Regulations and other Acts

Gouvernement du Québec

O.C. 1297-2011, 14 December 2011

Environment Quality Act
(R.S.Q., c. Q-2)

Cap-and-trade system for greenhouse gas emission allowances

Regulation respecting a cap-and-trade system for greenhouse gas emission allowances

WHEREAS, under subparagraphs *b*, *c*, *d*, *e*.1, *h* and *h*.1 of the first paragraph of section 31 and sections 46.1, 46.5, 46.6, 46.8 to 46.16 and 115.34 of the Environment Quality Act (R.S.Q., c. Q-2), the Government may make regulations on the matters set forth therein;

WHEREAS, in accordance with sections 10 and 11 of the Regulations Act (R.S.Q., c. R-18.1) and section 124 of the Environment Quality Act, a draft of the Regulation respecting a cap-and-trade system for greenhouse gas emission allowances was published in Part 2 of the *Gazette officielle du Québec* of 7 July 2011 with a notice that it could be made by the Government on the expiry of 60 days following that publication;

WHEREAS it is expedient to make the Regulation with amendments;

IT IS ORDERED, therefore, on the recommendation of the Minister of Sustainable Development, Environment and Parks:

THAT the Regulation respecting a cap-and-trade system for greenhouse gas emission allowances, attached to this Order in Council, be made.

GILLES PAQUIN,
Clerk of the Conseil exécutif

Regulation respecting a cap-and-trade system for greenhouse gas emission allowances

Environment Quality Act
(R.S.Q., c. Q-2, s. 31, 1st par., subpars. *b*, *c*, *d*, *e.*1, *h* and *h.*1, ss. 46.1, 46.5, 46.6, 46.8 to 46.16 and 115.34.)

TITLE I
GENERAL

CHAPTER I
SCOPE, APPLICATION AND INTERPRETATION

1. The purpose of this Regulation is to set rules for the operation of the cap-and-trade system for greenhouse gas emission allowances established pursuant to section 46.5 of the Environment Quality Act (R.S.Q., c. Q-2). For that purpose, it determines which emitters are required to cover their emissions, the terms and conditions for registering for the system, the emission allowances that can be validly used, the terms and conditions for the issue, use and trading of emission allowances, and the information that must be provided by emitters and other participants in the system.

2. For the purposes of this Regulation, an emitter is any person or municipality operating an enterprise in a sector of activity listed in Appendix A and reporting for an establishment or, if applicable, for the enterprise, in accordance with the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere (c. Q-2, r. 15), annual greenhouse gas emissions in a quantity equal to or greater than 25,000 metric tonnes CO_2 equivalent, excluding

(1) CO_2 emissions attributable to the combustion or fermentation of biomass and biomass fuels;

(2) CH_4 emissions attributable to coal storage, and referred to in part QC.5.3 of Schedule A.2 to the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere;

(3) CO_2, CH_4 and N_2O emissions attributable to mobile equipment on the site of an establishment, referred to in part QC.27 of the Schedule mentioned in subparagraph 2;

(4) until 1 January 2015, CH_4 emissions attributable to the operations of a petroleum refinery, referred to in parts QC.9.3.6, QC.9.3.9 and QC.9.3.12 of the Schedule mentioned in subparagraph 2;

(5) until 1 January 2015, CH_4 and N_2O emissions attributable to anaerobic wastewater treatment, referred to in the Schedule mentioned in subparagraph 2, either in part QC.9.3.7 in the case of a petroleum refinery, part QC.10.2.7 in the case of a pulp and paper mill, or part QC.12.3.7 in the case of the production of petrochemical products;

(6) until 1 January 2015, the CO_2, CH_4 and N_2O emissions attributable to the transportation and distribution of natural gas, referred to in parts QC.29.3.1, QC.29.3.2, QC.29.3.7, QC.29.3.8 and QC.29.3.9 of the Schedule mentioned in subparagraph 2.

A person or municipality operating an enterprise is also considered to be an emitter if the person or municipality

(1) acquires electricity generated outside Québec, except electricity produced in a territory under the responsibility of a government other than that of Québec with which an agreement has been entered into under section 46.14 of the Environment Quality Act (R.S.Q., c. Q-2), for its own consumption or for sale in Québec, if the greenhouse gas emissions attributable to the generation of the quantity of electricity acquired, calculated in accordance with the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere, are equal to or exceed 25,000 metric tonnes CO_2 equivalent;

(2) distributes fuel and is contemplated by section 85.33 of the Act respecting the Régie de l'énergie (R.S.Q., c. R-6.01), and if the greenhouse gas emissions attributable to the combustion or use of the fuel distributed, calculated in accordance with the Regulation respecting the annual duty payable to the Green Fund (c. R-6.01, r. 6), are equal to or exceed 25,000 metric tonnes CO_2 equivalent.

For the purposes of subparagraph 2 of the second paragraph, "fuel" means gasoline, diesel fuel, propane, natural gas and heating oil, except

(1) aviation fuel and marine bunker fuel;

(2) hydrocarbons used as raw material by industries that transform hydrocarbon molecules through chemical or petrochemical processes;

(3) the biomass and biomass fuel component of such fuel;

(4) fuel for which an emitter referred to in the first paragraph of section 2 is required to cover its emissions pursuant to section 19.

3. For the purposes of this Regulation,

(1) "biomass fuel" means any fuel whose entire energy-generating capacity is derived from biomass;

(2) "biomass" means a non-fossilized plant or part of a plant, an animal carcass or part of an animal, manure, liquid manure, a micro-organism and any other product derived from such matters;

(3) "emissions report" means a greenhouse gas emissions report made in accordance with Division II.1 of the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere (c. Q-2, r. 15);

(4) "compliance deadline" means the deadline referred to in the first paragraph of section 20 for covering greenhouse gas emissions in a compliance period;

(5) "emission allowance" means any emission allowance referred to in the second paragraph of section 46.6 of the Environment Quality Act (R.S.Q., c. Q-2), namely a greenhouse gas emission unit, offset credit or early reduction credit, and any emission allowance issued by a government other than the Government of Québec with which an agreement has been entered into in accordance with section 46.14 of that Act, each allowance having a value corresponding to one metric ton of greenhouse gas CO_2 equivalent;

(6) “reported emissions” means the greenhouse gas emissions reported in accordance with the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere (c. Q-2, r. 15) but that do not need to be verified pursuant to that Regulation or, where applicable, reported in accordance with the Regulation respecting the annual duty payable to the Green Fund (c. R-6.01, r. 6), in metric tonnes CO_2 equivalent;

(7) “verified emissions” means the greenhouse gas emissions mentioned in a verification report in accordance with the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere (c. Q-2, r. 15), in metric tonnes CO_2 equivalent;

(8) “related entity” means any person or municipality having a business relationship with another person or municipality within the meaning of subparagraph 1 of the second paragraph of section 9;

(9) “covered establishment” means an establishment referred to in the first paragraph of section 2 or an enterprise referred to in the second paragraph of that section for which the emitter is required to cover greenhouse gas emissions in accordance with Chapter III of Title II;

(10) “greenhouse gas” or “GHG” means one or more of the gases listed in the second paragraph of section 46.1 of the Environment Quality Act, namely carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoruride (SF_6), as well as nitrogen trifluoride (NF_3);

(11) “new facility” means either

(*a*) a combination of apparatus and equipment intended for a specific purpose, installed on or after 1 January 2012 on the site of a covered establishment to pursue the same type of activity, to which GHS emissions in one of the following quantities are attributable:

(i) a quantity equal to or exceeding 25 000 metric tonnes CO_2 equivalent;

(ii) a quantity representing over 15% of the average annual emissions of the establishment for the period 2007-2010; or

(*b*) part of all of the combination of apparatus and equipment intended for a specific purpose at a covered establishment that is modified on or after 1 January 2012 with the result that the establishment pursues a type of activity referred to in Table B of Part I of Schedule C or any other type of activity that it did not previously pursue;

(12) "compliance periods" means any period for which an emitter is required to cover its greenhouse gas emissions, the first period starting on 1 January 2013 and ending on 31 December 2014, and the following periods are of 3 calendar years as of 1 January 2015;

(13) "emissions threshold" means the level of greenhouse gas emissions determined in section 2;

(14) "system" means the cap-and-trade system for greenhouse gas emission allowances;

(15) "reference unit" means a standard unit of measurement for a raw material used to pursue an activity or for a product resulting from an activity of an emitter, referred to in Table B of Part I of Schedule C.

CHAPTER II
INFORMATION AND DOCUMENTS

4. Every person or municipality to which the provisions of this Regulation apply must keep a copy of all the information and documents that must be filed under this Regulation or relating to any transaction within the system for a minimum period of 7 years starting on the date on which they are produced.

Documents and information relating to a project involving early reduction credits referred to in Chapter III of Title III must be kept for a minimum period of 7 years starting on the date on which the application for credits was forwarded to the Minister.

In addition, in the case of a designation or delegation made in accordance with section 10 or section 12, a copy of the information and documents relating to the designation or delegation must be kept for the entire period of the designation or delegation of the person concerned and for a minimum period of 7 years following the end of that period.

Documents and information referred to in this section must also be provided to the Minister on request.

5. Every person or municipality required to provide information or a document to the Minister under this Regulation must do so electronically using the forms available on the website of the Ministère du Développement durable, de l'Environnement et des Parcs at http://www.mddep.gouv.qc.ca .

TITLE II
CAP-AND-TRADE SYSTEM FOR GREENHOUSE GAS EMISSION ALLOWANCES

CHAPTER I
ADMINISTRATIVE ACCOUNTS

6. For system administration purposes, the Minister keeps the following accounts:

(1) an allocation account, containing the emission units created on the basis of the caps established in accordance with section 46.7 of the Environment Quality Act (R.S.Q., c. Q-2);

(2) an auction account, containing the emission units to be sold at auction;

(3) a reserve account, containing reserve emission units, along with any other emission allowance that must be recorded in the account in accordance with this Regulation, is intended for sale by mutual agreement by the Minister, or is used to adjust the quantity of emission units allocated without charge;

(4) a retirement account, in which emission allowances retired from the system are recorded in accordance with this Regulation.

CHAPTER II
REGISTRATION OF EMITTERS AND PARTICIPANTS

7. Every emitter to which this Regulation applies must register for the system by providing the Minister with the following information and documents:

(1) the name and contact information for the enterprise and each establishment covered, along with a list of the directors and officers including their home address;

(2) the business number assigned to the emitter pursuant to the Act respecting the legal publicity of enterprises (R.S.Q., c. P-44.1), along with the identification number assigned under the National Pollutant Release Inventory of the Government of Canada, if any;

(3) the type of establishment operated, the activities pursued, the processes and equipment used and, if applicable, the 6-digit code under the North American Industry Classification System (NAICS Canada);

(4) the total quantity of reported emissions and verified emissions for each covered establishment, for each of the 5 years preceding the application for registration, if the information is available;

(5) the name and contact information of the person responsible for the GHG emissions report for each covered establishment;

(6) a list of the subsidiaries or parent legal persons of the emitter, with the names and home addresses of their directors and officers;

(7) a list of the persons controlling over 10% of the voting rights attached to all the outstanding voting securities of the emitter.

