Québec

The World's Carbon Markets: A Case Study Guide to Emissions Trading

Last Updated: May, 2013

Brief History and Key Dates:

Despite Canada rescinding its Kyoto Protocol commitment, Québec adopted a greenhouse gas (GHG) target of reducing emissions 20 percent below 1990 levels by 2020 in November 2009.[1] The Parti Québecois—a political party that formed a minority government in September 2012—might attempt to amend this target. In their platform, the Parti Québecois express a commitment to a more aggressive GHG target of reducing emissions 25 percent below 1990 levels by 2020. At the time of writing, however, it is unclear whether the Parti Québecois will amend the existing target.

Québec employs emissions trading to achieve these GHG targets. In April 2008, the province joined the Western Climate Initiative (WCI)—a collaboration of independent jurisdictions in Canada and the United States working together to identify, evaluate and implement emissions trading systems at a regional level. In June 2009, Québec unanimously adopted an amendment to its Environmental Quality Act that granted the government enabling powers to implement a GHG trading system through regulation. The province exercised these powers when it released draft cap-and-trade rules in July of 2011 for public comment, and finalized rules on December 14, 2011.[2] Québec's cap-and-trade program officially began its first phase on January 1, 2013.[3]

As a participating member of the WCI, Québec is currently collaborating with California to link emissions trading programs. A link would enable firms regulated by Québec's program to purchase and use California GHG allowances for compliance in Québec, and vice versa. To facilitate linking, Québec amended its cap-and-trade rules on December 12, 2012 in order to align certain program elements with California.[4] At the time of this writing, Québec and California plan to link programs on January 1, 2014.[5]

Summary of Key Policy Features:

CAP/TARGET: The initial ***cap*** for the first compliance period, spanning 2013 and 2014, is set at 23.20 million metric tons (MMTCO2e) annually. The cap will rise for the second compliance period, starting in 2015, to 65.30 MMTCO2e due to the expansion of the program scope, which is discussed in the next section. After 2015, the cap decreases annually at an average rate of nearly 4% out to 2020 where it is set at 54.74 MMTCO2e.[6] As mentioned above, Québec's GHG reduction target is ***20 percent below 1990 levels by 2020***.

SCOPE/COVERAGE: Québec's cap-and-trade program regulates emissions of carbon dioxide (CO_2) and six other greenhouse ***gases***: methane (CH_4); nitrous oxide (N_2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); sulfur hexafluoride (SF_6); and nitrogen trifluoride (NF_3).[7]

The program is composed of three compliance periods: 2013-2014, 2015-2017, and 2018-2020. For the ***first compliance period***, the cap covers approximately 80 facilities,[8] from the industrial and electricity generation sectors, who met or exceeded the ***emissions threshold*** of 25,000 metric tons of CO_2e in 2009, 2010, or 2011.[9] The cap also covers facilities in Québec that distribute electricity generated outside of Québec in the event that: (1) the emissions attributable to that acquired electricity exceed the emissions threshold and (2) the acquired electricity was not generated in a partner's territory with which Quebec has agreed to harmonize and integrate emissions trading systems.[10]

In 2015, when the ***second compliance period*** begins, the ***scope*** of the cap will extend to cover first distributors of fuel—which is defined as gasoline, diesel fuel, propane, natural gas and heating oil—if the combustion or use of that fuel was associated with emissions meeting or exceeding the ***emissions threshold*** in 2013.[11,12] Overall, the cap in 2015 will cover approximately ***85% of Québec's emissions***.[13]

The cap, however, does not cover emissions from several types of fuels, including those listed below:[14]

- Aviation and marine bunker fuels;
- Hydrocarbons used as raw materials by industries that transform hydrocarbon molecules through chemical or petrochemical processes;
- Biomass and biomass fuel components; and,
- Fuels already covered by the scope under the first compliance period.

