise of the Wildrose Party during the 2012 Alberta election represented an important shift in the provincial party system. Furthermore, during the campaign climate change became a salient issue. However, comments by Wildrose Party leader Danielle Smith focused on climate science rather than on Alberta policy on the matter (The Canadian Press, 2013). Also, the 2012 election came five years after the successful implementation of Alberta credit-based emissions trading system.

⁴ An exception is Manitoba's modest tax on coal emissions, implemented by the NDP under the leadership of Premier Gregory F. Selinger.

Table 8 summarizes the provincial elections described above in regards to two important factors: 1) the identity of the main political contender and 2) the salience of market-based climate policy during the election. Considering these two factors, they were only present in the case of Ontario 2011 election. Interestingly enough, the biggest recent shift in climate change policy at the provincial level happened in Ontario after the 2011 election, when efforts to implement emissions trading, to which the Liberal government seems completely committed up to that point, came to a sudden halt. This situation is different of the one prevailing in British Columbia where despite the high salience of the market-based climate policy, the carbon tax remains in place, despite being under review and froze to current level.

Table 8. Provincial elections classified according to main contender (or challenger) and MBIs issue salience

		Salience of market-based climate policy during the election	
		No	Yes
Main political contender	Progressive opposition	<i>No change observed in MBIs implementation</i> Alberta 2008 British Columbia 2005 Québec 2008 Québec 2012	<i>No change observed in MBIs implementation</i> British Columbia 2009 British Columbia 2013
	Right-wing opposition	<i>No change observed in MBIs implementation</i> Ontario 2007 Québec 2007 Alberta 2012*	<i>Change observed in MBIs implementation</i> Ontario 2011
Notes: *Climate change science was salient during that campaign but not MBIs.			

However, in other provinces where climate change policy capacity was developed and political obstacles were not present, because MBIs was not a salient electoral issue, some variation can nonetheless be observed, especially in the different forms of MBIs implemented, as we saw previously and which include: broad-based carbon tax, narrow-based carbon tax, cap-and-trade emissions trading system, and credit-based emissions trading system. In order to account for these differences, a last factor should be considered, the policy preferences of the main provincial industries.

3.3 Economic Obstacles: Industry Preferences and MBIs

Since the 1990s, support for carbon pricing mechanisms has widely diffused in Canada as shown by the public's (Borick et al. 2011; Lachapelle et al., 2012) and businesses' acceptance of MBIs (Belfry, 2011). The latter is a particularly interesting development, as industry representatives supported voluntary instruments to reduce GHG emissions throughout the 1990s and into the early 2000s, which was the climate change policy approach implemented during that period (Macdonald et al. 2011). Today, the industry continues to have an important influence, directly and indirectly, on climate change policy-making and the design of MBIs and their specific settings.

In the case of emissions trading, the specific instrument settings include, among others: 1) the emissions threshold above which companies are required to comply with the regulation and participate to the carbon market; 2) carbon offsets; 3) the presence or not of a ceiling price (or a fixed compliance carbon price), and 4) the method used to allocate free allowances, which might involve recognition of early reductions and historic emissions (either absolute or intensity-based). In the case of carbon taxation, major instrument settings include the overall level of the tax; the rate applied to various fossil fuels; the use of the tax revenues; and the exemptions included. Carbon taxation and emissions trading regulation are complex and the cooperation of the private sector is needed to implement them. Therefore their representatives have many opportunities to influence the choices made by policy-makers and have actively participated in provincial, federal, regional, and international climate change policy-making processes (Macdonald, 2007; Newell and Patterson, 2010; Hoffman, 2011).

However, variations can be observed between different industries respecting their preferred approach to carbon pricing (Belfry, 2011). Industries' climate policy preferences vary as a function of their capacity to reduce emissions. Such capacity also determines their relative position in the emerging carbon markets. Some industries have been successful in reducing their total emissions, while maintaining or increasing their production. However, others have not succeeded in reducing their overall emissions or have succeeded only in reducing their carbon intensity.

