

Canadian Provinces Shape GHG Regulations; Trading Programs Tie to California

As in the United States, Canadian provinces are taking the lead in climate change policy in the absence of action at the federal level. But the extent and reach of provincial policymaking in Canada is more widespread and ambitious than in the United States. Three provinces representing more than 70% of Canada's 34 million people—British Columbia, Ontario and Quebec—have enacted a variety of emissions caps and taxes to meet the Western Climate Initiative (WCI) goals of 15% reductions from 2005 levels by 2020. All three provinces are committed to joining California in the WCI carbon trading system as early as 2012.

Like California, the three provinces have climate action plans that draw on cap and trade systems as well as a host of complementary measures such as vehicle fuel economy standards, renewable energy and energy efficiency incentives and policies to “encourage the development of more sustainable, healthy communities,” to quote from British Columbia's Climate Change Action Plan.

Saskatchewan (pop. 1 million) “began consulting around March 2010 to create proposed regulations for the Management and Reduction of Greenhouse Gases Act,” said Melanie Steiner, market leader, Climate Change and Sustainability Services for **Ernst & Young Canada**. “The target is 20 percent reduction by 2020 relative to 2006 levels for any entity that emits more than 50,000 [metric] tons annually. It's not in force yet but we're expecting final approval,” said Steiner, adding that coal power plants, potash and other types of mines would be among the leading sectors covered.

Teresa Meadows, a senior associate in the **Miller Thomson** law firm's Edmonton

Canadian Provincial Climate Change Policy Summary

While the federal government won't move on a national GHG cap until the United States does, British Columbia, Ontario and Quebec are pushing ahead with cap and trade programs and expect to join California in the Western Climate Initiative trading market as early as 2012. Alberta was the first to regulate GHGs, but its high threshold and Alberta-only offset policy leaves it out of the WCI market for now.

office, says provincial climate policies have evolved differently based on provincial energy markets and GHG profiles. “Each has taken its own tack,” said Meadows.

Alberta (pop. 3.2 million and home to seven of Canada's top nine emitters) has had an intensity-based emission cap since 2007 covering primarily oilsands producers and coal-fired power generators. “Alberta absolutely had to focus on energy production and coal-fired generation because that's what they do,” said Meadows. But key features of the program, such as the 100,000 metric ton CO₂-equivalent (mtCO₂e) threshold and its requirement that carbon offsets be produced within the province, make it ineligible for trading in the WCI.

“Quebec, Manitoba and BC all have large-scale hydro resources, and that makes a big difference in terms of their greenhouse gas reduction strategies,” said Meadows. “Quebec has very little in direct emission reduction potential in the manufacturing sector, so their emission-reduction opportunities tend to be transportation related.”

Manitoba (pop. 1.2 million) is also interested in carbon trading in the WCI, with an eye on cutting emissions through energy efficiency and providing carbon credits from its large base of hydropower resources. “Manitoba could benefit significantly by being able to sell offsets into a north-south market,” said Meadows. “If they drop their consumption on the demand side by one-third, which most estimates say is possible with an aggressive energy efficiency program, they could end up having credits to sell into the market without having to add much more hydro

capacity.”

This is not the way climate change policy experts envisioned Canada—an active participant in and signatory to the 1997 Kyoto Protocol—moving into the world of cap and trade. “Ten years ago I would have predicted that we would by now have overarching federal legislation that would be driving changes in the markets,” said Meadows. “I think one of the big pushes behind provincial regulatory initiatives has been to bring some semblance of certainty to the marketplace and stimulate investment.”

While Canada has been beat up on the international stage recently for backing away from the Kyoto Protocol, the nation as a whole appears to be politically more friendly toward climate change policy than the United States.

Conservative Prime Minister Stephen Harper has expressed support for a national GHG reduction goal of 17% from 2005 levels by 2020 in line with the goals stated by U.S. President Barack Obama and the Waxman-Markey climate bill that passed the U.S. House of Representatives in 2009. But Harper won't move forward with a federal climate bill until the United States does.