Emitters who meet or exceed the emissions threshold for the first time are subject to ***compliance*** the following year. On the other hand, an emitter that achieves three consecutive annual emissions reports below the emissions threshold will no longer be subject to compliance.[15]

Emitters receive two accounts: a general account—in which emitters can trade allowances—and a compliance account, where emitters must record allowances to be retired at the end of the compliance period.[16] To comply with the program, emitters must record a number of allowances equal to its verified emission during a compliance period by November 1 of the year following that compliance period.[17]

ALLOWANCE DISTRIBUTION: Fuel distributors first covered in 2015 will not be eligible for free allowances. However, Québec's system will ***freely allocate*** allowances to emitters in the sectors listed below to help ease concerns over competitiveness and emissions leakage.[18,19]

- Production of aluminum, lime or cement;
- Chemical and petrochemical industry;
- Metallurgy;
- Mining and pelletizing;
- Pulp and paper;
- Petroleum refining;
- Suppliers of steam and air conditioning for industrial purposes;
- Emissions associated with electricity imports to Québec from jurisdictions that are covered under a separate cap-and-trade program but have not agreed to link to Québec's cap-and-trade program pursuant to Québec's Environmental Quality Act;
- Electric power generation sold under contract with a fixed sale price, and signed before January 1, 2008 that has not been renewed or extended after that date; and,
- Other manufacturing and industrial sectors.

Québec's Minister of Sustainable Development, Environment, Wildlife and Parks (hereafter referred to as "the Minister") annually determines the number of freely allocated allowances to each eligible emitter based on efficiency benchmarks and production output. Between 2012 and 2014, allowances are freely allocated based on an entity's average historic emissions intensity between 2007 and 2011 and adjusted for production output, with 100 percent allocation for process emissions, 80 percent for combustion emissions, and 100 percent for emissions from other sources. From 2015 to 2020, free allocation decreases annually, determined by an emissions intensity target that also decreases annually.[20] Different industrial activities will see different levels of decrease.

AUCTION OVERVIEW: Allowances remaining after free allocation are ***auctioned*** to emitters and participants, up to four times annually.[21] The amount of auctioned allowances will increase over time. Québec delegates many auction responsibilities—including registration, management of financial guarantees and collection of revenue—to WCI Inc., a non-profit organization.[22]

While Québec and California had initially hoped to ***link*** programs in time to hold a joint auction in Fall 2012, delays in both jurisdictions caused California to hold its first auction without Québec on Nov. 14, 2012. It is now unclear when Québec will be prepared to hold its first auction but, when it does, the auction will be held jointly by all participating programs to which Québec is linked.[23]

Auctions will contain a CAD $10/ton ***price floor*** starting in 2012, and rising 5 percent for each year thereafter (plus inflation).[24] This floor price was changed from a CAD $15/ton starting point originally set in the draft rules, presumably to match California's program and facilitate linking.

Auctions will consist of a ***single round of bidding, using sealed bids***. Allowances will be auctioned in lots of 1,000—each allowance equal to one ton of CO_2e—of the same vintage. The Minister will award allowances from the auction, starting with the bidders that submitted the highest bids, until all available allowances have been sold or until the price floor is reached. The winning bidder has 7 days to pay, at which point the Minister puts the allowances into the bidder's general account. Unsold allowances are retained for future auctioning.[25]

Proceeds from the auction will be transferred to the Green Fund, pursuant to Québec's Environmental Quality Act, and are to be used for one of the following purposes: financing GHG reduction; limitation or avoidance measures; mitigation of the economic and social impact of GHG reduction efforts; public awareness campaigns; adaptation to climate change; or, to finance the development of and Québec's participation in related regional and international partnerships.[26]

At each auction there is a ***purchase limit for each bidder*** in proportion to the total number of offered allowances. No single emitter can buy more than 25 percent of future vintage year allowances. Regarding current vintage year allowances, emitters receiving free allowances can purchase a maximum of 15 percent of allowances available at auction. In addition, there is a 40 percent purchase limit on current vintage year allowances for all emitters that do not receive free allocation, as well as for electricity importers and fuel distributors. Further, bidders classified as non-emitter participants are limited to 4 percent of current year vintages.[27]

FLEXIBILITY PROVISIONS: In addition to emissions allowances, ***offset credits*** and ***credits for early actions*** may all be used for compliance. The rules also signify that emissions credits issued by partners with whom Québec has an official agreement may be exchanged and accepted for compliance. This allows Québec to accept allowances from California in the event the two jurisdictions link programs.

Québec's December 2012 amendments introduced Québec's ***offset rules and protocols***. The province has put forward three initial offset protocols that can generate credits for compliance purposes:[28]

1. Agricultural Methane Destruction
2. Small Landfill Site Methane Destruction
3. Ozone Depleting Substance (ODS) Destruction

The first two protocols require that projects take place within Québec. The ODS protocol allows for projects to take place across all of Canada or the U.S., so long as the ODS material originates in Canada.[29] The Québec rules do not include ***international offset protocols***.

