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Ms. Christiana Figueres  
Executive Secretary  
United Nations Framework Convention on Climate Change  
P.O. Box 260124  
D-53153 Bonn

September 22, 2014

Dear Ms. Figueres:

Canada is pleased to submit information, provided by the provincial governments of Quebec and Ontario, on their experiences and expectations with carbon markets. The submission responds to the invitation from the SBSTA as referred to in FCCC/SBSTA/2014/L.10.

Sincerely,

Director General, Climate Change International, Environment Canada  
UNFCCC National Focal Point for Canada

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**Submission by Québec / Canada to the United Nations Framework Convention on  
Climate Change Subsidiary Body for Scientific and Technological Advice**

September 2014

The government of Québec has developed a cap-and-trade (C&T) system for greenhouse gas emission allowances after joining the Western Climate Initiative (WCI) in 2008. A partnership of like-minded American States and Canadian provinces interested in developing a regional carbon market, the WCI was offering the possibility of elaborating a joint North American comprehensive effort to reducing greenhouse gas emissions and thus fight climate change.

Québec's C&T system<sup>1</sup> began its operations on January 1<sup>st</sup>, 2013. A year later, Québec and California fully linked their systems after going through a comprehensive legislative, regulatory and technical process of harmonization and integration. The resulting WCI regional carbon market thus became the largest C&T system in North America and, so far, the only carbon market in the world that has been originally designed and that is being currently operated by subnational governments from two different countries. Expressions of interest on the part of American states and Canadian provinces wishing to explore the possibilities of joining the market are welcomed. In the future, links to similar carbon markets around the globe may also be considered.

The government of Québec views a market solution to the climate change challenge as the most efficient and flexible economic tool available to induce its GHG emitters to reduce their carbon footprint in real terms and at the least possible cost. First, it sends a significant carbon price signal to the province's entire economy, and makes a clear call to all economic actors to integrate the environmental, social and economic costs of carbon emissions in their daily decisions. It also provides businesses with incentives to improve their production methods, adopt energy efficiency measures, invest in low-carbon technologies, and turn to cleaner energy sources. Last, it rewards innovation that will lead to long-term, permanent greenhouse gas reductions and encourages businesses to get a head start into the green economy of tomorrow. A market solution also generates significant revenues that can be allocated to fight climate change on both the mitigation and the adaptation front, as it is the case in Québec.

*Carbon markets in the context of the UNFCCC*

The UNFCCC can play a constructive role in the development of carbon markets around the world by establishing a transparent framework containing rigorous principles, standards and guidelines that are highly concerned about environmental integrity. The framework should be drafted in such a way as to facilitate the fungibility of diverse emission allowances and credits and, therefore, the linking of carbon markets in order to achieve low-cost GHG emission reductions, increase liquidity, provide economies of scale, and raise effectiveness in reducing global GHG emissions. In addition, the framework should officially recognize the diversity of carbon markets around the world,

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<sup>1</sup> The following annex contains detailed information on aspects raised by document FCCC/SBSTA/2014/L.10, para. 6 as they relate to the design and operation of the Québec C&T system.

be they national or subnational in nature, in order to facilitate the emergence and linking of such markets at all levels of governance.

Market-based mechanisms will play a major part in the contribution of stakeholders to the post-2020 climate regime. The agreement to be concluded in Paris in 2015 should include these mechanisms as one way to reach global GHG mitigation objectives.

## Annex

The Québec's C&T emissions caps were established using the most recent GHG emissions data available and business-as-usual scenarios in order to help Québec achieve its GHG reduction target of 20 % below 1990 levels by 2020, which has been set into law in 2009.

### 1. Participation (scope and coverage)

The Québec C&T Regulation provides that persons or municipalities operating a facility, whose annual GHG emissions are greater than or equal to 25 kt CO<sub>2eq.</sub>, are generally subject to the system.

As of 2015, the system applies to Québec's entire economy by covering, in addition to the industrial and electricity sectors that have been covered since 2013, GHG emissions related to the use and combustion of fossil fuels that are sold or distributed in areas such as transportation and buildings. It will then encompass more than 80% of all Québec's GHG emissions.

In addition, offset credit protocols have been and are being developed to encourage GHG emission reductions beyond the capped sources and sectors.

The Québec C&T system is also open to non-covered entities and individuals that want to participate in the market if they meet certain broad eligibility criteria.

### 2. Standards ensuring environmental integrity

#### *Definitions*

The Québec's C&T system meet the environmental integrity standards set out in decision 2/CP. 17, paragraph 79 and 1/CP. 18, paragraph 42 in the sense that it must deliver GHG emission reductions that are real, verifiable, permanent and additional, while avoiding double counting.

Québec C&T system gives the following definition these key terms:

A *real* GHG emission reduction is one that:

- is quantified using reliable, reproducible, scientifically current methods that are suitable for all emission sources under the project, taking into account the local and specific conditions involved;
- is quantified conservatively, taking into account the uncertainties involved, and applying discounts to ensure that GHG emission reductions are not overestimated;
- does not lead to carbon leakage, i.e. to an increase in GHG emissions elsewhere that would void, in whole or in part, the benefits associated with the GHG emission reductions; and
- with respect to offset projects, results from a voluntary action or decision of the promoter.