Aluminum Industry in Québec

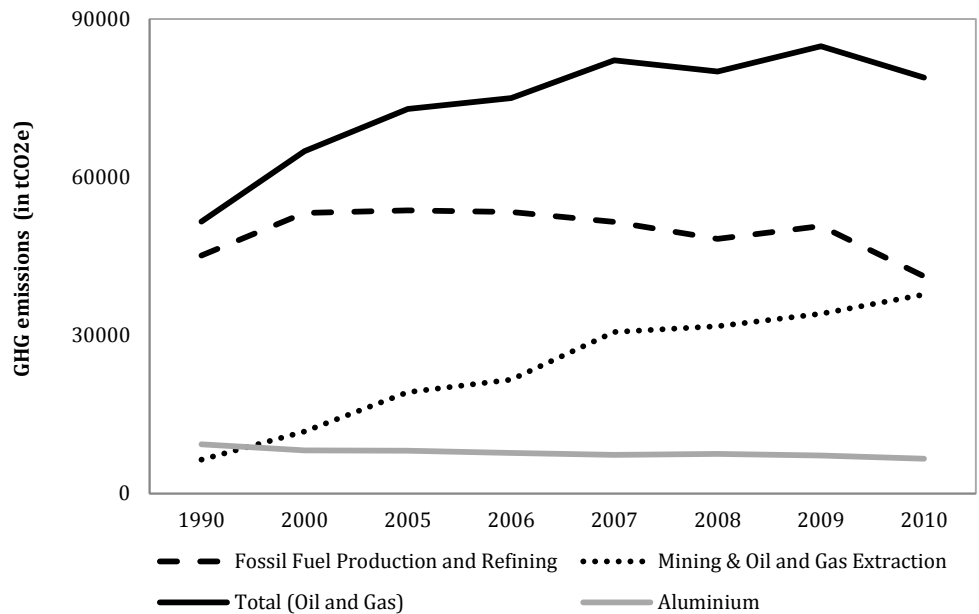
For instance, Québec's aluminum industry represented 57.5% of the total industrial GHG emissions in the province in 2010. The industry has been successful in reducing their carbon footprint while increasing its production (Paradis et al., 2013: 16). GHG emissions of the aluminum industry have decreased from 7.5 MtCO₂e in 1990 to 6.2 MtCO₂e in 2010, a reduction of 16.5% (Paradis et al., 2013: 15). In order to accomplish this, several actions were undertaken by the industry including the gradual abandonment of

Söderberg anodes, which generate more CO₂ and require more energy than other types of anodes used in the production of aluminum (RioTinto Alcan, 2013). The industry also worked on limiting the anode effect, a phenomenon that happens during the production of aluminum and which increase the amount of energy needed and results in the generation of perfluorocarbons, which are powerful GHGs. The frequency of anode effects was reduced by the development of early warning systems (*Ibid.*).

Oil and Gas Industry

The oil and gas sector in Alberta has been able to develop many technological innovations, which have allowed the industry to reduce its carbon intensity. For instance, in the oil sands sector in Alberta, emissions per barrel of oil produced have reduced on average by 26% since 1990 (Government of Alberta, 2013). However, because of the sustained growth of the oil and gas sector and the increased reliance on unconventional fossil fuels, which generates more emissions than conventional sources, emissions have increased in the sector during the 1990-2010 with the exception of fossil fuel production and refining (see Figure 5). This was in decline in many provinces, including Québec.