Québec offsets are subject to an 8 percent ***quantitative usage limit.***[30] That is, no more than 8 percent of an entity's total compliance obligation for each compliance period can be satisfied using offsets. Analysts generally do not expect existing protocols to supply enough offsets for emitters to reach the 8% offset quantitative usage limit. Québec intends to develop additional protocols in the coming years, which should increase offset supply.

The Minister can require offset project owners to replace offset credits in two cases: (1) if GHG emissions reductions for a project's offset credits are not eligible because of false information or miscalculations, or (2) where a project owner applied for offset credits under a different program for the same emissions reductions. In either of these cases, the offset project owner has 30 days to replace the invalid offset credits.

If the promoter does not replace invalid credits, the Minister has the authority to withdraw and retire credits from the ***Environmental Integrity Account*** (EIA). The EIA contains a pool of offset credits that the Minister accumulates by withholding 3 percent of the offset credits awarded to successful projects. In the event that the offset project owner fails to replace invalid credits within 30 days, the project is removed from the offset registry.[31]

The EIA provides a ***safety valve*** that allows the Québec government to avoid the stricter "buyer liability" clause that California's Air Resources Board has instituted in its system.[32] While the EIA is a deduction that projects must comply with, it is different from the rules in California where the offset purchaser takes on the invalidation risk. This difference in liability coverage between the two systems could create a price differential based on the perceived risk profiles between Québec and California offsets.

Covered emitters regulated under the first compliance period are eligible to receive credit for actions that lead to real, verifiable and additional GHG reductions between January 1, 2008 and January 1, 2012. These emitters must adhere to strict criteria and submit a request to the Minister for issuance of credits for early actions before May 31, 2013. If the Minister approves the request, credits for early actions will be issued no later than January 14th, 2014.[33]

COST CONTAINMENT AND VOLATILITY MANAGEMENT: The Minister keeps an allowance ***reserve account*** in an effort to ensure cost containment. This account holds: 1 percent of allowances under the cap for 2013 and 2014; 4 percent of allowances under the cap set for 2015 to 2017; 7 percent of allowances under the cap set for 2018 to 2020; and, 4 percent of allowances under the cap set for 2021 and beyond.[34]

This allowance reserve is used as a ***soft price ceiling***; if allowance prices rise to a pre-determined level, these reserve allowances will be made available via a "sale by mutual agreement" coordinated by WCI Inc. Alternatively, the Minister may choose to use these reserve allowances to adjust the amount of free allowances allocated to emitters.[35] In the case of a sale by mutual agreement, the Minister will divide the allowances in the reserve account equally into three categories to be sold at the following prices:

- Category A: CAD $40 per emission unit;
- Category B: CAD $45 per emission unit;
- Category C: CAD $50 per emission unit.

Beginning in 2014, these prices will increase annually by 5 percent plus inflation. Only covered emitters not holding allowances in their general account are eligible for a sale by mutual agreement. Allowances purchased will go directly to an emitter's compliance account.[36]

The rules for California's system are similar, but only Québec emitters can access Québec reserve allowances and only California emitters can access California reserve allowances. Specifically, the numeric values for the prices at which reserve allowances become available are the same in California, but are priced in USD rather than CAD, and account for U.S. inflation rather than Canadian inflation.

COMPETITIVENESS AND ANTI-LEAKAGE PROVISIONS: In order to help ease competitiveness concerns and carbon leakage issues, the Québec system will ***freely allocate allowances*** to high-risk entities as discussed above.

MARKET REGULATION AND OVERSIGHT: It is expected that the Québec Securities Commission will oversee primary market activities relating to entities operating within the province. The Minister can suspend, withdraw, or cancel any allowance granted by the Minister for the following infractions:

- Use of false or inaccurate information to attain compliance instruments;
- Violations of the regulation; or
- Any other reason determined by government regulation.

Emitters must report their previous year's emissions by June 1st of each year beginning in 2012. These reports must be verified by an organization accredited to ISO 14065 and that is a member of the International Accreditation Forum. Emitters must comply no later than November 1st of the year following the end of the compliance period by holding enough allowances in their ***compliance account*** to cover their verified emissions. The Minister will take the requisite number of allowances from each emitters compliance account and transfer them to the retirement account to be extinguished.