An application for registration for the system must be sent to the Minister

(1) on or after 1 May 2012 but not later than 1 September 2012, in the case of an emitter other than an emitter referred to in subparagraph 2 of this paragraph whose reported emissions for 2009, 2010 or 2011 for an establishment are equal to or exceed the emissions threshold;

(2) on or after 1 May 2012 but not later than 1 September 2014, in the case of an emitter pursuing fuel distribution activities whose reported emissions for 2012 or 2013 are equal to or exceed the emissions threshold prior to 1 January 2014;

(3) not later than 1 September following the submission of the first emissions report reporting emissions equal to or exceeding the threshold, in the case of an emitter referred to in subparagraph 1 or 2 of this paragraph whose verified emissions for an establishment are equal to or exceed the emissions threshold during a year following the years mentioned in those subparagraphs.

8. Every person, other than an emitter, interested in purchasing emission allowances must apply to the Minister for registration for the system as a participant, providing the following information:

(1) the person's name and contact information;

(2) in the case of an enterprise:

(*a*) the type of activities pursued and, if applicable, the 6-digit code under the North American Industry Classification System (NAICS Canada);

(*b*) the business number assigned to it under the Act respecting the legal publicity of enterprises (R.S.Q., c. P-44.1);

(*c*) a list of its directors and officers, including their home addresses;

(*d*) a list of its subsidiaries or parent legal persons, with the names and home addresses of their directors and officers;

(*e*) a list of the persons controlling over 10% of the voting rights attached to all the outstanding voting securities of the participant;

(3) in the case of a natural person, the person's social insurance number and date of birth, along with a copy of an identity document issued by a government or a government department or body showing the person's name and date of birth;

(4) if the application is made by a natural person, a declaration signed by the person, or if the application is made by an enterprise, a declaration signed by its chief officer, including an undertaking to comply with the conditions of this Regulation.

An application for registration in the system pursuant to this section may be submitted to the Minister on or after 1 May 2012.

9. Every emitter or participant that submits an application for registration to the Minister must also disclose any business relationship with another registered emitter or participant, hereinafter referred to as a "related entity", by providing the following information:

(1) the name, contact information and system identification number of any other emitter or participant that is a related entity;

(2) the type of business relationship between the related entities and their respective status, such as parent legal person, subsidiary, group, partner or other, along with a brief description of the business relationship;

(3) where applicable, the percentage share of the overall holding limit and of the overall purchasing limit at an auction that is attributed to each related entity in the distributions made, respectively, in accordance with section 33 and the third paragraph of section 50.

For the purposes of this section,

(1) "business relationship" means any direct or indirect relationship between several different emitters or participants when one of them

(*a*) holds more than 20% of the securities of another emitter or participant or holds a call provision or call option for such securities;

(*b*) shares more than 20% of its officers or directors with another emitter or participant, or may appoint up to 20% of its officers or directors;

(*c*) holds more than 20% of the voting rights in another emitter or participant;

(*d*) controls over 20% of the business of another emitter or participant by any means; or

(*e)* belongs to the same group as another emitter or participant;

(2) "subsidiary" means a person controlled by another person or by persons controlled by that other person; the subsidiary of a person that is, itself, the subsidiary of another person is deemed to be a subsidiary of that other person;

(3) "group" means 2 or more persons when

(*a*) one is a subsidiary of the other;

(*b*) all the persons are subsidiaries of the same person; or

(*c*) they are all controlled by the same person;

(4) "control" means a person that, with regard to another person,

(*a*) owns or has control or direction, whether direct or indirect, over securities of the other person or company carrying votes which, if exercised, would entitle the person to elect a majority of the directors of the other person, unless the person holds the voting securities only to secure an obligation;

(*b*) in the case of a partnership other than a limited partnership, holds more than 50% of the interests of the partnership; or

(*c*) in the case of a limited partnership, is the general partner.

10. In addition to the information listed in sections 7 to 9, an emitter or a participant that is not a natural person must also provide the Minister with a designation authorizing a single natural person to act as its account representative and perform any transaction within the system on its behalf.

In the designation, the emitter or participant must also authorize another single natural person to act as alternate account representative in lieu of the account representative.

The designation must include

(1) the name and contact information of the emitter or participant and of its chief officer;

(2) the name and contact information of the account representative and alternate account representative, including their home address, social insurance number and date of birth, along with a copy of an identity document issued by a government or a government department or body showing the person's name and date of birth;

(3) a statement of the chief officer or a resolution of the board of directors of the emitter or participant attesting that the account representative and alternate account representative are duly authorized to act on behalf of the emitter or participant for the purposes of this Regulation; and

(4) the declaration provided for in Part I of Appendix B, signed by the account representative and the alternate account representative.

All representations, acts, errors or omissions made by the account representative and alternate account representative in the performance of their duties are deemed to be made by the emitter or participant.

The authorization of the account representative and alternate account representative terminates at the end of the day following the day on which the Minister receives a new designation from the emitter or participant, or when all the accounts of the emitter or participant are closed.

For the purposes of this Regulation and unless otherwise indicated by the context, the provisions concerning an account representative apply, with the necessary modifications, to an alternate account representative.

11. When an application for registration meets the requirements of this Regulation, the Minister assigns an identification number to the emitter or participant.

The Minister opens a general account under the identification number of the emitter or participant, in which the emission allowances that may be traded are recorded.

The Minister also opens a compliance account under the identification number of the emitter, in which must be recorded the emission allowances used to cover the GHG emissions of its covered establishments at the end of a compliance period.

12. An account representative may delegate to one or more natural persons the task of entering electronic operations in the system.

The delegation to an electronic submission agent is effected by sending the Minister a notice of delegation including

(1) the name and contact information of the emitter or participant represented by the account representative, along with its identification number and account numbers;

(2) the name and contact information of the account representative;

(3) the name and contact information of the electronic submission agent, including the agent's home address;

(4) a list of the system operations which the electronic submission agent is authorized to complete; and

(5) the declaration provided for in Part II of Appendix B, signed by the account representative.

All acts, errors or omissions made by the electronic submission agent in the performance of the agent's duties are deemed to be made by the account representative and by the emitter or participant.

The authorization of the electronic submission agent ends at the end of the day on which the Minister receives a new notice of delegation from the account representative, when the account representative who made the delegation is replaced, or when the accounts of the emitter or participant are closed.

13. The emitter or participant must notify the Minister of any change in the information provided pursuant to sections 7 to 10 within 30 days.

The same applies to the account representative with respect to information provided pursuant to section 12.

Despite the first paragraph, when an emitter or a participant wants to register as a bidder at an auction, any change in a business relationship referred to in section 9 of the emitter or participant must be notified to the Minister at least 60 days before the date of the auction.

14. A participant may ask the Minister to close the participant's general account and strike out the participant's registration by providing

(1) the participant's name and contact information;

(2) the participant's identification number and general account number;

(3) a transaction notice under the first paragraph of section 25 for all the emission allowances recorded in the general account; and

(4) the participant's signature or, if the participant is not a natural person, the signature of its chief officer, along with the date of the application.

15. An emitter may ask the Minister to close the emitter's compliance account and transfer the emission allowances recorded in it to the emitter's general account

(1) if the emitter has not been required to cover the GHG emissions of any of its establishments pursuant to section 19 for over 5 years;

(2) if the covered establishment is no longer operated by the emitter, the emitter operates no other covered establishments, and the emitter meets the conditions of section 17; or

(3) if the emitter is closing a covered establishment, operates no other covered establishments and meets the conditions of section 18.

The emitter then becomes a participant for the purposes of this Regulation.

16. When a participant's general account has been inactive for at least 6 years and contains no emission allowances, the Minister notifies the participant of the situation and of the fact that the Minister may, after 30 days, close the account and terminate the participant's registration if no emission allowance is placed in the account during that period or if the participant provides no valid reason for maintaining the account.

17. When the operator of a covered establishment changes during a year, the emitter who previously operated the establishment must so notify the Minister as soon as possible.

The new operator becomes an emitter to which this Regulation applies and must, within 30 days of the change of operator, register for the system in accordance with this Chapter.

18. An emitter that is closing a covered establishment must, within 45 days of the date of the last emissions report filed in accordance with the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere (c. Q-2, r. 15), surrender to the Minister,

(1) in accordance with section 46.10 of the Environment Quality Act (R.S.Q., c. Q-2), the same number of emission units as the number allocated without charge pursuant to Division II of Chapter II of Title III and issued on the basis of the estimated GHG emissions of the covered establishment, for the period after the operation of the covered establishment ceased; and

(2) any emission allowance needed to cover the GHG emissions of the covered establishment for the period during which it was operated.

For that purpose, the emitter must send the Minister

(1) a transaction notice complying with subparagraphs 1 to 3 and 6 of the first paragraph of section 25 providing for the surrender of the emission units referred to in subparagraph 1 of the first paragraph of this section to the Minister's reserve account; and

(2) a report on the coverage of emissions for the covered establishment in accordance with section 20.

If the emission allowances required by this section are not surrendered within the required time, the Minister may deduct them from the emitter's accounts according to the order referred to in the third paragraph of section 21.

CHAPTER III
COVERAGE OF GREENHOUSE GAS EMISSIONS

19. Every emitter to which this Regulation applies is required, in accordance with the terms and conditions of this Chapter, to cover all the GHG emissions from an establishment or, if applicable, an enterprise referred to in section 2 when they are equal to or exceed the emissions threshold, until 31 December following the third consecutive emissions report for which the emissions from the establishment or enterprise are below the emissions threshold.

The emitter is required to comply with the first paragraph

(1) beginning with the compliance period starting on 1 January 2013, in the case of an emitter that on *(insert the date of coming into force of this Regulation)* operates an establishment or, if applicable, an enterprise for which the reported emissions for 2009, 2010 or 2011, attributable to activities other than those referred to in subparagraph 2 of this paragraph, are equal to or exceed the emissions threshold;

(2) beginning with the compliance period starting on 1 January 2015, in the case of the activities of an emitter referred to in subparagraph 2 of the second paragraph of section 2 whose reported emissions in connection with the fuel distributed for 2012 or 2013 are equal to or exceed the emissions threshold;

(3) beginning on 1 January of the year following the year in which the first report of verified emissions that are equal to or exceed the threshold is submitted, in the case of an emitter referred to in subparagraph 1 or 2 whose verified emissions are equal to or exceed the emissions threshold during a year following those mentioned in those subparagraphs;

(4) beginning on 1 January of the year following the year in which the first report of verified emissions for an establishment, including a new facility, is submitted and includes the GHG emissions from the new facility, in the case of a new facility referred to in subparagraph *a* of paragraph 11 of section 3.

