

# Québec 🖁 🖁

This document explains the advantages of a cap-and-trade (C&T) system for greenhouse gas (GHG) emission allowances as a preferred economic instrument to reduce GHG emissions and fight climate change. It also provides an overview of Québec's C&T system and describes its strong points.

A member of the Western Climate Initiative (WCI) since 2008, Québec has based its C&T system on the WCI's design guidelines and operating rules for a regional C&T system. Since linking its C&T system on January 1<sup>st</sup> 2014 with that of California, the only other WCI partner to have implemented such as system on its territory, Québec is looking for other Canadian provinces and American States willing to join the WCI regional carbon market. Indeed, the larger that market is, the more effective it will be, and the more it will be able to contribute to the global effort to combat climate change.

## Why a C&T system? A survey of its advantages

Several reasons motivated Québec's choice of a C&T system over other possible solutions. First and foremost, it provides governments with the best guarantee of actually reducing GHG emissions, which is, after all, the main goal of this undertaking, by sending a strong carbon price signal to a wide range of economic stakeholders – a signal that makes them aware that GHG emissions now come with a price tag. In other words, the system tells them they cannot carry on as before and emit greenhouse gases into the atmosphere without consequences.

A C&T system is a flexible economic tool based on standards and criteria that differ from those traditionally used to achieve environmental goals by successfully addressing and reconciling environmental protection, environmental management, and the fight against climate change with economic development objectives such as efficiency, modernization and competitiveness.

While a C&T system requires major polluters to consider the costs of their GHG emissions when they make their business decisions, it also provides them with incentives to improve their production methods, adopt energy efficiency measures, invest in new technologies, and turn to cleaner energy sources. In short, it encourages them to get a head start into the economy of the future, the green economy.

A C&T system's flexibility stems from the many options available to emitters subject to the C&T system in terms of regulatory compliance. For example:

- Covered emitters may choose to improve their energy efficiency, to rely on cleaner or renewable sources of energy, or to enhance their production methods, either by using the best technologies currently on the market or by developing new ones, in order to reduce their GHG emissions;
- Covered emitters that have reduced their GHG emissions and have a surplus of emission allowances<sup>1</sup> at their disposal may sell them on the carbon market and keep the revenues to pay for past investments or for new investments that will make them more competitive and more profitable;
- Covered emitters that have to obtain emission allowances in order to meet their regulatory obligations may turn to the carbon market created by the C&T system to:
  - Buy emission units at government auctions;
  - Buy offset credits sold by promoters as a result of GHG emission reductions in sectors not covered by the C&T system, in accordance with implementation and quantification protocols approved by the government;
  - Buy emission allowances<sup>1</sup> sold by other carbon market participants or on the derivatives market.

<sup>1</sup> Emission allowances include emission units, offset credits and credits for early reductions. Each emission allowance equals one ton of GHG.

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The C&T system also creates economic activity around the measurement and verification of GHG emissions by covered emitters. The issuance of offset credits may also provide an economic opportunity for promoters of GHG emission reduction projects and accredited experts tasked with verifying and validating GHG reduction projects to ensure that they meet regulatory criteria.

Furthermore, by establishing a C&T system and participating in a carbon market, a government demonstrates its leadership in the fight against climate change, becomes part of a worldwide movement aiming at putting a price on GHG emissions, and is better positioned to exert influence on international actions in this area.

Finally, a C&T system generates substantial revenues for participating jurisdictions. It is, of course, up to each implementing government to use carbon market revenues as they see fit. For instance, governments may choose to spend the proceeds of the auctions to:

- Reduce their jurisdiction's dependence on imported oil, especially by helping their businesses improve their energy efficiency and production methods;
- Encourage alternative energy sources that emit fewer GHGs;
- Encourage the use of renewable energy and clean technologies;
- Stimulate the innovation, design and marketing of low-carbon technologies;
- Create green and sustainable jobs oriented toward the new economy;
- Prepare their communities to adapt to the effects of climate change and reduce the costs of climate disasters; and/or
- Other measures to increase the well-being of populations and the competitiveness of businesses.