If an emitter does not have enough allowances in its compliance account, the Minister will suspend the emitter's general account and apply a ***penalty*** of three emissions allowances for each missing allowance needed to reach compliance. The Minister will access the emitter's general account to find the required allowances. If the general account does not have sufficient allowances, the emitter is given a 30-day notice to obtain them. If after 30 days, the emitter cannot produce the required allowances, the Minister will subtract the owed allowances from the emitter's next free allowance allocation—if one exists.[37]

The December 2012 amendments to the regulation contain several financial and legal penalties of varying degrees of severity for contraventions and transgressions regarding the rules.[38]

An emitter's general account is subject to ***holding limits***. For current or prior vintage year allowances, the holding limit is calculated by the equation below, where "base" equals 25 $MMTCO_2e$ and "annual allowance budget" equals the number of allowances budgeted for the current year. It equals the sum of Québec's compliance budget and the budget of all cap-and-trade programs Québec is linked to.

$$\text{Holding Limit (current year)} = 0.1*\text{Base} + 0.025*(\text{Annual Allowance Budget} - \text{Base})$$

For future vintage year allowances, the holding limit is calculated by a similar formula, the only difference being that the "annual allowance budget" equals the sum of Québec's compliance budget—as well as any program Québec's is linked to—for that future vintage year.[39]

COMPLEMENTARY POLICIES: The Ministry of Transport of Québec (MTQ) established the Government Assistance Program for Improving Energy Efficiency in Road, Rail and Marine Transportation as part of Measure 9 of Québec's 2006-2012 Climate Change Action Plan entitled Québec and Climate Change – A Challenge for the Future. The objective of the program is to promote the use of equipment and technologies aimed at improving energy efficiency and reducing greenhouse gas emissions (GHGs) in transportation.[40]

Québec also put a ***carbon levy on bulk sales of fossil fuels***, CAD $0.01 per liter of gasoline, diesel and heating oil; and CAD $8/MT of coal. This carbon levy will be phased out by the end of 2014 at which time transport fuels will be covered by the second compliance period of the cap-and-trade program. Québec has also instituted a fuel economy standard for light duty vehicles with the aim to reduce greenhouse gas emissions from new vehicles by about 35% between 2010 and 2016.[41]

Québec's newly released 2013-2020 Climate Change Action Plan intends to invest CAD2.7 billion into various initiatives, including transport, energy, and land-use – funding that will largely be drawn from revenue created by the cap-and-trade program.

ECONOMIC PROJECTIONS: Four auctions of allowances per year, beginning in FY13, are expected to raise a total of CAD $2.4 billion for the Action Plan on Climate Change. The extension of the duty on fuel and fossil fuels from this September to December 2014 is forecasted to raise CAD $220 million for the Plan's early years.

What Distinguishes this Policy?

UNIQUE ASPECTS:

1. Québec has developed a cap-and-trade program in a province with ***renewable generation*** from hydroelectric power by far the largest generation source on the grid.
2. The linking plan with California brings about unique challenges and opportunities, particularly with proposals for ***joint allowance auctions***. The setting of consistent price collars, including price floors and trigger prices for reserve sales, in different currencies (USD and CAD) over time is one aspect of the issues faced in a successful linking of the programs.
3. Quebec has developed its program while taking into consideration the potential ***future harmonization*** of its regulations with WCI partners including California and other Canadian provinces such as Ontario and British Columbia. Future linkage has been at the heart of the Québec cap-and-trade project under WCI from the beginning.

CHALLENGES:

1. The main challenge for Québec in reducing domestic greenhouse gas emissions is that there are minimal reduction opportunities in the electricity and manufacturing sectors. Approximately 96 percent of the available electric power in Québec comes from renewable sources of energy, mainly hydropower.[42] As a result, Québec is prioritizing greenhouse gas emission reductions in the transportation sector. This motivates the carbon levy on fuel, the fuel efficiency standards, and the inclusion of fuel distributers in the cap-and-trade program.
2. If market ***linkage*** with California is delayed beyond the short-term, Québec abatement costs are expected to rise due to the lack of cheaper California allowances and offsets that would otherwise be available to Québec entities for compliance.