A *verifiable* GHG emission reduction is one that:

- allows members of independent accredited validation and verification organisations to make, in compliance with ISO standards, an objective examination of the site of a covered entity or of a GHG reduction project, and monitor, confirm and report the entity's real GHG emissions or, in the latter case, the project's eligibility, its step-by-step implementation and the accuracy of the number of credits that may be issued as a result.

A *permanent* GHG emission reduction is one that is:

- both sustainable and irreversible.
- However, GHG reduction offset projects must define their level of risk regarding possible emissions of the GHG that are being sequestered. In the case of projects where there is a risk that GHG emission reductions become reversible, mechanisms must be put in place so that, if GHGs are emitted into the atmosphere, the impact on the climate will be as neutral as possible over a 100-year period. Thus, as a precaution, Québec C&T system levies a portion of offset credits generated by a project (generally 3 %) in a special environmental integrity account in order to neutralize any possible emission of GHGs. These offset credits can be extinguished if GHG emission reductions become ineligible after they have been issued. This is a particularity of the Québec C&T system that is not found in the California system.

An *additional* GHG emission reduction is one that:

- has not occurred in the normal course of business and that exceeds current regulations and practices. In other words, it is a reduction of GHG emissions that would not have occurred without an additional incentive. The additionality standard adopted by WCI provide that the GHG emission reduction must go beyond the most stringent current practice and existing regulation in effect amongst all WCI partner jurisdictions.

Avoiding *double counting* means that:

- with respect to offset credits, these credits cannot be used in conjunction with or be claimed by any other C&T system.

#### *Accurate data and MRV measures*

The Québec Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere stipulates that covered entities must report their GHG emissions using specific and rigorous protocols. Furthermore, data resulting from these reports must be verified independently by an accredited verifier in accordance with ISO standards. This means that calculations determining the number of emission allowances that must be remitted to the government by covered emitters at the end of each compliance period will be based on reliable and actual data. In addition, the WCI stipulates that the regulation of each participating jurisdiction and the standards they establish must be harmonized amongst all its members. In this way, everyone can be

assured that one ton of GHG emitted and calculated by an emitter is the same everywhere within the WCI carbon market.

#### *Setting a significant price signal*

The Québec C&T Regulation provides for a minimum price for emission units sold at auctions. The minimum price, which started at CAD \$10.75 in 2013 when the first auction was held, has been raised to CAD \$11.39 for 2014. It will increase by 5% plus inflation annually until 2020. When Quebec starts holding joint auctions with California, the minimum price will be the highest, in U.S. dollars, between Québec and California's minimum prices.

If all emission units available during an auction are not sold, the Québec C&T Regulation provides for unsold emission units to be temporarily taken out of circulation and gradually put back up for sale when the auction price of emission units climbs above the minimum price for two consecutive auctions.

The setting of a minimum auction price for emission units provides a guarantee against a situation, encountered in several C&T systems, where the free distribution of too many allowances relative to a more than expected decrease in real GHG emissions, leads to a downward pressure on prices and the loss of a meaningful price signal to the economy. In addition, a minimum auction price has the advantage of providing a more stable carbon cost for large emitters that may count on the revenues from the sale of their excess allowances to finance their green investments.

#### *Avoiding carbon leakage*

Companies covered by the Québec C&T system that are competing on the Canadian and international scene and are vulnerable to carbon leakage receive free of charge a majority of the emission units they need to comply with the C&T regulation. However, as of 2015, the number of these free emission units decreases by 1% to 2% per year to provide them with an additional incentive to reduce their GHG emissions. Most other covered entities have to buy all the emission allowances they need at auction or on the carbon market in order to meet their regulatory obligations.

Benchmarking is also considered as an efficient way to distribute free allowances. Allocating allowances on the basis of real output is also a way to avoid leakage and windfall profits.

#### *Reducing volatility and instability in the market*

The Québec C&T system imposes purchasing and holding limits for participants in the system as well as financial guarantees to cover auction bids. In addition, these bids are kept confidential. All these factors combine to prevent emission unit prices from escalating and emission units from being hoarded up by the most financially sound companies covered by the system or by participants with greater financial resources.

Should the carbon market find itself in a situation where the demand for emission allowances significantly exceeds the supply, which would disproportionately increase the emission unit price, the C&T Regulation stipulates that a reserve sale may be held, which will ultimately have the effect of imposing a "ceiling price" on emission units. This

ceiling price was set at a minimum of CAD \$ 40 in 2012, and has since been increasing and will continue to increase on a yearly basis by 5 % plus inflation.

In addition, cost containment measures such as allowing the banking of emission units, while forbidding their borrowing from one compliance period to another, as well as having those periods span several years also tend to reduce price and market volatility. They give covered entities the time and flexibility needed to comply with their regulatory obligations and plan investments aimed at reducing their GHG emissions.