For its part, Québec has chosen to allocate all the revenues from its C&T auction of emission units to finance the mitigation and adaptation measures contained in its 2013-2020 Climate Change Action Plan (CCAP 2020). The CCAP 2020 provides for many initiatives that support GHG mitigation and adaptation measures geared towards businesses, municipalities, and citizens. It also promotes investments in research and innovation, aims to raise awareness on climate change, and seeks to lower the carbon footprint of the public sector.

Transportation is a prime concern in Québec's fight against climate change since about forty-four percent of all GHG emissions in Québec stem from that sector alone. A good proportion of the CCAP 2020's expenses will therefore focus on initiatives aimed, among other things, at increasing public transit ridership, electrifying public and private transport fleets, and improving the energy efficiency of freight transport.

In the long-term, Québec's aim is to help the economy move towards sustainable modes of production, consumption and organization in ways that will significantly decrease its dependency on fossil fuels. These investments should provide a comparative advantage to Québec businesses, spur new technological development, and create lucrative permanent jobs in tomorrow's green economy. Improved air quality will also translate into several health benefits for our communities. The CCAP 2020 will be periodically revisited to make sure Québec is on track to meet its 2020 GHG mitigation goal.

## Québec's C&T system – An overview

The *Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques* is responsible for the implementation and proper functioning of Québec's C&T system. The Ministry notably approves registration requests in the system, the creation and distribution of emission allowances and the auction results.

The C&T Regulation provides that persons or municipalities operating a facility, whose annual GHG emissions, excluding  $CO_2$  emissions related to the combustion of biomass, are greater than or equal to 25 kt  $CO_2$  equivalent ( $CO_2$ eq.), are generally subject to the system. The first compliance period<sup>2</sup> of Québec's C&T system started in 2013 by covering GHG emissions of some 60 companies or 80 facilities operating in a number of sectors associated with industrial processes, the manufacturing of goods, as well as the production and importation of electricity.

As of 2015, the system applies to Québec's entire economy by also covering GHG emissions related to the use and combustion of fossil fuels that are sold or distributed, thereby encompassing close to 85% of all Québec's GHG emissions. This broad coverage<sup>3</sup> provides stability to the system and makes it a comprehensive tool to reduce the province's GHG emissions.

In addition, offset credit protocols have been developed or are being developed to allow GHG emission reductions in sectors not covered by the C&T system. For instance, protocols have been approved for the destruction of methane from certain landfill waste sites and manure storage areas, as well as for the destruction of ozone depleting substances (ODS) contained in insulating foam from refrigerating appliances and ODS used as refrigerants in such appliances. The government is also working on developing other offset credit protocols, such as one on afforestation and reforestation and reforestation and reforestation and reforestation and reforestation and reforestation and solutions in coal mines. The use of offset credits is limited to 8% of the number of allowances that the regulated entities must submit at the end of a compliance period.

## The strengths of Québec's C&T system

The Québec C&T Regulation contains a number of provisions and safeguards designed to send a strong carbon price signal to Québec's economy, to protect the price of emission units as much as possible from excessive economic fluctuations, to avoid the over-allocation of emission units on the market, to ensure the environmental integrity of offset credits, and to avoid their double counting.

### Accurate data

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 are based on reliable and actual data. In addition, the WCI stipulates that this regulation and the standards it establishes 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 in all WCI jurisdictions.

<sup>2</sup> A compliance period is a period at the end of which a regulated entity must submit to the Government a number of allowances (emission units, offset credits or credit for early reductions) equal to the total GHG emissions reported (and verified) for the period.

<sup>3</sup> The requirements relating to the coverage of GHG emissions are described in Chapter III of Title II (Sections 19 to 23) of the *Regulation pertaining to the Cap-and-trade system for greenhouse gas emission allowances*: The current version of the regulation can be found at: <a href="http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/Q\_2/Q2R46\_1\_A.HTM">http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/Q\_2/Q2R46\_1\_A.HTM</a>

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#### A strong price signal sent to the economy along with a floor price...