When the operator of a covered establishment changes, the new operator is required to cover all the GHG emissions from the establishment that have not been covered in accordance with this Chapter.

20. Every emitter must, not later than 1 October following the end of a compliance period or, where applicable, following the last year during which emissions must be covered pursuant to the first paragraph of section 19, or, if that day is not a business day, not later than the first following business day, cover the GHG emissions of every covered establishment for that period or, where applicable, for the years since the last compliance period.

For that purpose, the emitter must, not later than that date, send the Minister a report on the coverage of the emitter's GHG emissions including the following information:

(1) the name and contact information of the emitter, with the emitter's identification number and compliance account number;

(2) the name and contact information of each covered establishment;

(3) the name and contact information of the account representative;

(4) the total quantity of verified emissions for each of the emitter's covered establishments for the compliance period or, where applicable, for the years since the last compliance period for which emissions coverage was required;

(5) the number and type of emission allowances to be deducted from the compliance account to cover the GHG emissions and, where applicable, the order in which the emission allowances are to be deducted and their serial numbers.

To be valid for the purpose of covering GHG emissions, the emission allowances referred to in subparagraph 5 of the second paragraph must meet the requirements of section 37 and must not have been issued for a year after the compliance period.

In addition, the total quantity of offset credits that the emitter may use to cover the GHG emissions of its covered establishment cannot exceed 8% of the emitter's GHG emissions for the compliance period.

21. On the expiry of the compliance deadline, every emitter must have at least as many emission allowances in its compliance account as its verified emissions for every covered establishment during the compliance period or, where applicable, during the years following the last compliance period for which emissions coverage was required.

The Minister deducts from the emitter's compliance account, in the order indicated in the coverage report, the required number of emission allowances.

If the coverage report does not indicate an order for deduction, or if the number of emission allowances to be deducted in order is insufficient to cover the GHG emissions, the Minister deducts the required emission allowances in chronological order, from the least recent to the most recent according to their year of issue and serial number, in the following order:

(1) offset credits, up to the limit provided for in the fourth paragraph of section 20;

(2) early reduction credits;

(3) emission units.

The emission allowances deducted by the Minister in accordance with this section are placed in the Minister's retirement account and are extinguished.

22. 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 general account and the application of an administrative sanction equal to 3 emission units or early reduction credits for each missing emission allowance needed to complete the coverage.

The Minister recovers the missing emission allowances by deducting an equivalent number of valid emission allowances from the emitter's general account.

The Minister also recovers the emission units required for the administrative sanctions referred to in the first paragraph in the following manner and order, until all the units have been recovered:

(1) the Minister deducts 3 valid emission units or early reduction credits from the emitter's general account for each missing emission allowance;

(2) the Minister deducts 3 emission units issued for a year following the compliance period from the emitter's compliance account for each missing emission allowance;

(3) the Minister deducts 3 emission units issued for a year following the compliance period from the emitter's general account for each missing emission allowance.

When the emitter's accounts do not contain enough emission allowances to recover all or part of the missing emission allowances and emission units required for the application of the administrative sanction, the Minister notifies the emitter that they must be surrendered within 30 days from the failure to provide coverage.

Upon a failure to comply, the Minister removes an equivalent number of emission units from the quantity that would normally have been allocated to the emitter without charge for the following compliance period pursuant to Division II of Chapter II of Title II.

23. Every missing emission allowance, recovered and deducted in accordance with section 22, is placed in the Minister's retirement account to be extinguished.

The emission units deducted following the application of the administrative sanction provided for in that section are placed in the Minister's auction account to be auctioned at a later date, and the early reduction credits deducted are placed in the Minister's retirement account to be extinguished.

Once these actions have been taken, the suspension of the emitter's general account is lifted.

CHAPTER IV
TRANSACTIONS AND PUBLIC REGISTER OF EMISSION ALLOWANCES

24. Emission allowances may be traded only between emitters or participants registered for the system, and only registered emitters or participants may hold emission allowances for their own use.

In addition, only emission allowances recorded in a general account may be traded. Subject to section 15, once recorded in a compliance account, emission allowances may only be used to cover GHG emissions.

25. Within 3 business days of signing an agreement concerning a transaction of emission allowances, the emitter or participant who wishes to trade emission allowances must send the Minister a transaction notice including the following information:

(1) the name and contact information of the seller, buyer and, where applicable, their account representatives;

(2) the identification number and general account number of the seller and buyer;

(3) the quantity and type of emission allowances traded and, where applicable, their identification by serial number;

(4) the settlement price of each type of emission allowance to be traded and the total amount of the transaction;

(5) the planned date of the transaction, if it is intended that the transaction take effect more than 7 business days after the filing of the notice;

(6) the declaration provided for in Part III of Appendix B, signed by the account representative or electronic submission agent.

A copy of the transaction notice must also be sent to the buyer, who must confirm it with the Minister within 2 business days to allow the transaction to be recorded in the system.

26. Within 5 business days following the confirmation of a transaction notice in accordance with the second paragraph of section 25 or on the date provided for in subparagraph 5 of the first paragraph of that section, the Minister records the transaction in the system by moving the emission allowances from the general account of the seller to the general account of the buyer, based on the type, vintage and serial numbers indicated in the notice or, if no serial numbers are indicated, chronologically, from the least recent to the most recent depending on their vintage and serial number.

27. When a transaction cannot be completed because of an error or omission in the information included in the notice referred to in section 25, because the notice does not meet the requirements of that section, because an account does not contain enough emission allowances or for any other reason, the Minister so notifies the parties concerned within 5 business days of the failure of the transaction.

28. No person holding privileged information on an emission allowance may trade that emission allowance, disclose the information or recommend that another person trade the emission allowance, except if the person has reason to believe that the information is known to the public or to the other party in the transaction.

However, the person may disclose the information or recommend that another person trade the emission allowance, if the person is required to disclose the information in the course of business, and if nothing leads the person to believe that the information will be used or disclosed in contravention of this section or section 29.

29. No person prevented from trading an emission allowance pursuant to section 28 may use the privileged information in any other way, unless the person has reason to believe that the information is known to the public. In particular, the person may not carry out operations on futures contracts or other derivatives within the meaning of the Derivatives Act (R.S.Q., c. I-14.01) involving an emission allowance.

30. A person with knowledge of material order information may not carry out or recommend that another person carry out a transaction involving an emission allowance, or disclose the information to any other person, except if

(1) the person has reason to believe that the other person is already aware of the information;

(2) the person must disclose the information in the course of business, and nothing leads the person to believe that it will be used or disclosed in contravention of this section;

(3) the person carries out a transaction involving the emission allowances concerned by the information in order to perform a written obligation that the person contracted before becoming aware of the information.

For the purposes of this section, material order information is any information concerning an order to buy or an order to sell an emission allowance that could have a major impact on the price of an emission allowance.

31. No person may disclose false or misleading information or information that must be filed pursuant to this Regulation, before it is filed, in order to carry out a transaction, in particular when it could influence the price of an emission allowance.

For the purposes of this section, false or misleading information is any information likely to mislead on an important fact, as well as the simple omission of an important fact; an important fact is any fact that may reasonably be believed to have a significant impact on the price or value of an emission allowance.

32. The total number of emission units that an emitter or a participant may hold in its general account and, where applicable, its compliance account is subject to the holding limit calculated using equation 32-1:

Equation 32-1

$HL_i = 0.1 \times \text{Baseline} + 0.025 \times (C_i - \text{Baseline})$

Where:

HL_i = Holding limit for year *i*;

0.1 = Maximum proportion of the number of emission units constituting the Baseline that an emitter or a participant may hold;

Baseline = 5,000,000, being the estimated number of emission units that will be auctioned in 2013;

0.025 = Maximum proportion of the number of emission units in excess of the Baseline and issued in year *i* that an emitter or a participant may hold;

C_i = Annual cap of emission units for year *i*.

Despite the first paragraph, emission units recorded in the compliance account of an emitter and needed to cover estimated GHG emissions for the current year or verified emissions for preceding years are not subject to the holding limit.

Furthermore, an emitter or a participant that reaches or exceeds one-half of its holding limit must, at the Minister's request, explain its strategy and the reason for holding the emission units concerned.

Every transaction notice for emission units that would cause the buyer's holding limit to be exceeded will be refused by the Minister.

33. For the purposes of the holding limit referred to in section 32, related entities are considered to be a single entity with an overall holding limit that they can distribute among themselves by allotting percentage shares.

The distribution must be disclosed to the Minister when the related entities register for the system in accordance with subparagraph 3 of the first paragraph of section 9 or, in the case of a new business relationship within the meaning of subparagraph 1 of the second paragraph of that section, within 30 days from the creation of that relationship. The information must, however, be sent to the Minister within 60 days prior to an auction when one of the related entities wishes to be registered as a bidder.

34. The Minister may, on the Minister's own initiative, correct any material error that occurs in an account in the system. The Minister must inform the emitter or participant concerned as soon as possible, stating the reasons for the correction.

35. The public register of emission allowances provided for in section 46.11 of the Environment Quality Act (R.S.Q., c. Q-2) shows a summary of emission allowance transactions, in non-nominative form, and is updated periodically by the Minister. The register may be consulted on the website of the Ministère du Développement durable, de l'Environnement et des Parcs.

For the purposes of section 46.11 of the Act, "account" means the compliance account of an emitter.

TITLE III
EMISSION ALLOWANCES

CHAPTER I
GENERAL

36. Emission allowances are issued in electronic form and identified by a serial number and, except for the emission units recorded in the reserve account of the Minister pursuant to the first paragraph of section 38, by vintage.

37. The following emission allowances may be traded through the system and used for compliance purposes:

(1) every emission unit and early reduction credit referred to in this Title;

(2) every offset credit issued by the Minister pursuant to subparagraph 2 of the first paragraph of section 46.8 of the Environment Quality Act (R.S.Q., c. Q-2);

(3) every emission allowance issued by a government other than the Gouvernement du Québec, with which an agreement has been entered into in accordance with section 46.14 of the Act.

Despite the first paragraph, the following emission allowances may not be traded or used for compliance purposes:

(1) any emission allowance that has been suspended, cancelled or extinguished;

(2) any emission allowance that has been used for compliance purposes under another cap-and-trade system for GHG emission allowances or GHG emissions reduction program.

CHAPTER II
GREENHOUSE GAS EMISSION UNITS

DIVISION I
GENERAL

38. Based on the cap on emission units set by order in accordance with section 46.7 of the Environment Quality Act (R.S.Q., c. Q-2), the Minister places in the Minister's reserve account a quantity of emission units that may be used in adjusting the allocation made without charge in accordance with Division II or may be sold by mutual agreement in accordance with Division IV of this Chapter.

