



## Implication of Coverage under the Cap-and-Trade System for Greenhouse Gas Emission Allowances

January 2024

### **Greenhouse gas (GHG) emissions report**

GHG emissions from any establishment that emits 10,000 or more metric tons of CO<sub>2</sub> equivalent annually must be reported under the [Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere](#).

### **Cap-and-trade coverage**

All emitters that operate an establishment in a targeted activity sector and whose annual emissions exceed the threshold of 25,000 metric tons of CO<sub>2</sub> equivalent (mt CO<sub>2</sub> eq.) are subject to the [Regulation respecting a cap-and-trade system for greenhouse gas emission allowances](#) (cap-and-trade regulation). Target activity sectors are listed in Schedule A of the cap-and-trade regulation and include mining, industrial manufacturing, electric power transmission and distribution, steam production for industrial purposes and pipeline transportation. The following are excluded from the cap-and-trade system coverage threshold: GHG emissions attributable to mobile equipment, CO<sub>2</sub> emissions from biomass and CH<sub>4</sub> emissions attributable to coal storage.

Emitters that operate an establishment in a targeted activity sector and report annual GHG emissions of 10,000 or more metric tons of equivalent CO<sub>2</sub> from it per the [Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere](#), can also voluntarily join the cap-and-trade system, even if they do not reach the coverage threshold of 25,000 mt CO<sub>2</sub> eq.

Emitters that distribute fuel such as natural gas, propane, heating oil, automotive gasoline and diesel are also subject to the cap-and-trade system. This means that even if an establishment is not subject to the cap-and-trade system, its fuel distributor can transfer the carbon costs for those fuels.

### **Emitter registration**

Any emitter other than a fuel distributor is required to submit its registration application no later than September 1<sup>st</sup> following the submission of its first declaration for which verified GHG emissions reach or exceed the 25,000 mt CO<sub>2</sub> eq. threshold.

Any emitter other than a fuel distributor able to demonstrate that verified GHG emissions of one of its establishments will reach or exceed the 25,000 mt CO<sub>2</sub> eq. threshold during a given year may register as of June 1<sup>st</sup> of the preceding year. One of the following documents or information items must be used to demonstrate that emissions will reach or exceed the threshold:

- an environmental impact assessment for the establishment prepared pursuant to section 31.3 of the *Environment Quality Act* (chapter Q-2)
- a mass balance calculation for greenhouse gas emissions which must be based on the emissions attributable to the materials that contribute 0.5% or more of the total carbon introduced in the establishment's process



- a technical calculation using an emission factor used for the purposes of the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere (chapter Q-2, r. 15)
- an emissions report made pursuant to the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere, along with data explaining the anticipated production increase.

Any emitter able to demonstrate that 200 or more litres of fuel will be distributed during a given year may register as of January 1<sup>st</sup> of this same year, but no later than September 1<sup>st</sup> following the submission of the first emissions declaration covering the distribution of 200 or more litres of fuel.

Any emitter wishing to voluntarily opt-in to the cap-and-trade system must complete and submit the [Application Form to Opt-in](#) no later than May 1<sup>st</sup> preceding the year as of which the emitter wishes to begin covering their emissions. Thereafter it must register no later than September 1<sup>st</sup> that precedes the year for which it wishes to begin covering its emissions.

### **Emission coverage**

An emitter must cover each verified metric ton of CO<sub>2</sub> equivalent of an establishment as of January 1<sup>st</sup> of the same year when its verified emissions reach the 25,000 mt CO<sub>2</sub> eq. threshold and until December 31 following the third consecutive emissions declaration that is below the 25,000 mt CO<sub>2</sub> eq. threshold. If the requirements are met, the emitter may submit a request to remain covered as an opt-in no later than September 1<sup>st</sup> of the last year of mandatory coverage. Otherwise, the emitter can submit a request, no later than September 1<sup>st</sup> of its last covered year, to continue to cover its emissions for five additional consecutive years.

Any emitter that voluntarily opted-in to the cap-and-trade system must cover each verified metric ton of CO<sub>2</sub> equivalent of an establishment as of January 1<sup>st</sup> of the year following its registration if registered no later than September 1<sup>st</sup>. Otherwise, the emitter must cover its emissions as of January 1<sup>st</sup> of the second year following its registration.

Any emitter having voluntarily opted-in to the cap-and-trade system may choose to cease to cover the emissions of one of its establishments if a request for this purpose was submitted no later than September 1<sup>st</sup> of the last year of a compliance period. As such, it is then required to cover its emissions until December 31 of the last year of that compliance period. Otherwise, the establishment remains covered until December 31 following the third consecutive emissions declaration below the 10,000 mt CO<sub>2</sub> eq. declaration threshold, unless it has submitted a request, no later than September 1<sup>st</sup> of its last covered year, to continue to cover its emissions for five additional consecutive years.

A compliance period lasts three years (the current compliance period covers 2021, 2022 and 2023).

On November 1<sup>st</sup> following the end of a compliance period (or if that date is not a business day, on the first business day that follows), emitters are required to hold a number of emission allowances in their compliance account that is at least equal to the total quantity of declared and verified GHG emissions for all of their covered establishments during the period in question. In other words, the emitters must remit one emission allowance to the government for every ton of GHG they emit into the atmosphere during that compliance period.