The C&T Regulation provides for a minimum price for emission units sold at auctions. At the first auction, which was held on December 3, 2013, the minimum price, or "floor price," was CAD \$10.75. This price is scheduled to increase by 5% plus inflation annually until 2020. This way, the carbon price signal sent to Québec's economy will also continue to increase.

When Québec and California hold joint auctions, the minimum price is the highest, in U.S. dollars, between Québec and California's minimum prices. The prevailing exchange rate will be the one published by the Bank of Canada at noon on the business day before the auction. The emission unit selling price at auctions is determined by the lowest offer that allows for the sale of the last GHG emission unit available. This offer can be equal to or greater than the floor price.

The setting of a minimum auction price for emission units provides a guarantee against a situation, encountered in several C&T systems, wherein the distribution of too many free allowances leads to a downward pressure on prices and the loss of a meaningful price signal to the economy. This situation may occur, for instance, as a result of a larger than expected decrease in real GHG emissions.

A minimum auction price also has the advantage of providing a more stable carbon cost for the most environmentally responsible covered emitters that may count on the revenues from the sale of their excess allowances to finance their green investments.

#### ... and a ceiling price

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 the Minister may hold a reserve sale<sup>4</sup> up to four times a year. In that situation, the C&T regulation provides for the creation, for each compliance period, of a reserve of a certain percentage of emission units available under the cap that may be used for sale at auction. During this sale, emission unit prices have been set at three levels (A: \$40; B: \$45 and C: \$50), which increase annually by 5% plus inflation starting in 2014. Only emitters covered by the C&T Regulation that do not have enough emission allowances to meet their regulatory obligations will be allowed to participate in the sale. This will ultimately have the effect of imposing a "ceiling price" on emission units.

#### Avoiding carbon leakage

Companies covered by the C&T system that are competing on the national and international scene and are above all price-takers do not have much leeway in raising prices and thus recoup the costs of the emission units they may need to buy to fulfil their regulatory obligations. In addition, they are vulnerable to "carbon leakage" (i.e., the transfer of production to jurisdictions where there is no C&T system or a similar price on carbon). Therefore, they receive a majority of the emission units they need to comply with the C&T regulation free of charge. However, as of 2015, the number of these free emission units generally decreases by 1% to 2% per year to provide them with an additional incentive to reduce their GHG emissions. Québec also considers benchmarking as an efficient way to distribute free allowances.

In order to meet their regulatory obligations, covered emitters in the electricity and fossil fuels distribution sectors, which are not subject to carbon leakage as they can pass on increased costs to their consumers, have to buy all the emission allowances they need at auctions, on the carbon market, or on the derivatives market. Fossil fuel combustion accounts for more than 70% of GHG emissions in Québec.

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#### Avoiding over-allocation

If all emission units available during an auction are not sold, the 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.

#### Avoiding market manipulation

To avoid market manipulation, the C&T Regulation provides for purchase limits at auctions and reserve sales of emission units. In addition, WCI, Inc., a non-profit organization that provides administrative and technical services to support the C&T system's implementation, has retained the services of an independent firm to oversee the market and detect any evidence of wrongdoing. Finally, the C&T Regulation provides for severe penalties for non-compliance with its provisions. For instance, a failure by an emitter to cover the GHG emission 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 addition, because purchasing limits have been established, bids are confidential and financial guarantees are required to cover them, the system prevents emission unit prices from skyrocketing and emission units from being hoarded up by the most financially sound companies covered by the system or by participants with great financial resources.

#### An offset credit system based on rigor and environmental integrity

Projects eligible for offset credits under the C&T system are those that meet regulatory requirements and are undertaken according to protocols prescribed by the regulation. All of them provide for a rigorous validation and verification process in compliance with ISO standards before they can generate offset credits. To avoid double counting, these credits cannot be used in conjunction with another C&T system.

Québec has chosen to guarantee the validity of offset credits once the GHG emission reductions have been delivered by the government and put on the market by the project promoter. However, if those credits turn out to be illegitimate for one reason or another, thus jeopardizing the environmental integrity of the C&T system, the C&T Regulation requires that the promoter replace them. If that promoter is unable to comply, the government may use its environmental integrity account to replace them while retaining its options for recourse against the promoter. The environmental integrity account, which can only be used to that end, is filled by automatically withholding 3% of all offset credits delivered. This is a particularity of the Québec C&T system that is not found in the California system.