Still Early Going for Environment Canada and Provincial Reporting

Bill C-311, which would have committed Canada to reducing GHGs 25% below 1990 levels by 2020, passed the House of Commons 141-128 in April 2009. But in a political dynamic reminiscent of the United States, the Canadian Senate voted Bill C-311 down on a 43-32 count in November 2010.

Key Provincial Climate Change Requirements in Canada

Province	Initiative	Applies to or Will Apply to	% of GHG Emissions Covered	Type of Limit	Emissions Trading	Integration with Other Jurisdictions	Pricing per tonne CO ₂ e
Alberta	CCEMA SGER	Emitters exceeding 100,000 tonnes	47%	Intensity-based	Yes	No, Trading for Alberta projects only	\$15.00/tonne
BC	CT Act	Combustion of fossil fuels	76%	Price per tonne of emissions		No	\$10 in 2008 and escalating \$5/year to \$30 in 2012
BC	GHG R (C&T) Act	Designated large GHG emitters		Hard Cap	Yes	Yes, with WCI integration	
Ontario	EPA Amendment (GHG ETA)	9 industrial sectors: Likely for emitters 25,000 tonnes+	40%	Hard Cap	Yes	Yes, MOU with Québec & WCI integration	
Québec	GFR	Duty on the bulk sale of fossil fuels		Levy based on type of fuel and CO ₂ emissions		No	\$2.00/tonne
Québec	Bill 42 (Amendment to EQA)	Emitters exceeding 25,000 tonnes		Hard Cap	Yes (MCEX likely)	Yes, MOU with Ontario, Ministerials to harmonize; parallels U.S. proposals	

Source: Miller Thomson; Abbreviations: Bill 42 (Amendment to EQA) – An Act to amend the Environment Quality Act and other legislative provisions in relation to climate change; CCEMA – Climate Change and Emissions Management Act; CT Act – Carbon Tax Act, S.B.C. 2008; EPA Amendment (GHG ETA) – Environmental Protection Amendment Act (Greenhouse Gas Emissions Trading), 2009; EQA – Environmental Quality Act; GFR – Regulation respecting the annual duty payable to the Green Fund; GHG R (C&T) Act – Greenhouse Gas Reduction (Cap and Trade) Act, S.B.C. 2008; MCEX – Montréal Climate Exchange; SGER – Specified Gas Emitters Regulation; WCI – Western Climate Initiative.

But Canada hasn't promulgated an endangerment finding for greenhouse gases like the U.S. EPA has. After Environment Canada made a finding that GHGs are reportable substances under the country's National Pollution Release Inventory, emitters with more than 100,000 mtCO₂e have been reporting annually since 2004; for 2009, the threshold was reduced to 50,000 mtCO₂e. "The expectation was that the finding would be the basis for Environment Canada to go forward with regulation," said Meadows. "We haven't seen that to date."

With federal climate legislation dead in the United States through 2013 at the least, there's little chance Harper and the Tories will move forward; so Canadian provinces are in the driver's seat.

For American readers, an important point to understand about Canadian provincial governance and climate change policies is that although legislators identify GHG reduction goals in climate laws, in many cases it's up to cabinet ministers—known as the Lieutenant Governor in Council—to establish actual targets.

"The cabinets will be studying these overarching general goals for the prov-

inces, then the sectoral targets will be developed in consultation with the particular sectors and also with the provincial departments of the environment," said Meadows.

Quebec, Ontario and British Columbia have initiated reporting requirements later than the federal government, and at lower thresholds. Ontario requires facilities that generate more than 25,000 mtCO₂e to report; Quebec has a similar rule, with the difference that emitters over 10,000 tons also have to report but don't need third-party verification; British Columbia requires reporting for facilities above 10,000 mtCO₂e but only those above 25,000 will be subject to the cap and trade law.