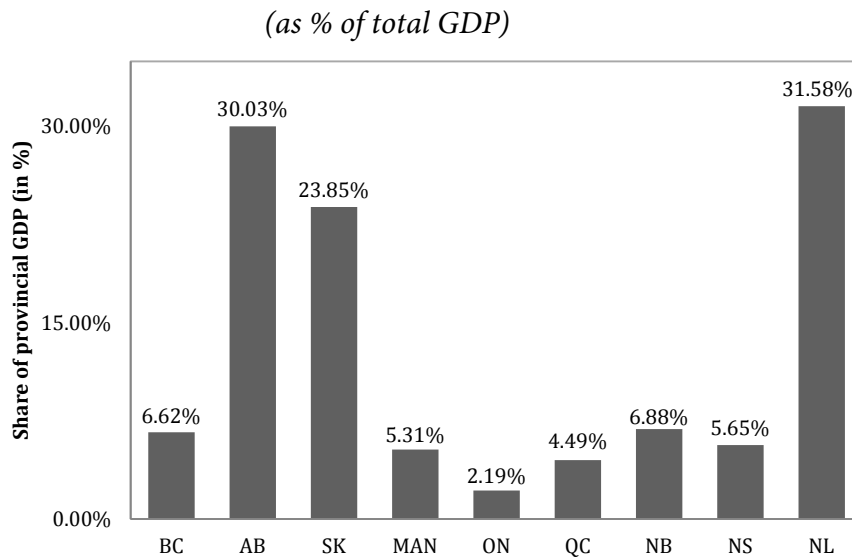
Figure 5. Comparing trends in GHG emissions in Canada from the Oil & Gas sector and the aluminum industry, selected years from 1990 to 2010 (in tCO₂e)



Notes: Data are available only for the years that appear in the figure.
 Source: Government of Canada (2013), National inventory of GHG Inventory, 1990-2012.

Provincial economies in Canada are quite diverse. While some provinces can be characterised as economically heterogeneous, being driven by a large number of economic sectors, others rely heavily on a few sectors to create economic opportunities. Ontario, Québec, and British Columbia can be described as relatively heterogeneous, while in contrast a third of the economy of Newfoundland & Labrador and Alberta, and a quarter of the economy of Saskatchewan, have been driven by the energy sector over the 2007-2012 period (see Figure 6). In these provinces, oil and gas extraction ranged from 16% of provincial GDP in Saskatchewan to 24% in Alberta (Figure 7).⁵

Figure 6. Energy sector contribution to provincial GDP, average from 2007-2012

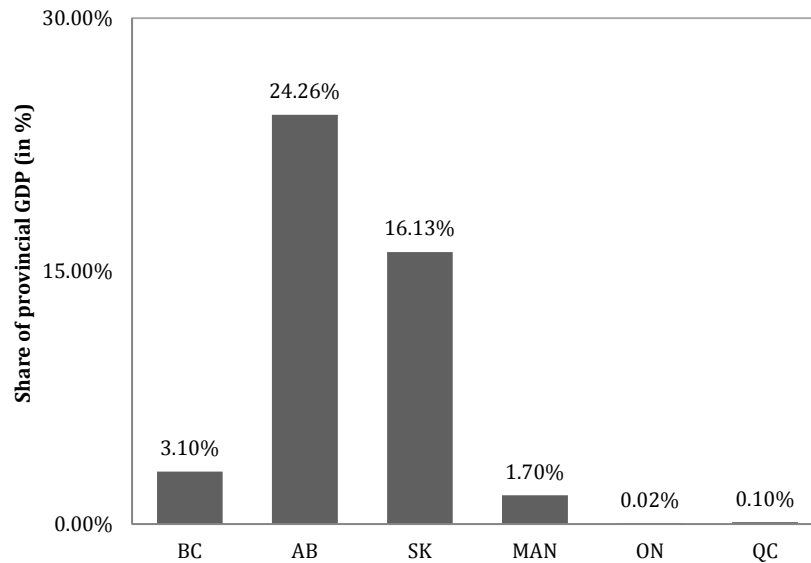


Notes: Data for PEI are not available.

Source: Statistics Canada, Series on Gross Domestic Product by Industry - Provincial and Territorial, Table 3790030

⁵ Similar data for Newfoundland and Labrador are not available.

Figure 7. Oil and gas extraction sector contribution to provincial GDP, average from 2007-2012 (as % of total GDP)



Notes: Data for PEI, NS, NB, and NL are not available.