## **Allocation of Emission Units without Charge**

Given the potential impact of the cap-and-trade system on their production costs and their limited capacity to transfer their carbon cost to their clients, “emission-intensive and trade-exposed (EITE)” emitters are considered to be more vulnerable to carbon leakage.

Aiming to maintain the competitiveness of these businesses and foster innovation in these sectors, the Québec Government introduced in the cap-and-trade system a mechanism to reduce the risk of carbon leakage, the “allocation of emission units without charge”. Table A Part I in Schedule C of the cap-and-trade regulation lists the activities eligible for the allocation of emission units without charge.

The number of emission units allocated annually to EITE emitters is calculated on the basis of the production and of their GHG emissions. To maintain the incentive for innovation and environmental performance improvement, the intensity targets are progressively reduced over the years.

An intensity target approach allows businesses that increase their production to receive more emission units without charge. However, since intensity targets decrease each year, these businesses still need to improve their performance levels, failing which they will have to purchase ever-greater quantities of emission allowances as time goes by. Conversely, businesses that reduce production will receive fewer emission units without charge.

As of 2024, a portion of the emission units (proportional to the level of reduction of the free allocation) will be consigned on behalf of businesses, and subsequently sold at auctions. The funds that the sale of the units generate will be paid to businesses conditional on compliance with certain criteria established by the government. The businesses must use the funds to conduct a study of the technical and economic potential of GHG emission reduction, invest them in greenhouse gas emission reduction projects in their establishments or in research and development projects aimed at reducing greenhouse gas emissions.

## **Purchase of emission allowances**

Emitters can obtain emission allowances in a variety of ways in order to cover their GHG emissions. In addition to emission units allocated without charge, they can acquire emission units at auction or purchase them from other emitters or cap-and-trade participants. Early reduction credits (issued only once, in January 2014) and offset credits may also be used.

The minimum price of a GHG emission unit sold at auction increases by 5% plus inflation each year. Since auctions are jointly held by Québec and California, the auction minimum price corresponds to the higher of the annual minimum price of both governments, once converted into the same currency.

For the auction minimum prices and settlement prices, see the [Current Auction Price History](#).

As an example, the following table provides a potential scenario of the annual minimum price, in Canadian Dollars, from the current vintage to 2030. For 2024, since California's annual minimum price is higher than Quebec's, the minimum price is the [2024 annual minimum price](#) published by California multiplied by the hypothetical exchange rate of 1.2500. The estimated minimum prices in the table also assume (1) that the highest minimum price remains California's until 2030, (2) an annual inflation rate of 2%, and (3) an exchange rate of 1.2500 from 2024 through 2030.



2024	2025	2026	2027	2028	2029	2030
30.05\$	32.15\$	34.40\$	36.81\$	39.39\$	42.15\$	45.10\$

**The settlement price may be higher than the minimum annual price. This example is provided for illustrative purposes only. Estimates depend on the underlying assumptions and should not be considered as market price forecast.**

**Impact of the carbon cost on fuel**

Aside from the carbon cost stemming from GHG emissions at their establishments, industrial emitters subject to the Québec cap-and-trade system incur a carbon cost for their mobile equipment. Establishments that are not subject to cap-and-trade system incur a carbon cost that is incorporated into the cost of all fuels that they acquire. The following table shows the impact of the carbon cost on some fuels, per the price of emission units. Since fuel distributors can choose to transfer part or all of the carbon cost to their clients, the real invoiced cost may be different.

Fuel	Emission Factor <sup>1</sup>	Cost of carbon per the price of emission units	
		\$25/ton	\$45/ton
Automotive gasoline	2.371 mt CO <sub>2</sub> eq./kl	5.9¢/litre	10.7¢/litre
Diesel fuels	2.995 mt CO <sub>2</sub> eq./kl	7.5¢/litre	13.5¢/litre
Light oil	2.734 mt CO <sub>2</sub> eq./kl	6.8¢/litre	12.3¢/litre
Heavy oil	3.146 mt CO <sub>2</sub> eq./kl	7.9¢/litre	14.2¢/litre
Propane	1.543 mt CO <sub>2</sub> eq./kl	3.9¢/litre	6.9¢/litre
Natural gas	1.889 mt CO <sub>2</sub> eq./1,000 m <sup>3</sup>	4.7¢/m <sup>3</sup>	8.5¢/m <sup>3</sup>

<sup>1</sup> [Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere](#), Table 30-1, April 1, 2023  
 These emission factors indicate the quantity of CO<sub>2</sub> emitted when a given fuel is consumed.

The following equation may be used to calculate the carbon cost (in ¢/litre or ¢/m<sup>3</sup>) for a given emission unit price:

$$Carbon\ cost = \frac{Emission\ Factor * Emission\ unit\ sales\ price}{10}$$

For information, according to the most recent summaries of transactions recorded in CITSS (Compliance Instrument Tracking System Service), the cost of offset credits is approximately 18% below the price of emission units in 2020, approximately 37% in 2021 and approximately 36% in 2022. Up to 8% of emissions can be covered by offset credits.

The aftermarket price of emission allowances can be higher or lower than the auction minimum price. Several analytical sources, such as California Carbon Info, Carbon Pulse and Bloomberg, attempt to predict the market price of emission allowances.

The above sources are useful in estimating the impact of the carbon cost on a given emitter.