Meadows says the late start and lower thresholds for provincial reporting means that ministries have a significant accounting challenge. "Their true understanding of their emission pictures is still at the preliminary stages," she said. "The flexibility they've built in was to accommodate the chance that as their reporting becomes more sophisticated and they get a better handle on their emissions sources, they can revisit some of these targets."

Provincial cabinets will also have the

power to increase the caps if they determine there's an issue with the supply of allowances or offset credits, according to Meadows. But she thinks that the provinces' motivations to enter and remain in the WCI carbon trading market will provide a strong incentive to ensure that provincial GHG targets still achieve reductions below the 15% over 2005 levels by 2020 agreed to by WCI partners.

"Although the Western Climate Initiative is a voluntary organization, its jurisdiction comes from the fact that to be part of the trading scheme, individual partners have to meet certain criteria" including equivalent GHG reduction targets and offset protocols, according to Meadows.

"Generally speaking the provinces that are part of the WCI are going to want to maintain the same cap to qualify and also to trade credits," agreed Steiner. "What businesses are looking for is predictability and consistency."

Quebec Shifts GHG Mitigation Into High Gear

Quebec (pop. 7.9 million) kicked off its climate change policymaking in 2007

with a goal of reducing emissions by 6% by 2012 from 1990 levels. The province also put a carbon tax on bulk sales of fossil fuels (\$0.01 per liter of gasoline, diesel and heating oil; \$8/mt of coal. Dollar amounts cited in this story are in Canadian dollars) and created mandatory GHG reporting for emitters over 10,000 mtCO_{2e} annually.

Since then, Quebec has instituted a fuel economy standard for light duty vehicles. “The new regulation aims to [reduce] GHG emissions from new vehicles... by about 35% between 2010 and 2016,” writes Jeff Beyer of the **Delphi Group** consultancy (Ottawa). “Quebec will impose a \$5,000 penalty on each vehicle sold that exceeds the standard if the fleet of vehicles sold by the company in a year fails to meet the average emissions standard.”

“Critics point out that this cost will simply be passed on to consumers, who will either cross-border shop for dirty vehicles, or who will hold on to older and more environmentally damaging vehicles for longer,” wrote Beyer. “Proponents assert that the added cost for dirty cars will encourage people to buy cleaner models, bolster industrial innovation, and will shape the sales strategy of dealers to promote low-GHG vehicles.... While the rules will make vehicles more expensive—estimated at about \$1,300 per vehicle—fuel savings are expected to offset that cost in about three years.”

Quebec is prioritizing transport emissions in part because its electricity sector emissions are so low, according to Luc Gratton, a partner in the Montreal office of Miller Thomson. “Ninety-six percent of available electric power in Quebec comes from renewable sources of energy, mainly water,” said Gratton. This gave Quebec in 2005 a GHG profile of 12.1 [metric] tons CO_{2e} per capita vs. 23.1 [metric] tons for the country as a whole, according to Gratton.

Quebecois manufacturers have also been successful at trimming GHG emissions by 8.5% from 1990 through 2005, according to Gratton. “These are some reasons why the Province of Quebec supported the Kyoto Protocol and adhered to the Western Climate Initiative,” he said. “It’s also interesting to know that in Cancún [at the December 2010 United Nations climate talks] the Prime Minister of Quebec, Jean Charest, received a prize for his leadership in relation to climate change from the State of South Australia.” The prior recipient of the prize, created in 2009, was California Governor Arnold Schwarzenegger.

Quebec is raising the climate policy bar even higher as it prepares a mandatory cap and trade program for emitters over 10,000 mtCO_{2e} annually. “The Government of Quebec is expected to adopt in the first three months of 2011 a draft regulation,” said Gratton. “This system will come into force on January 1, 2012, as required by the Western Climate Initiative.”