Source: Statistics Canada, Series on Gross Domestic Product by Industry - Provincial and Territorial, Table 3790030.

Given the above trends in the oil and gas sector in Canada, the presence of the industry is significant to understand the context in which climate change policy-making take place in many Canadian provinces. It is not surprising that representatives of the oil and gas sector voice concerns about the emissions trading in the framework of the WCI initiative (confidential interview with industry representatives and public servants). The WCI imposes a hard cap on emissions, has a relatively high carbon price ceiling (\$40-\$50 per tCO₂e in the case of Québec), and severely limits the number of offset credits that can be purchased. However, the oil and gas sector has been willing to work in the framework of the more lenient Alberta credit-based emissions trading system.

Although the presence of oil and gas extraction activities is modest by comparison in both British Columbia and Manitoba, it might prove difficult for these provinces to implement the WCI emission trading framework as it would constraint the future development of the industry in these provinces (confidential interview with public servants). In British Columbia, industrial process emissions—including the one generated by the oil and gas industries—are not covered by the carbon tax. Furthermore, the revenues generated by the tax are used to improve BC’s fiscal environment. Both elements were important to allow the Campbell government to secure the acceptance of the carbon tax by the business community (confidential interview with former elected

official; confidential interview with public servants; confidential interview with business representative).

In both Québec and Ontario, oil and gas extraction remains a marginal economic activity. In Québec, the development of climate change policy has been driven by the concerns of several economic sectors, especially the aluminum industry, which has developed a close relationship with the provincial government, including with the *Ministère du Développement durable, de l'Environnement, de la Faune et des Parcs*. The aluminum industry has also participated in Québec's earlier voluntary emissions reduction programs, such as the 1996 ÉcoGESTe program, and successfully negotiated GHG reduction agreements with the Québec government in 2002 and 2007 (Chassé and Boiral, 2011; Macdonald et al., 2011). The Québec aluminum industry's ability to generate absolute emissions reductions while increasing its production led the industry to support ambitious action on climate change, as long as early reductions were recognized and that some measures are taken to control the cost of complying with provincial climate initiatives (confidential interviews with industry representatives). However, the aluminum industry, along with other Québec industries, including oil refineries and cement, voiced concerns about Québec's Green Fund duty and its impact on their international competitiveness (confidential interviews with industry representatives).

Finally, in the case of Ontario, emissions from electric utilities, especially from coal-fired plants, is the main concern in terms of industrial emissions. However, the province has preferred to adopt a coal-fired plant phase-out, despite the utilities preference for a carbon pricing mechanism (confidential interview with an industry representative).

4. Conclusion

In order to explain the timing of the adoption of MBIs by Canadian provinces, attention must be given to the evolution of the political context at the international, North American, and finally, Canadian federal levels. First, the diffusion of the idea of carbon pricing as an essential instrument for GHG emissions reduction is important for understanding the ideational context in which climate change policy-making has occurred in Canada. It is also important to understand the diffusion of MBIs as a multi-level process, which has occurred almost simultaneously at different places and different times at the international, regional, national, and subnational levels. From the literature in economics, and the early US experience in atmospheric pollution regulation, MBIs were introduced in the UNFCCC framework during the 1997 Kyoto Protocol negotiations under the form of three flexibility mechanisms. Parallel to these international developments, national and subnational policy-makers, ENGOs and industry representatives started experimenting with such instruments. In Canada, a leading example is the GERT pilot program, active from 1998 to 2002, in which the federal government along with many provinces participated. Gradually, the expectation that carbon pricing mechanisms would be an integral part of emerging climate change policy became well-established. The creation of the EU ETS in 2005 provided another high-profile use of MBIs.

Second, the evolution of federal climate change policy after the 2006 election of a federal Conservative government appears to have changed the nature of provincial climate change policy-making. Before 2006, an important driver of provincial climate change policy was the promotion of the interests of their industries, in the context of anticipated federal action. After 2006, the lack of enthusiasm of the federal government for MBIs removed the threat of redundant carbon pricing mechanisms and opened the door for provincial governments to implement emissions trading and carbon taxation.