### **3. Governance and institutional arrangements**

The Québec C&T Regulation provides for severe penalties for non-compliance with its provisions. For instance, a failure by an emitter to cover the GHG emissions of a covered establishment on the expiry of the compliance deadline leads to the suspension of its capacity to sell emission units, and the application of an administrative sanction equal to 3 emission units for each missing emission allowance needed to complete the coverage.

In November 2011, the governments of Québec, California, Ontario, and British Columbia created WCI Inc., a non-profit organization providing administrative and technical services to support the implementation of the C&T systems that is run by an executive board composed of representatives from its member governments. These services consist in developing and operating a tracking system for GHG emission allowances, overseeing government sales of emission allowances, implementing a market monitoring system to prevent market manipulation, and providing assistance to participants. The services provided by WCI, Inc. can be expanded to support other participating jurisdictions in the future.

### **4. Co-benefits**

The Québec government has elected to allocate all the revenues resulting from auctions and reserve sales of its C&T system to finance mitigation and adaptation initiatives contained in its Climate Change Action Plans. The C&T system's floor price ensures minimal, stable and predictable funding for these initiatives, thereby making long-term planning possible.

For more information on Québec's C&T system, please visit the following web page:  
<http://www.mddelcc.gouv.qc.ca/changements/carbone/index-en.htm>

## **Market-Based Approaches in Ontario**

*Ontario has supported the use of market-based approaches to address environmental issues for over a decade including action in both water and air issues. Premiers from across Canada recently met and endorsed revised Vision and Principles for the Canadian Energy Strategy, including a transition to a lower-carbon economy through appropriate initiatives, such as carbon pricing.*

### Water

*In an effort to reduce phosphorous discharges and protect water quality, Ontario has taken a market-based approach. Specific examples include the Total Phosphorus Management program operated in the South Nation River watershed in Eastern Ontario, and on-going studies to assess the feasibility of water quality trading to support phosphorus reduction objectives in the Lake Simcoe watershed.*

### Air

*In 2002, Ontario implemented a NO<sub>x</sub> and SO<sub>2</sub> reduction program in the electricity sector and in 2006 the program extended to include large industrial emitters in sectors such as cement, steel and paper manufacturing. Emissions of nitrogen oxides and sulphur dioxide from industry covered by Ontario Regulation 194/05 fell by approximately 32% and 27% respectively between 2006 and 2013. Emissions from Ontario electricity generators covered by Ontario Regulation 397/01 fell by approximately 66% and 90% respectively between 2004 and 2013; although this was mostly the result of phasing out coal-fired electricity generation in the province.*

*Approaches like emissions trading can provide a market incentive for emitters to invest in technologies that improve their environmental performance, energy efficiency, and competitiveness in a flexible and cost-effective way. Trading provides businesses with choices on how to achieve reductions at the lowest cost while at the same time incorporating a carbon price into their business planning and investment decisions.*

*Many of these themes were raised in a series of discussion papers Ontario released between [2009](#) and [2013](#) to inform the design of a market-based program that could link to a future regional or North American trading system. Our work on emissions trading markets design and collaboration with our partners has shown that it is critical to design a system that has high integrity and rigour, supported by secure and robust systems and rules that ensure fair market activity. As a member of the Western Climate Initiative, Ontario collaborated with Quebec, California and other subnational jurisdictions. During that time Ontario also consulted with key stakeholders in electricity and broader industrial sectors, and experts on offsets. Ontario's Memorandum of Understanding with Quebec guides the two provinces' collaboration on the development of a trading system. Ontario has participated in other international initiatives such as:*

- *Regional Greenhouse Gas Initiative (observer)*
- *International Carbon Action Partnership*
- *Midwest Governors' Greenhouse Gas Reduction Accord (observer)*

*Successful emissions trading systems share certain design principles that make them effective and efficient. Policies should be clear and their development should follow a transparent process. That transparency and clarity should follow through to result in a program that is simple and efficient, easing the burden and increasing compliance.*



*Trading approaches should be supported by robust emissions reporting systems in both their development and implementation, ensuring that the reductions are real and verified and that there is confidence in the reductions underlying the trading. That rigour should also extend to the monitoring and oversight of the emissions trading market itself, to ensure equal opportunity for participants and potential participants as well as the confidence to pursue the full benefits of trade. Ontario Regulation 452/09, Greenhouse Gas Emissions Reporting was developed in conjunction with Quebec and other leading North American jurisdictions, and, as of 2011, all annual reports must be verified by a third party according to International Organization for Standardization standards.*

*Ideally, emissions trading systems should target absolute emissions reductions while addressing competitiveness impacts through the design of the program. Policy developers should take into account the role of the emissions trading system in motivating the development and deployment of clean technologies. Also, considering alignment with other emissions trading systems in the design phase can make linking of programs in the future less disruptive and costly. Linked programs offer greater flexibility and stability that help to maximize efficiency of emissions reductions occurring across the covered sectors. In the case of NO<sub>x</sub> and SO<sub>2</sub>, Ontario saw the benefits of linking and permitted facilities to procure reductions from programs in the United States for compliance in Ontario under its trading program for air pollutants.*