The quantity of emission units represents

(1) 1% of the emission units available under the cap set for the years 2013 and 2014;

(2) 4% of the emission units available under the cap set for the years 2015 to 2017;

(3) 7% of the emission units available under the cap set for the years 2018 to 2020; and

(4) 4% of the emission units available under the cap set for the years 2021 and following.

The Minister places the unreserved emission units in the Minister's allocation account. The units may be allocated without charge in accordance with Division II of this Chapter.

The emission units in excess of the total estimated quantities that may be allocated without charge for a given year are placed in the Minister's auction account to be sold in accordance with Division III of this Chapter.

DIVISION II
ALLOCATION

39. An emitter operating a covered establishment and pursuing an activity referred to in Table A of Part I of Appendix C is eligible for the allocation of emission units without charge.

40. The Minister estimates annually the total quantity of emission units that may be allocated without charge to an eligible emitter.

The estimated total quantity is calculated in accordance with Part II of Appendix C, using equation 1-1 and replacing the factor "$P_{Ri\ j}$" in equations 2-1, 2-9, 3-1, 3-10, 4-1, 4-8, 5-1 and 5-2, 6-2, 6-7, 6-8 and 6-9 by the factor "$P_{Ri\ j-2}$", which corresponds to the total quantity of reference units produced or used in the year 2 years before the allocation year.

Despite equations 4-1 to 4-8 in Part II of Appendix C, if the only data available are data on emissions for the year in which an establishment became operational, the Minister uses those data to estimate the emission units allocated without charge for the first year.

On 12 January each year as of 2013 or, if that day is not a business day, on the first following business day, the Minister issues the emission units corresponding to 75% of the total estimated quantity of emission units that may be allocated without charge, calculated in accordance with this section.

41. After the filing of the emissions report for the year during which the issue referred to in the fourth paragraph of section 40 is made, an adjustment is made to the remaining 25% of the total estimated quantity of emission units that may be allocated without charge.

The Minister calculates the adjustment by subtracting the quantity of emission units issued from the actual total quantity of emission units that may be allocated without charge to an eligible emitter for the year covered by the emissions report, determined in accordance with Part II of Appendix C.

On 1 September following the end of each year or, if that day is not a business day, on the first following business day, the Minister places, in the emitter's general account, the quantity of emission units corresponding to any positive result of the adjustment calculation.

When the result of the adjustment calculation is negative, the Minister notifies the emitter who must, within 30 business days, place in its compliance account a quantity of emission units, of the current or prior vintage, equal to the excess quantity issued following the estimate made in accordance with section 40. The emission units are then transferred to the Minister's reserve account when units are required to be surrendered in accordance with the third paragraph of section 42, or transferred to the Minister's auction account.

42. The emission units allocated without charge in accordance with this Division are placed in the general account of the emitter.

The units come from the allocation account of the Minister or, if that account does not contain enough units, from the Minister's reserve account using, in order, the Class C, B and A units placed on reserve as determined in section 58.

In the latter case, the reserve account is replenished using the emission units available following the adjustment for subsequent years carried out in accordance with the first, second and third paragraphs of section 41, or using the units issued in excess and surrendered to the Minister in accordance with the fourth paragraph of that section. The serial numbers of the emission units placed in this way in the reserve account are replaced by numbers corresponding to the category replenished.

43. The Minister may suspend the allocation of emission units without charge to any emitter that fails to comply with the provisions of the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere (c. Q-2, r. 15) or with the provisions of this Regulation.

44. In accordance with the second paragraph of section 46.8 of the Environment Quality Act (R.S.Q., c. Q-2), the Minister publishes in the *Gazette officielle du Québec*, not later than 1 December each year, the quantity of emission units to be issued to each emitter without charge in accordance with the fourth paragraph of section 40 on the basis of the estimate for the coming year, as well as the quantity issued to each emitter, pursuant to the third paragraph of section 41, following the adjustment made for the previous year or, where applicable, the excess quantity surrendered by the emitter in accordance with the fourth paragraph of that section.

DIVISION III
AUCTION

45. The Minister auctions emission units in a specific place or online, at most 4 times per year.

At least 60 days before an auction, the Minister publishes a notice of auction on the website of the Ministère du Développement durable, de l'Environnement et des Parcs and, if the Minister considers it appropriate, in a newspaper or other publication, including the following information:

(1) the place or Internet address, the date and the time of the auction;

(2) the terms and conditions for registering as a bidder;

(3) the form of a bid, and the procedure for submitting a bid;

(4) the procedure for the auction;

(5) the number and vintage of the emission units to be auctioned;

(6) the minimum settlement price for the units.

46. Every emitter or participant registered in the system, except an emitter or a participant whose accounts have been suspended or revoked for a reason other than a failure to cover the GHG emissions of a covered establishment, may take part in an auction of emission units.

For that purpose, the emitter or participant must, at least 30 days before the date of the auction, register with the Minister as a bidder by submitting the following information and documents:

(1) the emitter or participant's name, contact information, identification number and account numbers;

(2) the name, contact information and identification number of any related entity taking part in the auction.

47. The Minister may refuse to register an emitter or a participant for any auction if, when applying for registration for the system or for a previous auction or sale by mutual agreement, the emitter or participant provided false or misleading information, omitted to disclose information required by this Regulation, or contravened a rule of procedure for the auction or sale by mutual agreement.

48. Every bidder must, at least 7 days before the date of the auction, submit a financial guarantee to the Minister in an amount equal to or in excess of the total of the bidder's bids.

The guarantee must be provided in the form of

(1) a bank draft or money order, postal money order or certified cheque made out to the Minister of Finance;

(2) a bearer bond issued or guaranteed by Québec, Canada or a Canadian province, the United States of America or one of its member States, the International Bank for Reconstruction and Development, a municipality or school board in Canada, or a fabrique in Québec;

(3) a security or guarantee policy issued to the Minister of Finance with a stipulation of solidarity and renunciation of the benefits of discussion and division by a legal person authorized to stand security under the Bank Act (S.C. 1991, c. 46), the Act respecting trust companies and savings companies (R.S.Q., c. S-29.01), the Act respecting insurance (R.S.Q., c. A-32) or the Act respecting financial services cooperatives (R.S.Q., c. C-67.3); or

(4) a letter of credit issued to the Minister of Finance by a bank or a financial services cooperative.

All drafts, cheques, orders or bonds provided as a guarantee must be deposited with the Minister of Finance pursuant to the Deposit Act (R.S.Q., c. D-5).

49. The auction of emission units consists of a single round of bidding, using sealed bids.

The emission units are auctioned in lots of 1,000 units of the same vintage.

The minimum price of the emission units is set at

(1) $10 per emission unit, for auctions conducted in 2012;

(2) for auctions conducted in any year after 2012, the price set in subparagraph 1 increased annually by 5% and adjusted in the manner provided for in section 83.3 of the Financial Administration Act (R.S.Q., c. A-6.001).

50. During an auction, a bidder may submit more than one bid, subject to the terms and conditions specified in the notice published in accordance with the second paragraph of section 45, stating the quantity of emission units the bidder wishes to purchase, by vintage, and the price bid.

The quantity of emission units that may be purchased by a single bidder at an auction held prior to 1 January 2015 is, however, limited to

(1) for vintage 2013 and 2014 emission units, 15%, in the case of an emitter referred to in section 2, except an emitter referred to in subparagraph 1 of the second paragraph of that section, or 4%, in the case of a participant;

(2) for vintage 2015 and subsequent emission units, 25%, in the case of any bidder.

When bidders are related entities, the purchase limit applies to all those entities. They must indicate to the Minister, in the application for registration for the auction referred to in the second paragraph of section 46, the distribution of the overall purchasing limit among the related entities, in percentages.

A bid submitted by an emitter or a participant will be refused by the Minister if it specifies a quantity of emission units that exceeds the quantity to be auctioned, causes the purchase limit determined in accordance with this section, or the holding limit determined in accordance with section 32, to be exceeded, or exceeds the financial guarantee submitted in accordance with section 48, in value terms.

51. A bidder must not publicly disclose confidential information relating to its participation in an auction, including:

(1) its identity;

(2) its bidding strategy;

(3) the amount of its bids and the quantity of emission units concerned;

(4) the financial information submitted to the Minister.

In addition, a bidder that retains the services of an advisor to develop its bidding strategy must send the Minister the name and contact information of the advisor, including the advisor's home address. The bidder must ensure that the advisor does not disclose any of the information listed in the first paragraph and does not coordinate the bidding strategy of any other bidder.

52. At the close of the auction, the Minister awards emission units at a settlement price that is equal to or above the minimum price and that corresponds to the lowest bid for the last lot of emission units awarded, starting with the bidders that submitted the highest bids, until all available units have been sold or until the minimum price is reached.

If a winning bidder fails to pay in full for the emission units awarded within 30 days following the auction, the Minister withholds the amount owed from the guarantee provided in accordance with section 48.

Upon receiving payment from a winning bidder, made out to the Minister of Finance, or after applying all or part of a winning bidder's guarantee, the Minister records the emission units awarded in the bidder's general account.

The amounts collected during the auction are paid into the Green Fund in accordance with section 46.16 of the Environment Quality Act (R.S.Q., c. Q-2).

53. Unless a bidder indicates otherwise, a guarantee submitted in accordance with section 48 and that is not used during an auction is retained for later auctions.

When a guarantee has been partly used, the remaining part may be used for a later auction provided it is equal to or in excess of the amount of the bidder's bids.

The guarantee submitted for an auction may also be used for a sale by mutual agreement when the amount of the guarantee is equal to or in excess of the total of the bids submitted in accordance with this Division and the offers to purchase submitted in accordance with Division IV of this Chapter.

54. Emission units that remain unsold after an auction are retained for an auction at a later date.

However, when emission units remain unsold more than 3 years after first being offered for auction, the Minister places the units in the Minister's reserve account. The serial numbers of the emission units are replaced by numbers corresponding to Category C emission units placed on reserve.

55. The Minister publishes a summary of the auction within 45 days on the website of the Ministère du Développement durable, de l'Environnement et des Parcs, including the following information:

(1) the names of the persons registered as bidders;

(2) the settlement price of the emission units;

(3) the total quantity and distribution of the units sold, in non-nominative form.

DIVISION IV
SALE BY MUTUAL AGREEMENT

56. Only emitters registered in the system, having a covered establishment in Québec and not holding emission units in their general account are eligible for a sale of emission units by mutual agreement in accordance with this Division.

57. The Minister organizes a sale of emission units by mutual agreement in a determined place or online, at most 4 times per year.