To understand why some provinces seized the opportunity to implement MBIs, the presence or the absence of three different obstacles should be taken into consideration. Each obstacle is constituted by a set of factors. A first obstacle is insufficient climate policy capacity. This report presents evidences that provinces with higher capacity for climate policy, such as Alberta and Québec, are the ones that have been successful at implementing emissions trading, although the two systems have important differences in their design, which might lead to very different outcomes in terms of reduction of emissions. In the cases of British Columbia and Manitoba, despite having devoted less financial resources to environmental policy-making than Québec and Alberta (both in absolute and per capita terms), the provinces were able to engage to some degree with MBIs as they have adopted carbon taxes—although a very modest one

in the case of Manitoba. However, the two provinces have not been able to date to implement emissions trading system, despite their commitment to such instrument.

After considering a broader range of indicators of climate change policy capacity, I conclude that although it might have played a role for smaller provinces, it is most likely not the main factor behind the lack of progress experienced by emissions trading in British Columbia.

As we saw, many factors can contribute to explain the limited development of emissions trading and another explanation need to be sought. It most assuredly rest with the rapid development of the oil and gas sector, which renders difficult the adoption of an emissions cap on industrial emissions, which would be an essential component of an emissions trading system design with the framework of the WCI.

Finally, a last point to be made about policy capacity is that that climate policy capacity building is closely associated with political leadership of committed premiers, including Jean Charest and Gordon Campbell. Such commitment at the highest level of the provincial government facilitated inter-department cooperation and the mobilization of resources for the implementation of climate policy, including MBIs.

A second obstacle to the adoption of MBIs is the provincial political context, characterized in this report by the party system that prevails in each province, which include the by the political parties that compete for power and their respective ideology, and the electoral salience of the issue of market-based climate policy. The political context surrounding climate change policy-making is very different from one province to the next. For instance, in Québec and Alberta, carbon pricing did not emerge as an important electoral issue, when compared to province like British Columbia and Ontario, where it has been a hotly debated topic. Furthermore, in provinces where the issue of MBIs emerged, it has not always had the same impact on the development of MBIs. While the development of emissions trading in Ontario was stalled after the most recent election in which carbon pricing became an electoral issue, the implementation of the BC carbon tax continued after the 2009 provincial election. The fact that BC and Ontario have widely different party system might have contributed to the difference in outcome. While right-wing political parties, such as the Ontario PC party, can use their opposition to MBIs to mobilize their supporters, the same strategy used by the left-wing BC NDP had very different results, given the fact that progressive voters, contrary to conservative counterparts, tend to support MBIs. Therefore, the success achieved by a political contender using carbon pricing as an electoral issue, and its impact of MBIs implementation, seems constrained by its relative position in the party system and the nature of its political support, either progressive or conservative voters.

Changes in the political context surrounding climate change policy-making appears to be the most important factor to understand why Ontario has not been able to implement an explicit carbon pricing mechanism and has instead concentrated its efforts towards the regulation of the electricity sector. Emission reductions in this sector were achieved both by phasing-out its coal-fired plants and the adoption of the *2009 Green Energy and Green Economy Act*. Before the 2011 provincial election, the Ontario government expressed willingness to adopt emissions trading, through its involvement in the WCI and the signing a memorandum of understanding to develop such system with Québec on 2 June 2008. However, the political context changed during the 2011 election, as MBIs suddenly became salient and were used a wedge issue.