Author Acknowledgements:

If you have any comments or suggestions for this case study, please do not hesitate to contact lead authors:

EDF co-author: Peter Sopher
EDF contact: Daniel Francis (dfrancis@edf.org)
Environmental Defense Fund (EDF)
1875 Connecticut Ave NW Ste. 600
Washington, DC

IETA co-author: Anthony Mansell and Clayton Munnings
IETA contact: Anthony Mansell (Mansell@ieta.org)
International Emissions Trading Association (IETA)
20 F St NW Suite 700
Washington, DC

The authors would like to thank Ruben Lubowski, Joe Billick, Jennifer Andreassen, PJ Partington (Pembina Institute), Matt Horne (Pembina Institute) and Erica Moorehouse for very helpful comments and information for this case study. We take full responsibility for any remaining errors.

Disclaimer: The authors encourage readers to please contact them with any corrections, additions, revisions, or any other comments, including any relevant citations. This will be invaluable in strengthening and updating the case studies and ensuring they are as correct and informative as possible.

[1] See "Regulation Respecting a Cap-and-Trade System for Greenhouse Gas Emission Allowances (C&T): Technical Overview" published in 2013 by the government of Québec. Available here: http://www.mddep.gouv.qc.ca/changements/carbone/SPEDE-description-technique-en.pdf.
[2] See "Regulation Respecting a Cap-and-Trade System for Greenhouse Gas Emissions Allowances" published by the Québec government in December 2011 and updated May 2013. Available here: http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/Q_2/Q2R46_1_A.HTM.
[3] Supra Note 1.
[4] See "Cap-and-Trade System for Greenhouse Gas Emission Allowances—Amendment" published December 12, 2012 in Québec's Official Gazette. Available here: http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=1&file=2392.PDF.
[5] See California Air Resources Board's News Release "Air Resources Board Sets Date for Linking Cap-and-Trade Programs with Québec" published on April 19, 2013. Available here: http://www.arb.ca.gov/newsrel/newsrelease.php?id=430.
[6] Supra Note 4; Page 3612.
[7] Supra Note 2; See Section 3.
[8] Supra Note 1; See Page 4.
[9] Supra Note 2; See Section 19.
[10] Supra Note 2; See Section 2, Subparagraph 1 and Section 3, Subparagraph 8.
[11] Supra Note 2; See Section 2, Subparagraph 2 for definition of fuels.
[12] Supra Note 2; See Section 19.
[13] Supra Note 1; See Page 4.
[14] Supra Note 2; See Section 2.
[15] Supra Note 2; See Section 19.
[16] Supra Note 2; See Section 14.
[17] Supra Note 2; See Section 21.
[18] Supra Note 1; See Page 5.
[19] Supra Note 2; See Section 39 and Table A in Appendix C.
[20] Supra Note 2; SeeSection 40.
[21] Supra Note 2; See Section 45.
[22] See "Delegation of Management of Certain Parts of a Cap-and-Trade System for Greenhouse Gas Emission Allowances" published by the Government of Québec on December 12, 2012. Available here: http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=1&file=2012A%2F2390.PDF.
[23] Supra Note 1; See Page 6.
[24] Supra Note 2; See Section 49. As of November 14, 2012 1 CAD= 0.996 USD.
[25] Supra Note 2; See Title III, Chapter II, Division III.
[26] Supra Note 1; See Page 6.
[27] Supra Note 2; See Section 50.

[28] Supra Note 2; See Appendix D.
[29] Supra Note 2; See Appendix D, Protocol 3.
[30] Supra Note 2; See Section 20.
[31] Supra Note 2; See Section 70.21.
[32] The California regulations does use a "buffer approach" for forestry offsets to address the risk of emissions reductions being 'non-permanent'. A proportion of credits are held in a pooled account to be accessed in these instances by projects to compensate lower emissions reductions than projected. Other offset protocols in California, however, employ the "buyer liability" approach.
[33] Supra Note 1; Page 8.
[34] Supra Note 2; See Section 38.
[35] Supra Note 2; See Section 38.
[36] Supra Note 2; See Title III, Chapter II, Division IV.
[37] Supra Note 2; Section 22.
[38] Supra Note 2; See Title IV.
[39] Supra Note 2; Section 32.
[40] See Government of Quebec's website. Available here: http://www.mtq.gouv.qc.ca/portal/page/portal/entreprises_en/camionnage/programmes_aide.
[41] See Climate Change Business Journal, published in December 2010. Available here: http://www.carbonprojectsolutions.com/uploads/3/2/6/9/3269197/ccbj_special_edition_december_2010_policy.canada.pdf.
[42] Supra Note 56.