At least 4 weeks before a sale by mutual agreement, the Minister publishes a notice of sale by mutual agreement on the website of the Ministère du Développement durable, de l'Environnement et des Parcs and, if the Minister considers it appropriate, in a newspaper or other publication, including the following information:

(1) the place or Internet address, the date and the time of the sale by mutual agreement;

(2) the terms and conditions for registering as a purchaser;

(3) the form of an offer, and the procedure for submitting an offer;

(4) the procedure for the sale by mutual agreement;

(5) the number of emission units available for sale for each category;

(6) the settlement price for the units.

58. The emission units placed in the reserve account are divided equally into 3 categories and are sold at the following prices:

(1) for emission units placed on reserve in Category A, $40 per emission unit;

(2) for emission units placed on reserve in Category B, $45 per emission unit;

(3) for emission units placed on reserve in Category C, $50 per emission unit.

Beginning in 2014, the prices indicated in the first paragraph are increased annually by 5% and adjusted in the manner provided for in section 83.3 of the Financial Administration Act (R.S.Q., c. A-6.001).

59. Every emitter that wishes to purchase emission units at a sale by mutual agreement must, at least 2 weeks before the sale, register with the Minister as a purchaser by submitting the following information and documents:

(1) the emitter's name, contact information, identification number and account numbers;

(2) an offer to purchase stating

(*a*) the quantity of emission units sought, in each category and by lots of 1,000 emission units, up to the emitter's holding limit;

(*b*) a financial guarantee in an amount equal to or in excess of the amount of the offer to purchase, in one of the forms referred to in the second paragraph of section 48.

An offer to purchase submitted by an emitter will be refused by the Minister if it specifies a quantity of emission units that exceeds the quantity to be sold, causes the holding limit determined in accordance with section 32 to be exceeded, or exceeds the value of the financial guarantee submitted in accordance with subparagraph *b* of subparagraph 2 of the first paragraph.

60. The Minister may refuse to register an emitter for a sale by mutual agreement if, when applying for registration for the system or for a previous sale by mutual agreement or auction, the emitter provided false or misleading information, omitted to disclose information required by this Regulation, or contravened a rule of procedure for the sale by mutual agreement or auction.

61. At the close of the sale by mutual agreement, the Minister sells the emission units placed on reserve by allocating the units from categories A, B and C, in that order.

When the total number of offers to purchase for a category of emission units placed on reserve is equal to or below the quantity of emission units available, the Minister allocates the emission units among the purchasers based on the offers received.

However, when the total of the offers to purchase for a given category is in excess of the quantity of emission units available, the Minister allocates the emission units

(1) by establishing the share of each purchaser by dividing the quantity of emission units requested in their offer to purchase by the total of the offers to purchase for that category; and

(2) by determining the number of emission units to be assigned to each purchaser by multiplying each purchaser's share by the quantity of emission units available, rounding down to the nearest whole number.

62. If a purchaser fails to pay in full for the emission units assigned within 30 days of the sale, the Minister withholds the amount owed from the guarantee provided in accordance with subparagraph *b* of subparagraph 2 of the first paragraph of section 59.

Upon receiving payment from a purchaser, made out to the Minister of Finance, or after applying all or part of a purchaser's guarantee, the Minister records the emission units sold in the purchaser's compliance account.

The amounts collected during a sale by mutual agreement are paid into the Green Fund in accordance with section 46.16 of the Environment Quality Act (R.S.Q., c. Q-2).

63. Unless a purchaser indicates otherwise, a guarantee submitted in accordance with subparagraph *b* of subparagraph 2 of the first paragraph of section 59 that is not used during a sale by mutual agreement is retained for future sales by mutual agreement.

When a guarantee has been partly used, the remaining part may be used for a later sale by mutual agreement provided it is equal to or in excess of the amount of the offer to purchase submitted by the purchaser.

The guarantee submitted for a sale by mutual agreement may also be used for an auction when the amount of the guarantee is equal to or in excess of the total of the offers to purchase submitted in accordance with this Division and the bids submitted in accordance with Division III of this Chapter.

64. Emission units that remain unsold after a sale by mutual agreement are retained for a sale at a later date.

CHAPTER III
EARLY REDUCTION CREDITS

65. Reductions in GHG emissions made during the eligibility period starting on 1 January 2008 and ending on 31 December 2011 are eligible for early reduction credits.

The period during which the reductions are recorded, hereafter referred to as the reduction period, must correspond to the 4 full calendar years of the eligibility period or must have started on 1 January 2009, 2010 or 2011 and ended without interruption on 31 December 2011.

The reference period used to determine reductions in GHG emissions runs from 1 January 2005 to 31 December 2007, inclusively.

66. Every emitter referred to in the first paragraph of section 2 that is required to cover its GHG emissions starting with the compliance period starting on 1 January 2013 is eligible for early reduction credits if the reductions

(1) result directly from an action or decision of the emitter and began during the eligibility period determined in the first paragraph of section 65;

(2) are made in one of the emitter's covered establishments;

(3) reduce the GHG emissions that the emitter is required to cover pursuant to section 19;

(4) belong to and can be demonstrated by the emitter;

(5) are calculated using the same calculation method and the same factors for each of the years 2005 to 2011;

(6) represent at least 1 metric tonne CO_2 equivalent;

(7) do not result from a decrease in production or the closure of an establishment, or from an increase in GHG emissions at another establishment located in Québec or elsewhere;

(8) are voluntary, meaning that they were not made in response to a legislative or regulatory provision, a permit or another type of authorization;

(9) are permanent and irreversible;

(10) are additional, meaning that they meet the following conditions:

(*a*) the average annual GHG emissions of the establishment during the reduction period are below those of the reference period;

(*b*) the average intensity compared to at least 1 reference unit referred to in Table B of Part I of Appendix C during the reduction period, calculated using equation 66-1 below, is below the average intensity for the reference period, calculated using equation 66-2:

Equation 66-1

$$I_{\mathrm{Re}duction} = \sum_{j=1}^{m} \frac{\sum_{i=n}^{2011} GHG_{ij}}{\sum_{i=n}^{2011} P_{ij}}$$

Equation 66-2

$$I_{\mathrm{Re}\,ference} = \sum_{j=1}^{m} \frac{\sum_{i=2005}^{2007} GHG_{ij}}{\sum_{i=2005}^{2007} P_{ij}}$$

Where:

$I_{Reduction}$ = Average intensity of GHG emissions during the reduction period;

$I_{Reference}$ = Average intensity of GHG emissions during the reference period;

m = Total number of types of reference units *j* at the establishment for which average emission intensity has decreased;

j = Reference unit for the establishment referred to in Table B of Part I of Appendix C;

GHG_{ij} = GHG emissions of the establishment, relating to a reference unit *j* for year *i*, in metric tonnes CO_2 equivalent;

i = Year;

n = First year of the reduction period;

P_{ij} = Annual quantity of reference units *j* produced or used by the establishment for year *i*;

(11) are verifiable; and

(12) have not been credited or financed, in whole or in part, under another cap-and-trade system for GHG emission allowances or a reduction program for GHG emissions.

However, reductions in GHG emissions resulting from on-site transportation activities and the sequestration of GHG emissions are not eligible for early reduction credits.

67. In addition to the conditions set out in sections 65 and 66, to be eligible for early reduction credits, a reduction resulting from a project to substitute a low-GHG fuel for a fuel must also meet one of the following conditions:

(1) the average purchase cost of the substitute fuel or combustible paid by the emitter during the reduction period must be higher than the average cost of the fuel substituted during the reduction period;

(2) the emitter must have made an investment, other than an equipment maintenance investment, to modify or replace equipment in order to substitute the fuel during the eligibility period.

68. An emitter that wishes to be issued early reduction credits must send the Minister, not later than 31 December 2012, an application containing the following information and documents:

(1) the emitter's name, contact information, identification number and account numbers;

(2) a description of the activities pursued at the emitter's establishment where the reductions have occurred;

(3) a description of the reduction project and proof that it meets the conditions set out in sections 65 to 67;

(4) the dates of the reduction period during which the reductions in GHG emissions occurred;

(5) the quantity of the GHG emission reduction, in metric tonnes CO_2 equivalent, calculated using one of the following methods:

(*a*) one of the calculation methods provided for in Schedule A.2 to the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere (c. Q-2, r. 15);

(*b*) a mass balance calculation method, or a method recognized by the industry and meeting the requirements of the ISO 14064-2 standard;

(6) all the information and documents used to calculate GHG emissions in accordance with paragraph 5;

(7) a verification report on the project and the reductions, carried out by an organization accredited to ISO 14065 by a member of the International Accreditation Forum under an ISO-17011 program, confirming a reasonable level of assurance under the ISO-14064-3 standard that the reduction meets the conditions of this Chapter;

(8) the information needed to calculate the maximum quantity of early reduction credits provided for in section 69;

(9) the signature of the chief officer of the emitter and the date of the application.

69. The maximum quantity of early reduction credits that may be issued to an emitter that meets the requirements of this Chapter is calculated using equations 69-1 to 69-5:

Equation 69-1

$$ERC_{\max} = N_Y \times \sum_{j=1}^{k}((E_{\mathrm{Re}\,ference(j)} - E_{\mathrm{Re}\,duction(j)}) \times P_j)$$

Where:

ERC_{max} = Maximum quantity of early reduction credits that may be issued;

N_Y = Number of calendar years included in the reduction period;

k = Total number of reference units of the establishment referred to in Table B of Part I of Appendix C;

j = Reference unit;

$E_{Reference\ (j)}$ = Average annual GHG emissions resulting from the production or use of reference unit *j* during the reference period, calculated using equation 69-2, in metric tonnes CO_2 equivalent;

$E_{Reduction\ (j)}$ = Average annual GHG emissions resulting from the production or use of reference unit *j* during the reduction period, calculated using equation 69-3, in metric tonnes CO_2 equivalent;

P_j = - 1 if $P_{Reference\ (j)} \leq P_{Reduction\ (j)}$;

- $(P_{Reduction\ (j)} / P_{Reference\ (j)}$ if $P_{Reference\ (j)} > P_{Reduction\ (j)}$;

Where: $P_{Reference\ (j)}$ = Average annual quantity of reference units *j* produced or used during the reference period, calculated using equation 69-4;

$P_{Reduction\ (j)}$ = Average annual quantity of reference units *j* produced or used during the reduction period, calculated using equation 69-5.