In Gratton’s reckoning, the public in Quebec is supportive of climate change policy. Although disappointed that there wasn’t greater progress at the Cancún talks, most Quebecois were relieved to see California voters rejection of an anti-climate action ballot measure in the November 2010 elections. “It was on the front page,” he said. “The public generally felt relieved that it didn’t pass.”

Many of the province’s businesses are also looking forward to opportunities in the WCI carbon market, according to Gratton. One of their hopes is that the Montreal Stock Exchange becomes an active trading platform for WCI compliance credits. “The stock exchange has been preparing for five years to be one of the first in North America to operate such an exchange,” said Gratton. “They’ve been

Selected BC Carbon Tax Rates by Fuel Type

Tax rate through June 2011		
Gasoline	¢/litre	5.56
Diesel	¢/litre	6.39
Jet Fuel	¢/litre	6.531
Natural gas	¢/gigajoule	124.15
Propane	¢/litre	3.85
Coal – high heat value	\$/tonne	51.93
Coal – low heat value	\$/tonne	44.43

Source: BC Climate Action Plan

doing this for entities that trade on a voluntary basis, but the volume of trades has been very weak” compared to the anticipated volume in a mandatory market.

Ontario Aims For ‘Green Revolution’

The Legislative Assembly of Ontario passed its GHG cap and trade policy in December 2009. As of the end of 2010, cabinet ministers were still designing the program—a process that had been initiated under earlier legislation. Ontario had previously joined the WCI in 2008 and signed a separate premier-to-premier memorandum of understanding to cooperate with Quebec in developing a cap and trade system.

According to a report from the **Ontario Ministry of the Environment**, consultations with industries, environmental groups and other stakeholders began in the fall of 2008. Highlights of the feedback include: Industrial representatives acknowledged that a GHG cap and trade system was coming to North America, but they want an Ontario program to be aligned with U.S. partners and to see “competitiveness impacts be addressed to avoid leakage (particularly for trade-exposed sectors).” Environmental groups sought “faster and more aggressive reductions” while labor groups were mostly concerned with potential impacts on jobs and competitiveness.

In Fall of 2010, the Ministry was focused on amending GHG reporting rules to meet WCI guidelines by adding nitrogen trifluoride as a reportable gas and

requiring more historical emissions data from emitters. Also in the proposed amendment is a measure to exclude emissions from biomass combustion from reporting requirements.

On a parallel but faster track, Ontario has sped ahead of any jurisdiction on the American continent in its strategy to deploy more renewable power. The strategy dovetails with an initiative by the public **Ontario Power Authority** to whittle down its dependence on coal-fired generation, currently source of about 25% of power supply.

“Ontario gets much more of its energy from coal and nuclear power than Quebec,” said Gratton. “They have hydro but less than Quebec as a fraction of total energy production. They are very vigorously acting to promote alternative sources of energy. They see the future is there, and they’re interested in [renewable power] for greenhouse gas reductions.”

As reported in CCBJ’s April/May 2010 North American Wind Energy edition, Ontario’s generous feed-in tariffs (FIT) for renewable power offers 20-year contracts at \$135 per MWh for onshore wind and \$190 per MWh for offshore wind, plus a 20% escalation clause.

In April, OPA announced contracts with developers of 184 large projects offering total capacity of 2,241 MW, including 76 ground-mounted solar PV projects, 47 onshore wind, 46 waterpower, seven biogas, two biomass, four landfill gas, one roof-top solar and one offshore wind.

The province’s progressive move comes with a big potential negative for trading partners: a rigorous “buy Ontario” provision that requires 25% of projects’

content (including services) to originate in Ontario, increasing to 50% in 2012.