#### A flexible system that allows for long-term planning...

The C&T Regulation spans eight years up to 2020. It specifies that the first compliance period lasts only two years, from January 1, 2013 to December 31, 2014, while subsequent compliance periods last three years each. In all cases, covered establishments have until November 1st following the end of a compliance period to remit to the government the amount of emission allowances corresponding to their reported and verified GHG emissions. Such deadlines give these establishments regulatory certainty as well as the time and flexibility needed to comply with their regulatory obligations and plan investments aimed at reducing their GHG emissions. Furthermore, they can bank their surplus emission allowances and use them during a future compliance period. For instance, a covered entity that plans to expand its activities and increase its production in the coming years may acquire more emission allowances than it will need during a compliance period if it anticipates needing more allowances in the next one. However, covered entities are prohibited from borrowing emission allowances from a future compliance period.



#### ... and for covered businesses to grow

The number of emission units given free of charge to trade-exposed industries is calculated based on GHG emission intensity targets and adjusted according to the actual annual production level of covered facilities taken on an individual basis. Allocating allowances on the basis of real output is also a way to avoid leakage and windfall profits. This approach allows each covered installation to expand production without being penalized. Thus, as output increases, so could the number of emission units allocated free of charge.

#### Solid, predictable financing

The Québec government has elected to allocate all the revenues resulting from auctions and reserve sales to finance initiatives contained in the 2013-2020 Climate Change Action Plan. The C&T system's floor price therefore ensures minimal, stable and predictable funding for these initiatives, thereby making long-term planning possible. Indeed, we estimate that the CCAP 2020 will have a budget of about \$3.3 billion by 2020, \$ 2.8 billion of which will come from the C&T system.

Additionally, since each auction participant must submit a financial guarantee to the Minister via a financial institution, the government is assured that the winners will pay the amounts that were committed for bidding on the sale's emission units.

## In conclusion

The Québec government firmly believes that putting a price on carbon is the most efficient way to reduce GHG emissions. By implementing a rigorous C&T system on its territory and by linking it to California's, Québec demonstrated not only a strong willingness to take concrete measures to fight climate change, but also foresightedness by laying out the groundwork for a green economy. A C&T system is therefore an effective instrument to bring together economic development and environment protection.

For its part, the C&T model designed by the WCI and put in place by Québec contains a great number of characteristics and safeguards that should assure potential partners of its solidity and efficiency. This model also possesses the necessary flexibility to pave the way for the linking of carbon markets. Indeed, it has the ability to adapt to the industrial structure and economic portrait of a potential partner, to the priorities they have established, and to their GHG emission profile. In fact, it allows for different types and degrees of linking, from the partial linking of a sole economic sector to complete integration.

Quebec is seeking other North American partners in order to enhance even more the performance and potential of the WCI carbon market. In the future, Québec hopes to expand the market even more by linking it with similar markets around the world. Indeed, the larger the reach of carbon markets, the more effective and the better positioned they will be to contribute to the global effort to combat climate change.

It is in this spirit that Québec has undertaken to share its expertise on the international stage with respect to the development, implementation and linking of C&T systems. In 2014, Québec became co-chair, with the Netherlands, of the *International Carbon Action Partnership* (ICAP), a partnership of sovereign and subnational governments that have implemented a C&T system or are in the process of doing so. That same year, Québec became a member of the World Bank's "Carbon Pricing Leadership Coalition" by signing a statement on the importance of putting a price on carbon and became a technical partner of the *Partnership for Market Readiness* (PMR), a World Bank initiative aimed at helping developing countries and emerging economies put in place a carbon market mechanism within their jurisdiction. Québec thus fully participates in the international movement to expand carbon markets around the globe.

#### For more information:

http://www.mddelcc.gouv.qc.ca/changements/carbone/index-en.htm

http://www.wci-inc.org/index.php