Equation 69-2

$$E_{\mathrm{Re}\,ference(j)} = \frac{\sum_{i=2005}^{2007} E_{ij}}{3}$$

Where:

$E_{Reference\ (j)}$ = Average annual GHG emissions resulting from the production or use of reference unit *j* during the reference period, in metric tonnes CO_2 equivalent;

E_{ij} = GHG emissions resulting from the production or use of reference unit *j* for year *i,* in metric tonnes CO_2 equivalent;

j = Reference unit;

i = Each year included in the reference period, namely 2005, 2006 or 2007;

Equation 69-3

$$E_{\mathrm{Re}duction(j)} = \frac{\sum_{i=m}^{2011} E_{ij}}{n}$$

Where:

$E_{Reduction\ (j)}$ = Average annual GHG emissions resulting from the production or use of reference unit *j* during the reduction period, in metric tonnes CO_2 equivalent;

E_{ij} = GHG emissions resulting from the production or use of reference unit *j* for year *i,* in metric tonnes CO_2 equivalent;

i = Each year included in the reduction period, namely 2008, 2009, 2010 and 2011;

j = Reference unit;

m = Year in which the reduction period begins;

n = Number of consecutive years in the reduction period;

Equation 69-4

$$P_{\mathrm{Re}\,ference(j)} = \frac{\sum_{i=2005}^{2007} P_{ij}}{3}$$

Where:

$P_{\text{Reference (j)}}$ = Average annual quantity of reference units produced or used during the reference period;

P_{ij} = Quantity of reference units produced or used during year *i*;

i = Each year included in the reference period, namely 2005, 2006 or 2007;

j = Reference unit;

Equation 69-5

$$P_{\mathrm{Re}\,duction(j)} = \frac{\sum_{i=m}^{2011} P_{ij}}{n}$$

Where:

$P_{\text{Reduction (j)}}$ = Average annual quantity of reference units produced or used during the reduction period;

P_{ij} = Quantity of reference units produced or used during year *i*;

i = Each year included in the reduction period, namely 2008, 2009, 2010 or 2011;

j = Reference unit;

m = Year in which the reduction period begins;

n = Number of consecutive years in the reduction period.

70. The Minister issues, to every emitter that meets the conditions of this Chapter, a quantity of early reduction credits corresponding to the lesser of

(1) the quantity calculated in accordance with section 69; and

(2) the quantity corresponding to the reductions that meet the conditions of this Chapter.

The credits are issued to the emitter's general account by the Minister not later than 1 September 2013.

TITLE IV
OFFENCES AND FINAL PROVISIONS

CHAPTER I
OFFENCES

71. A person who communicates false or misleading information to the Minister for the purposes of this Regulation is guilty of an offence.

72. A person who directly or indirectly engages or participates in any transaction, series of transactions or trading method relating to an emission allowance, or in any act, practice or course of conduct is guilty of an offence if the person knows, or ought reasonably to know, that the transaction, series of transactions, trading method, act, practice or course of conduct

(1) creates or contributes to create a misleading appearance of trading activity in, or an artificial price for, an emission allowance; or

(2) perpetrates a fraud on any person.

73. A person who contravenes section 15, the first paragraph of section 18, section 19, the first, third and fourth paragraphs of section 20, the first paragraph of section 21, the fourth paragraph of section 22, sections 24, 28 to 32, the first paragraph of section 33, section 37, the fourth paragraph of section 41, the first paragraph of section 46, section 48, the second paragraph of section 50, the first paragraph of section 51, the second paragraph of section 52, the second and third paragraphs of section 53, section 56, the first paragraph of section 62, the second and third paragraphs of section 63 or section 65, 66, 67, 71 or 72 is guilty of an offence and is liable,

(1) in the case of a natural person, to a fine of $2,500 to $25,000;

(2) in the case of a legal person, or of a person or municipality operating an enterprise, to a fine of $25,000 to $250,000.

74. A person who fails to communicate information or a document to the Minister as prescribed by sections 4, 5, 7 to 10, 12 to 14, 17, the second paragraph of section 18, the second paragraph of section 20, section 25, the second paragraph of section 33, the second paragraph of section 46, section 47, the first and third paragraphs of section 50, the second paragraph of section 51, section 59 or 68, or communicates false or inaccurate information, is guilty of an offence and liable

(1) in the case of a natural person, to a fine of $1,000 to $10,000;

(2) in the case of a legal person or a person or municipality operating an enterprise, to a fine of $5,000 to $50,000.

75. In the case of a second or subsequent offence, the fines in sections 73 and 74 are doubled.

CHAPTER II
FINAL

76. This Regulation comes into force on 1 January 2012.

APPENDIX A
(s. 2)

Sectors of activity targeted by the cap-and-trade system for greenhouse gas emission allowances

Sector	Type of activity	6-digit NAICS* code beginning with:
Mining, quarrying and oil and natural gas extraction	Extraction of naturally occurring minerals	21
Electric power generation, transmission and distribution	Generation of bulk electric power, transmission from generating facilities to distribution centres, and/or distribution to end users	2211
Natural gas distribution	Distribution of natural or synthetic gas to the ultimate consumers through a system of mains. Gas marketers or brokers, that arrange the sale of natural gas over distribution systems operated by others, are included	2212
Steam and air-conditioning supply	Production and/or distribution of steam and heated or cooled air	22133
Manufacturing	Physical or chemical transformation of materials or substances into new products	31, 32 or 33
Pipeline transportation of natural gas	Pipeline transportation of natural gas, from gas fields or processing plants to local distribution systems	486210

* The numbers indicated for each category of industrial or commercial activity mentioned in Appendices A and C correspond to the codes assigned by the North American Industry Classification System (NAICS). The description of each category of activity found in the document “North American Industry Classification System, Canada 2007” published by Statistics Canada (Catalogue no. 12-501-XIE2007001, 2007, ISBN 0-662-44519-8) applies for the purposes of this Regulation.

APPENDIX B
(ss. 10, 12 and 25)

DECLARATIONS

Part I

Designation of an account representative and an alternate account representative

"I, _____, the undersigned, certify that I have been designated as the account representative or the alternate account representative, as applicable, by an agreement that is binding all persons who have an ownership interest with respect to emission allowances recorded in the account. I certify that I have all the necessary authority to carry out the duties and responsibilities contained in the Regulation respecting a cap-and-trade system for greenhouse gas emission allowances *(insert the number of the Order in Council making this Regulation)* on behalf of the person who designated me, and that that person is bound by my representations, actions, inactions or transactions and by any decision issued to me by the Minister or a court."

Part II

Delegation to an electronic submission agent

"I, _____, the undersigned, agree that any electronic operation authorized in the notice of delegation that is carried out in the system by the electronic submission agent named in that notice while I am acting as account representative is deemed to be an operation carried out by me and by the emitter or participant."

Part III

Transaction notice

""I, _____, the undersigned, declare that I am duly authorized to carry out this transaction on behalf of the emitter or participant holding the emission allowances recorded in the account. I declare that I have personally examined and am familiar with the statements and information included in the transaction notice and the appended documents. After conducting a verification with the persons responsible for obtaining the information, I certify, under pain of the sanctions prescribed by the Regulation respecting a cap-and-trade system for greenhouse gas emission allowances *(insert the number of the Order in Council making this Regulation)*, that the statements and information are, to the best of my knowledge, true, accurate and complete."

APPENDIX C
(ss. 39, 40 and 41)

Part I

Table A Activities eligible for the allocation without charge of greenhouse gas emission units

Activity	6-digit NAICS* code beginning with:
Mining and quarrying (except oil and gas)	212
Electric power generation sold under a contract signed prior to 1 January 2008, that has not been renewed or extended after that date, in which the sale price is fixed for the duration of the contract, with no possibility of adjusting the price to take into account the costs relating to the implementation of a cap-and-trade system for greenhouse gas emission allowances Acquisition, for the consumption of the enterprise or for sale in Québec, of power generated in another Canadian province or territory or in a state in which the government has established a cap-and-trade system for greenhouse gas emission allowances targeting power generation, but has not signed an agreement referred to in section 46.14 of the Environment Quality Act (R.S.Q., c. Q-2)	2211
Steam and air-conditioning supply	22133
Manufacturing	31, 32 or 33

Table B Reference units [1]

Sector	Type of activity	Reference unit
Aluminum	Baked cathode production	Metric tonne of baked cathodes
Aluminum	Aluminum production	Metric tonne of liquid aluminum (leaving potroom)
Aluminum	Baked anode production	Metric tonne of baked anodes
Aluminum	Aluminum hydroxide production	Metric tonne of aluminum hydroxide
Aluminum	Calcinated coke production	Metric tonne of calcinated coke
Other	Beer production	Hectolitre of beer
Other	Alcohol production	Kilolitre of alcohol
Other	Graphite electrode manufacturing	Metric tonne of electrodes
Other	Gypsum panel manufacturing	Cubic metre of gypsum panel
Other	Dismembering	Metric tonne of materials processed
Other	Sugar production	Metric tonne of sugar
Other	Glass container manufacturing	Metric tonne of glass
Other	Natural gas distribution	Kilometre of pipeline
Other	Steam production (for sale to a third party)	Metric tonne of steam
Lime	Lime production	Metric tonne of calcic lime and metric tonne of calcic lime kiln dust sold Metric tonne of dolomitic lime and metric tonne of dolomitic lime kiln dust sold
Chemical	Production of ethanol from corn	Kilolitre of ethanol
Chemical	Tire production	Metric tonne of tires
Chemical	Fabrication of rigid foamed insulation	Board foot of rigid insulation
Chemical	Production of titanium dioxide ($Ti O_2$)	Metric tonne of titanium pigment equivalent (raw material)

Chemical	Production of linear alkylbenzene (LAB)	Metric tonne of LAB
Chemical	Production of catalyzer	Metric tonne of catalyzer (including additives)
Chemical	Production of hydrogen	Metric tonne of hydrogen
Chemical	Production of purified terephtalic acid (PTA)	Metric tonne of PTA
Chemical	Production of paraxylene	Metric tonne of xylene and toluene Metric tonne of steam sold to a third party
Chemical	Production of sodium silicate	Metric tonne of sodium silicate
Chemical	Production of sulphur (refinery gas)	Metric tonne of sulphur
Cement	Cement production	Metric tonne of clinker and metric tonne of mineral additives (gypsum and limestone)
Electricity	Electricity production	Megawatt-hour (MWH)
Electricity	Acquisition of electricity produced outside Québec for the consumption of the enterprise or for sale in Québec	Megawatt-hour (MWH)
Electricity	Steam production	Metric tonne of steam
Metallurgy	Steel production (steelworks)	Metric tonne of steel (slab, pellets or ingots)
Metallurgy	Wrought steel production	Metric tonne of wrought steel
Metallurgy	Steel pellet or slab rolling	Metric tonne of rolled steel
Metallurgy	Copper anode production	Metric tonne of copper anodes Metric tonne of electronics recycled
Metallurgy	Iron ore concentrate pellet reduction	Metric tonne of iron ore pellet
Metallurgy	Copper cathode production	Metric tonne of copper cathodes

Metallurgy	Ferrosilicon production	Metric tonne of ferrosilicon (50% and 75% concentration)
Metallurgy	Lead production	Metric tonne of lead
Metallurgy	Metal power manufacturing	Metric tonne of powder
Metallurgy	Titanium dioxide ($Ti O_2$) slag manufacturing	Metric tonne of $Ti O_2$ slag
Metallurgy	Silicon metal production	Metric tonne of silicon metal
Metallurgy	Zinc production	Metric tonne of iron load Metric tonne of cathodic zinc
Mining and pelletization	Pellet production	Metric tonne of flux pellets Metric tonne of standard pellets Metric tonne of low silica flux pellets Metric tonne of direct reduction pellets Metric tonne of blast furnace pellets Metric ton of intermediate pellets
Mining and pelletization	Iron concentrate production	Metric tonne of iron concentrate
Mining and pelletization	Nickel concentrate production	Metric tonne of nickel ore
Pulp and paper	Pulp and paper production	Metric tonne of various air-dried saleable products

Pulp and paper	Production of wood-fibre based products	Metric tonne of various air-dried saleable products
Pulp and paper	Production of pulp and paper and wood-fibre based products	Metric tonne of various air-dried saleable products
Refining	Oil refining	Kilolitre of total crude oil refinery load

[1] An establishment pursuing a type of activity that is not listed in this table must use the reference unit declared in its emissions report under the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere (c. Q-2, r. 15).