With little domestic wind or solar manufacturing capacity, Ontario’s policymakers sought to incentivize a rapid build-up in cooperation with foreign firms. And in January 2010, OPA, Samsung C&T Corp. and the Korea Electric Power Corp. announced a major deal in which the Korean firms would invest some \$7 billion in 2,500 MW of wind and solar power capacity—and work together to attract four manufacturing plants. Since then European, U.S. and Canadian manufacturers (from other

provinces) have announced plans to open plants in Ontario, according to a September 13, 2010 story in the *Globe and Mail*.

While there’s no doubt the FIT program is driving investment, there’s some question as to whether it will withstand a challenge by Japan before the **World Trade Organization**, whose rules generally consider domestic-content requirements an unfair “non-tariff barrier” to trade.

According to the *Globe and Mail*, Japan filed its complaint with the WTO in September 2010. Trade attorneys interviewed by the newspaper had different opinions

Canada’s Top GHG Emitters in 2009

Facility Name	Prov.	Company	Emissions tonnes CO ₂ e
Sundance Thermal Electric Power Generating Plant	AB	TransAlta Corporation	4,247,967
Mildred Lake and Aurora North Plant Sites	AB	Syncrude Canada Ltd.	4,235,313
Genesee Thermal Generating Station	AB	Capital Power Corporation	3,940,551
Suncor Energy Inc. Oil Sands	AB	Suncor Energy Oil Sands	3,782,058
Boundary Dam Power Station	SK	SaskPower	3,030,268
Kepphills Thermal Electric Power Generating Plant	AB	TransAlta Corporation	2,931,388
Nanticoke Generating Station	ON	Ontario Power Generation Inc.	2,930,672
Battle River Generating Station	AB	ATCO Power	2,849,322
Sheerness Generating Station	AB	ATCO Power	2,615,537
Dofasco Hamilton	ON	ArcelorMittal Dofasco	2,592,672
Poplar River Power Station	SK	SaskPower	2,210,303
Cold Lake	AB	Imperial Oil Resources	2,152,063
Lingan Generating Station	NS	Nova Scotia Power Incorporated	1,859,035
Lambton Generating Station	ON	Ontario Power Generation Inc.	1,817,152
Belledune Generating Station	NB	NB Power Generation Corporation	1,762,492
Refinery	NB	Irving Oil Refinery	1,661,445
PAW In-Situ Oilsands Facilities	AB	Canadian Natural Resources Ltd	1,549,212
Essar Steel Algoma Inc	ON	Essar Steel Algoma Inc	1,544,687
NOVA Chemicals Corporation (Joffre)	AB	NOVA Chemicals	1,517,093
Horizon Oil Sands Processing Plant and Mine	AB	Canadian Natural Resources Ltd	1,470,297
Wabamun Thermal Electric Power Generating Plant	AB	TransAlta Corporation	1,447,918
Shand Power Station	SK	SaskPower	1,440,121
Scotford Upgrader and Upgrader Cogeneration	AB	Shell Canada Energy Limited	1,417,793
Trenton Generating Station	NS	Nova Scotia Power Incorporated	1,414,084
TransCanada Pipeline, Alberta System	AB	Nova Gas Transmission Ltd.	1,398,139
Foster Creek SAGD Bitumen Battery (with Cogen)	AB	Cenovus FCCL Ltd.	1,377,946
CCRL Refinery Complex	SK	Consumers’ Co-operative Refineries	1,354,734
Top 30 Sources			60,550,262
Next 200 Sources			92,285,174
Remaining 280 Sources Listed			18,970,298

Source: Environment Canada

about how strong Japan's case would be. "One key issue in this case is whether the purchase of renewable power is considered to be government procurement," wrote reporter Richard Blackwell. "GATT rules allow for preference to be given to local producers for government purchases."

Other attorneys predicted a long dispute, especially since Japan has to negotiate with the federal government, which lacks power to change Ontario policy. And even if Japan is successful, "the WTO does not have an effective enforcement mechanism, other than to allow the winning country to retaliate with some other kind of tariff."