Finally, a last obstacle is the economic context, understood here as the capacity to reduce emissions and related climate policy preferences of important provincial industries. The economic context allows us to better understand why some provinces have been able or not to implement MBIs and the characteristics of the instruments that they have adopted. These characteristics include, for instance, the type of carbon pricing mechanism chosen (cap-and-trade, credit-based emissions trading, narrow-based or broad-based carbon tax), the emission reduction target adopted (either in intensity or absolute terms), and the emissions threshold beyond which industries are included. It is well known that provincial governments have close relationships with their most important industries and have taken business interests into consideration in shaping climate policy since 1997. Of course, these relationships still exists today and they have an important influence over the final form of MBIs adopted by Canadian provinces. While some industries, such as the Québec's aluminum sector, have been able to generate absolute emission reductions while increasing their production, others, such as oil and gas, have not. Although some support can be found from the oil and gas sector for carbon pricing, the WCI framework appears too constraining for the sector (confidential interview with industry representatives and public servants), which has contributed to the difficulties experienced in the implementation of WCI-style emissions trading in some provinces (confidential interview with public servants).

A more optimistic observation is that other forms of MBIs, especially modest carbon taxes, have been implemented early and used to gather additional resources for climate change policy—as shown by the example of Québec. Furthermore, the development of regional emissions trading schemes in North America, especially the WCI, provides substantial opportunities for provinces to benefit from regional cooperation to facilitate the adoption of emissions trading.

In provinces with substantial oil and gas sectors, credit-based emissions trading systems generate less resistance than the WCI framework. So far, the former approach has not contributed to total emission reductions despite improvements in performance and carbon intensity. However, once the principle is established that emissions should be reduced and that a carbon pricing mechanism should be implemented to do so, gradual modifications to existing policy instruments can be used to increase their effectiveness and efficiency (Hahn and Stavins, 2011).

5. Implications for Policy-Makers

- Narrow-based carbon taxes, such as the ones adopted by Québec and Manitoba, can be used to offer an early carbon-pricing signal and raise additional resources for climate change policy.
- Many regional venues for climate change policy now exist, including the Western Climate Initiative (WCI), which can provide useful resources for developing capacity for MBIs.
- Several administrative venues can be used to implement MBIs. Instead of developing policy capacity for MBIs only inside the ministry dedicated to the environment, provincial governments can mobilize other departments including finance, natural resources and energy. Government agencies responsible for energy market regulation can also provide an alternative venue for the implementation of MBIs.
- Specific MBIs, such as credit-based emissions trading systems, can be used in provinces relying on carbon intensive industries for economic development opportunities. Such instruments can gradually be made more effective by increasing industry-specific intensity targets and gradually raising the carbon price offered as an alternative avenue for compliance.
- More efforts should be made to better inform the public about the distinctions between different forms of carbon pricing mechanisms, most notably the distinction between cap-and-trade and a carbon tax. Communication should focus on the expected impact on energy prices and the measures that can be implemented to eliminate or at least, reduce, potential regressive impacts. For instance, financial assistance, under many forms, can be offered to low-income families or energy-intensive trade-exposed industries.
- MBIs remain popular among Canadians. Given the party system that prevails in many provinces, right-wing political parties have an opportunity to create a consensus allowing significant action on climate change policy by promoting MBIs. This is especially the case when they are competing against progressive parties. Many centrist and right-wing political parties in Canada have already seized that opportunity.

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ⁱ Margin of error of 2.8%, sample of 1214 Canadians between January 13 and February 4, 2011.

ⁱⁱ Margin of error for the whole survey is 2.5%, on 19/20, for a sample of 1,500 Canadian between November 15 and December 5, 2012. However, that specific estimate is based on a sub-sample composed of all Canadians but residents of British Columbia.

ⁱⁱⁱ The first question (asked from 1991 to 2007) is: *One idea which has been put forward to help us to conserve energy and reduce global warming is to bring in a 'Carbon tax'. This would be a special tax on gasoline and other fossil fuels. How willing would you be to pay a carbon tax of 10% more on gasoline? Would you be ... [very willing, somewhat willing, not very willing, and not wiling at all].* The second question (used from 2008 to 2012) is: *Some experts have said that consumers should be prepared to pay more to help do their part to address climate change in Canada, in the form of new government taxes and higher prices for certain kinds of products and services. Do you think an additional \$100 per year is a reasonable amount for an average household to pay or do you think this amount is unreasonable?... [yes or no].*