Part II
Calculation methods for the allocation of emission units without charge

A) Definition of "covered establishment as of 2013" and "covered establishment after 2013"

For the purposes of the calculation methods,

(1) "covered establishment as of 2013" means an establishment for which the GHG reported emissions for 2009, 2010 or 2011 are equal to or exceed the emissions threshold;

(2) "covered establishment after 2013" means an establishment, other than an establishment to which paragraph 1 applies, for which the GHG reported emissions are equal to or exceed the emissions threshold in 2012 or in a subsequent year.

B) Categories of GHG emissions by origin

GHG emissions are divided into 3 categories on the basis of their origin: fixed process emissions, combustion emissions and other emissions.

Fixed process emissions are the CO_2 emissions resulting from a fixed chemical reaction process for production purposes that generates CO_2, from chemically-bonded carbon in the raw material, or from the carbon used to remove an undesirable component from the raw material where there is no substitutable raw material.

Combustion emissions are the emissions resulting from the exothermic reaction of any fuel, except CO_2 emissions attributable to the combustion of biomass or biomass fuels.

Other emissions are the emissions that do not meet the criteria for fixed process emissions or combustion emissions.

C) Establishments and new facilities considered on a sectoral basis for the allocation of emission units without charge

For the purpose of calculating the number of emission units that may be allocated without charge to an emitter, establishments and new facilities pursuing the following activities are considered on a sectoral basis:

(1) lime production;

(2) cement production;

(3) prebaked anode production and aluminum production using prebaked anode technologies.

D) Calculation methods

For the application of the methods set out in this Part, the result of an emission intensity calculation is rounded off to four significant figures and the result of an emission unit allocation calculation is rounded up to the nearest whole number.

Subject to the third paragraph, the total quantity of GHG emission units allocated without charge to an emitter is calculated in accordance with the following methods:

(1) in the case of an establishment covered as of 2013 that is not considered on a sectoral basis, using equations 1-1 and 2-1 to 2-9;

(2) in the case of an establishment covered as of 2013 that is considered on a sectoral basis, using equations 1-1 and 3-1 to 3-10;

(3) in the case of an establishment covered after 2013 that is not considered on a sectoral basis, using equations 1-1 and 4-1 to 4-8;

(4) in the case of an establishment covered after 2013 that is considered on a sectoral basis, using equations 1-1, 5-1 and 5-2.

In the special cases provided for below, the emission units allocated without charge to an emitter are calculated:

(1) in the case of an establishment producing aluminum anodes using Söderberg anode technology after 2014, using equation 2-9 but replacing the factor "$I2020_i$" by the factor "$I2020_{sod}$" calculated using equation 6-1;

(2) in the case of an establishment producing aluminum hydroxide from bauxite, using equation 6-2;

(3) in the case of an establishment producing rigid foamed insulation, using equation 2-1 for 2013 and 2014, calculating the factor "I_{2013}" using equations 6-3 to 6-6, and using equation 6-7 for 2015 to 2020;

(4) in the case of an establishment producing zinc and generally using hydrogen as a fuel to supply its furnaces, using equations 6-8 to 6-10;

(5) in the case of a new facility, using the methods in subdivision 6.5;

(6) in the case of an establishment covered after 2013 whose production replaces all or part of the production of another establishment or facility of the same emitter in Québec that closed after 1 January 2008, using the methods in subdivision 6.6;

(7) in the case of an enterprise who acquires, for the consumption of the enterprise or for sale in Québec, power generated in another Canadian province or territory or in a state in which the government has established a cap-and-trade system for greenhouse gas emission allowances targeting power generation, but has not signed an agreement referred to in section 46.14 of the Environment Quality Act (R.S.Q., c. Q-2), using equation 6-11.

1. Calculation of the total quantity of GHG emission units allocated without charge for an establishment

Equation 1-1 Calculation of the total quantity of GHG emission units allocated without charge for an establishment

$$A_{establishment\ i\ j} = \sum_{j=1}^{m} A_{i\ j}$$

Where:

$A_{establishment\ i\ j}$ = Total quantity of GHG emission units allocated without charge for an establishment for year *i* for all types of activities *j* in Table B of Part I of this Schedule for that establishment;

i = Each year included in the period 2013 to 2020;

j = Each type of activity at the establishment;

m = Total number of types of activity at the establishment;

$A_{i\ j}$ = Number of GHG emission units allocated without charge by type of activity *j* for year *i,* calculated using equations 2-1, 2-9, 3-1, 3-10, 4-1, 4-8, 5-1, 5-2, 6-2, 6-7, 6-8 and 6-9.

2. Covered establishment as of 2013 that is not considered on a sectoral basis

2.1 Calculation method for the years 2013 and 2014

Equation 2-1 Calculation of the number of GHG emission units allocated without charge by type of activity at an establishment that is not considered on a sectoral basis for the years 2013 and 2014

$$A_{i\ j} = I2013_{\ j} \times P_{Ri\ j}$$

Where:

A_i = Total number of GHG emission units allocated without charge for type of activity *j* at an establishment for year *i*;

i = Each year included in the first compliance period, namely 2013 and 2014;

j = Type of activity;

$I2013_j$ = Intensity target of GHG emissions attributable to the type of activity at the establishment for the years 2013 and 2014 calculated using equation 2-2, in metric tonnes CO_2 equivalent per reference unit;

$P_{Ri\,j}$ = Total quantity of reference units produced or used at the establishment for type of activity *j* during year *i*.

Equation 2-2 **Calculation of the intensity target of GHG emissions by type of activity at an establishment that is not considered on a sectoral basis for the years 2013 and 2014**

$$I2013_j = I_{FPav\ j} + RxI_{Cav\ j} + I_{Oav\,j}$$

Where:

$I2013_j$ = Intensity target of GHG emissions attributable to type of activity *j* at the establishment for the years 2013 and 2014, in metric tonnes CO_2 equivalent per reference unit;

j = Type of activity;

$I_{FPav\,j}$ = Average intensity of GHG fixed process emissions attributable to type of activity *j* at the establishment for the period 2007-2010, calculated using equation 2-3, in metric tonnes CO_2 equivalent per reference unit;

R = Multiplication factor for GHG combustion emissions intensity at the establishment calculated using equations 2-4 and 2-5 or, in the case of an establishment producing pulp and paper described by NAICS code 3221 or 321216, a value of 1;

$I_{Cav\ j}$ = Average intensity of GHG combustion emissions attributable to type of activity *j* at the establishment for the period 2007-2010, calculated using equation 2-6, in metric tonnes CO_2 equivalent per reference unit;

$I_{O\ av\ j}$ = Average intensity of other GHG emissions attributable to type of activity *j* at the establishment for the period 2007-2010, calculated using equation 2-7, in metric tonnes CO_2 equivalent per reference unit.

Equation 2-3 **Average intensity GHG fixed process emissions by type of activity at an establishment that is not considered on a sectoral basis for the period 2007-2010**

$$I_{FP\ av\ j} = \frac{\sum_{i=2007}^{2010} GHG\ FP_{i\ j}}{\sum_{i=2007}^{2010} P_{Ri\ j}}$$

Where:

$I_{FPav\ j}$ = Average intensity of GHG fixed process emissions attributable to type of activity *j* at the establishment for the period 2007-2010, in metric tonnes CO_2 equivalent per reference unit;

i = Each year included in the period 2007-2010;

j = Type of activity;

GHG $FP_{i\ j}$ = GHG fixed process emissions attributable to type of activity *j* at the establishment for year *i*, in metric tonnes CO_2 equivalent;

$P_{Ri\ j}$ = Total quantity of reference units produced or used at the establishment for type of activity *j* during year *i*.

Equation 2-4 **Calculation of the intensity multiplication factor for combustion emissions at an establishment that is not considered on a sectoral basis**

$$R = 0.80 \times GFR \ + (1 - GFR)$$

Where:

R = Multiplication factor for GHG combustion emissions intensity at the establishment;

0.80 = Proportion corresponding to 80% of the GFR ratio;

GFR = Ratio between total GHG combustion emissions attributable to the use of fuels subject to the payment of the annual duty to the Green Fund pursuant to section 85.36 of the Act respecting the Régie de l'énergie (R.S.Q., c. R-6.01), excluding refinery fuel gas, and total GHG combustion emissions attributable to the use of fuel at the establishment, calculated using equation 2-5.

Equation 2-5 **Calculation of the GFR ratio for an establishment that is not considered on a sectoral basis**

$$GFR = \frac{\sum_{i=2007}^{2010} GHG\ GFR_i}{\sum_{i=2007}^{2010} GHG\ C_i}$$

Where:

GFR = Ratio between total GHG combustion emissions attributable to the use of fuels subject to the payment of the annual duty to the Green Fund pursuant to section 85.36 of the Act respecting the Régie de l'énergie (R.S.Q., c. R-6.01), excluding refinery fuel gas, and total GHG combustion emissions attributable to the use of fuel at the establishment;

i = Each year included in the period 2007-2010;

GHG GFR_i = GHG combustion emissions attributable to the use of fuels subject to the payment of the annual duty to the Green Fund pursuant to section 85.36 of the Act respecting the Régie de l'énergie, excluding refinery fuel gas, at the establishment during year *i*, in metric tonnes CO_2 equivalent;

GHG C_i = Total GHG combustion emissions attributable to the use of fuel at the establishment during year *i*, in metric tonnes CO_2 equivalent.