BC To Design Cap and Trade System

British Columbia has enacted a GHG reduction target of 33% below 2007 levels by 2020, and it instituted a carbon tax in 2008. As in Quebec, the tax is levied on fossil fuels but at significantly higher rates initially based on \$10/tCO₂e increasing by \$5 per tCO₂e to reach \$30 in 2012. In December 2010, the tax rate equated to \$0.0556 per liter of gasoline and \$44.4 to \$51.9 per metric ton of coal.

BC lawmakers designed the tax to be revenue-neutral, with increased revenues from the carbon tax returned to BC taxpayers through corresponding tax reductions. This has resulted in little opposition, but also a lack of revenue to invest in clean technology, an element of the tax policy that has frustrated BC climate change campaigners.

In December 2010, the Climate Action Secretariat completed a round of stakeholder consultations on the draft regulations for the proposed emissions trading system and the design of a carbon offset system, according to Joseph Pallant, president and CEO of Carbon Project Solutions (Vancouver).

Many elements of the BC system appear to align closely with that of California, but the question of a price floor

for allowances and credits—set at \$10 in California—hasn't been decided, according to Pallant. The secretariat is also finalizing offset protocols, with the BC Forest Carbon offset protocol due to be complete by February 2011.

Regarding the forest management sector offsets, Pallant predicts BC will come down on the same side as California regulators and allow forest lands under even-aged management (i.e., periodic clearcutting) to qualify. "BC is a very forestry-oriented place and the people involved in driving forest carbon policy are largely foresters and not carbon geeks and environmentalists," he said.

Another key driver for investment in carbon offset projects in British Columbia is the policy that requires government ministries and public service organizations like universities to be carbon neutral by the end of 2010. "To meet the carbon neutrality targets, the **Pacific Carbon Trust** was established as basically the trading entity for government purchasers of offsets," said Meadows of Miller Thomson. "That has stimulated a lot of fuel switching and a lot of alternative energy development, especially run-of-river hydro."

In the 2009-2010 fiscal year, PCT purchased 39,648 mtCO₂e worth of offsets, of which 36,532 were retired according to the group's annual report. "PCT had anticipated purchasing considerably more tonnes of carbon offsets, but factors such as the economic downturn and lack of procurement-ready projects have delayed purchases," according to PCT. The provincially owned corporation seeks to buy up to 1 million BC-made offsets per year.

Alberta to Drive Development of Carbon Capture and Storage

As noted above, Alberta has had a cap and trade scheme in place since 2007. But the province's intensity-based regulatory framework is misaligned with other regional programs, leaving it out of the

WCI carbon market. Its threshold for companies requiring reporting and reductions is 100,000 mtCO₂e annually while WCI is 25,000. "There was discussion in the government about dropping the threshold to 50,000 tons but they didn't do it largely because of the economic meltdown," said Meadows.

To be used for compliance purposes, offset projects must be developed within Alberta, which greatly limits the market potential, according to Meadows. "First of all, it's such a small market. The second problem is that we don't have price transparency so the costs per ton are not clear," she said.

Meadows says market participants assume the \$15/mtCO₂e price of compliance payments to the Climate Change and Emissions Management Fund constitutes the price ceiling. "But we don't know for sure," she said.

With its large base of oilsands producers—which have an outsized GHG profile due to their heavy use of natural gas-fired separation and upgrading equipment—and coal-fired generation, Alberta is focusing on carbon capture and storage as its GHG mitigation technology. "Alternative energy will account for maybe 20 percent of the hoped-for reductions," said Meadows. "Seventy percent of long-term reductions are expected to come from CCS."

Currently the province is entering into management and funding agreements with several project developers, including a CO₂ pipeline. In November, the province introduced legislation designed to clarify the legal and regulatory context for CCS projects going forward.

Meadows suspects that Alberta will feel increasing pressure to align its cap and trade system with other provinces and with the WCI. "I suspect there will be a lot of review on the regulatory side in terms of how to harmonize across the country and the continent." ⚙