Equation 2-6 **Average intensity of GHG combustion emissions by type of activity at an establishment that is not considered on a sectoral basis for the period 2007-2010**

$$I_{C\,av_j} = \frac{\sum_{i=2007}^{2010} GHG\ C_{i\,j}}{\sum_{i=2007}^{2010} P_{Ri\,j}}$$

Where:

$I_{Cav\,j}$ = Average intensity of GHG combustion emissions attributable to type of activity *j* at the establishment for the period 2007-2010, in metric tonnes CO_2 equivalent per reference unit;

j = Type of activity;

i = Each year included in the period 2007-2010;

GHG $C_{i\,j}$ = GHG combustion emissions attributable to type of activity *j* at the establishment for year *i*, in metric tonnes CO_2 equivalent;

$P_{Ri\,j}$ = Total quantity of reference units produced or used at the establishment for type of activity *j* during year *i*.

Equation 2-7 **Average intensity of other GHG emissions by type of activity at an establishment that is not considered on a sectoral basis for the period 2007-2010**

$$I_{O\,av\,j} = \frac{\sum_{i=2007}^{2010} GES\ O_{i\,j}}{\sum_{i=2007}^{2010} P_{Ri\,j}}$$

Where:

$I_{O\,av\,j}$ = Average intensity of other GHG emissions attributable to type of activity *j* at the establishment for the period 2007-2010, in metric tonnes CO_2 equivalent per reference unit;

i = Each year included in the period 2007-2010;

j = Type of activity;

GHG $O_{i\,j}$ = Other GHG emissions attributable to type of activity *j* at the establishment for year *i*, in metric tonnes CO_2 equivalent;

$P_{Ri\,j}$ = Total quantity of reference units produced or used at the establishment for type of activity *j* during year *i*.

Equation 2-8 **Calculation of the intensity target of GHG emissions by type of activity at an establishment that is not considered on a sectoral basis for the year 2020**

$$I2020_{j} = I_{FPav} + R\min\left[(0.95)I_{C\min_{j}};(0.90)I_{Cav\,j}\right] + \min\left[(0.95)I_{O\min_{j}};(0.90)I_{Oav\,j}\right]$$

Where:

$I2020_j$ = Intensity target of GHG emissions attributable to type of activity *j* at the establishment for the year 2020, in metric tonnes CO_2 equivalent per reference unit;

j = Type of activity;

I_{FPav} = Average intensity of GHG fixed process emissions attributable to type of activity *j* for the establishment for the period 2007-2010, calculated using equation 2-3, in metric tonnes CO_2 equivalent per reference unit;

R = Multiplication factor for GHG combustion emissions at the establishment calculated using equations 2-4 and 2-5 or, in the case of an establishment producing pulp and paper described by NAICS code 3221 or 321216, a value of 1;

min = Minimum value, representing the lesser of the 2 elements calculated;

0.95 = Proportion corresponding to 95% of the minimum intensity of combustion emissions or of the minimum intensity of other GHG emissions;

$I_{Cmin\ j}$= Minimum annual intensity of GHG combustion emissions attributable to type of activity *j* at the establishment for the years 2007 to 2010 inclusively, in metric tonnes CO_2 equivalent per reference unit;

0.90 = Proportion corresponding to 90% of the average intensity of combustion emissions or the average intensity of other GHG emissions;

$I_{Cav\ j}$ = Average intensity of GHG combustion emissions attributable to type of activity *j* at the establishment for the period 2007-2010, calculated using equation 2-6, in metric tonnes CO_2 equivalent per reference unit;

$I_{O\ min\ j}$ = Minimum annual intensity of other GHG emissions attributable to type of activity *j* at the establishment for the years 2007 to 2010 inclusively, in metric tonnes CO_2 equivalent per reference unit;

$I_{O\ av\ j}$ = Average intensity of other GHG emissions attributable to type of activity *j* at the establishment for the period 2007-2010, calculated using equation 2-7, in metric tonnes CO_2 equivalent per reference unit.

2.2. Calculation method for the years 2015-2020

Equation 2-9 **Calculation of the number of GHG emission units allocated without charge by type of activity at an establishment that is not considered on a sectoral basis for the years 2015-2020**

$$A_{i\,j} = \frac{(6-x)\,I2013_{j} + x\,I2020_{j}}{6} \times P_{Rij}$$

Where:

$A_{i\,j}$= Total number of GHG emission units allocated without charge by type of activity *j* at an establishment for year *i*;

i = Each year included in the second and third compliance periods, namely 2015, 2016, 2017, 2018, 2019 and 2020;

j = Type of activity;

6 = 6 years in the linear regression, namely 2015, 2016, 2017, 2018, 2019 and 2020;

x = (*i* – 2015) + 1;

$I2013_j$ = Intensity target of GHG emissions attributable to type of activity *j* at the establishment for the years 2013 and 2014, calculated using equation 2-2, in metric tonnes CO_2 equivalent per reference unit;

$I2020_j$ = Intensity target of GHG emissions attributable to type of activity *j* at the establishment for the year 2020, calculated using equation 2-8, in metric tonnes CO_2 equivalent per reference unit;

$P_{Ri\,j}$ = Total quantity of reference units produced or used at the establishment for type of activity *j* for year *i*.

3. Covered establishment as of 2013 that is considered on a sectoral basis

3.1. Calculation method for the years 2013 and 2014

Equation 3-1 Calculation of the number of GHG emission units allocated without charge by type of activity at an establishment that is considered on a sectoral basis for the years 2013 and 2014

$$A_{i\,j} = \max\left(I2013_j; I2020s_j\right) \times P_{Ri\,j}$$

Where:

$A_{i\,j}$= Total number of GHG emission units allocated without charge by type of activity *j* at an establishment for year *i*;

i = Each year included in the first compliance period, namely 2013 and 2014;

j = Type of activity;

max = Maximum value, representing the greater of the values $I2013_j$ and $I2020s_j$;

$I2013_j$ = Intensity target of GHG emissions attributable to type of activity *j* at the establishment for the years 2013 and 2014 calculated using equation 2-2, in metric tonnes CO_2 equivalent per reference unit;

$I2020s_j$ = Intensity target of GHG emissions attributable to type of activity *j* in the sector for the year 2020, calculated using equation 3-2, in metric tonnes CO_2 equivalent per reference unit;

$P_{Ri\,j}$ = Total quantity of reference units produced or used for type of activity *j* at the establishment for year *i*.

Equation 3-2 Calculation of the intensity target of GHG emissions by type of activity at an establishment that is considered on a sectoral basis for the year 2020

$$I2020s_j = I_{FPav(S)\,j} + R_s \times \min\left[(0.95)I_{C\min(S)\,j};(0.90)I_{Cav(S)\,j}\right] + \min\left[(0.95)I_{O\min(S)\,j};(0.90)I_{Oav(S)\,j}\right]$$

Where:

$I2020s_j$ = Intensity target of GHG emissions attributable to type of activity *j* in the sector for the year 2020, in metric tonnes CO_2 equivalent per reference unit;

j = Type of activity;

$I_{FPav(S)\,j}$ = Average intensity of GHG fixed process emissions attributable to type of activity *j* in the sector for the period 2007-2010, calculated using equation 3-3, in metric tonnes CO_2 equivalent per reference unit;

R_s = Sectoral multiplication factor for the intensity of GHG combustion emissions calculated using equations 3-4 and 3-5;

min = Minimum value, representing the lesser of the 2 elements calculated;

0.95 = Proportion corresponding to 95% of the minimum intensity of combustion emissions or of the minimum intensity of other GHG emissions;

$I_{Cmin(S)\,j}$ = Minimum annual average intensity of GHG combustion emissions attributable to type of activity *j* in the sector for the years 2007 to 2010 inclusively, calculated using equation 3-6, in metric tonnes CO_2 equivalent per reference unit;

0.90 = Proportion corresponding to 90% of the average intensity of combustion emissions or the average intensity of other GHG emissions;

$I_{Cav(S)j}$ = Average intensity of GHG combustion emissions attributable to type of activity *j* in the sector for the period 2007-2010, calculated using equation 3-7, in metric tonnes CO_2 equivalent per reference unit;

$I_{Omin(S)\,j}$ = Minimum annual average intensity of other GHG emissions attributable to type of activity *j* in the sector for the years 2007 to 2010 inclusively, calculated using equation 3-8, in metric tonnes CO_2 equivalent per reference unit;

$I_{O\ av(S)\,j}$ = Average intensity of other GHG emissions attributable to type of activity *j* in the sector for the period 2007-2010, calculated using equation 3-9, in metric tonnes CO_2 equivalent per reference unit.

Equation 3-3 Average intensity of GHG fixed process emissions attributable to the type of activity in the sector for the period 2007-2010

$$I_{FPav(S)_j} = \frac{\sum_{i=2007}^{2010} \sum_{k=1}^{1} GHGFP_{i\,jk}}{\sum_{i=2007}^{2010} \sum_{k=1}^{1} P_{Ri\,jk}}$$

Where:

$I_{FPav(S)\,j}$ = Average intensity of GHG fixed process emissions attributable to type of activity *j* in the sector for the period 2007-2010, in metric tonnes CO_2 equivalent per reference unit;

j = Type of activity;

i = Each year included in the period 2007-2010;

l = Number of covered establishments as of 2013 in the sector;

GHG $FP_{i\,jk}$ = GHG fixed process emissions attributable to type of activity *j* at establishment *k* for year *i*, in metric tonnes CO_2 equivalent;

k = Covered establishment as of 2013 in the sector;

$P_{Ri\,jk}$ = Total quantity of reference units produced or used at establishment *k* for type of activity *j* for year *i*.

Equation 3-4 Calculation of the combustion intensity multiplication factor at an establishment that is considered on a sectoral basis

$$R_s = 0.80 \times GFR_s + (1 - GFR_s)$$

Where:

R_s = Sectoral multiplication factor for the intensity of GHG combustion emissions at the establishment;

0.80 = Proportion corresponding to 80% of the GFRs ratio;

GFR_s = Ratio between the total GHG combustion emissions attributable to the use of fuels subject to the payment of the annual duty to the Green Fund pursuant to section 85.36 of the Act respecting the Régie de l'énergie (R.S.Q., c. R-6.01), excluding refinery fuel gas, and the total GHG combustion emissions attributable to the use of fuel at establishments in the sector, calculated using equation 3-5.

Equation 3-5 Calculation of the GFRs ratio for an establishment that is considered on a sectoral basis

$$GFRs = \frac{\sum_{i=2007}^{2010} \sum_{k=1}^{l} GHG\ GFR_{s\,i\,k}}{\sum_{i=2007}^{2010} \sum_{k=1}^{l} GHG\ C_{s\,i\,k}}$$

Where:

GFR_s = Ratio between the total GHG combustion emissions attributable to the use of fuels subject to the payment of the annual duty to the Green Fund pursuant to section 85.36 of the Act respecting the Régie de l'énergie (R.S.Q., c. R-6.01), excluding refinery fuel gas, and the total GHG combustion emissions attributable to the use of fuel at establishments in the sector;

i = Each year included in the period 2007-2010;

l = Number of establishments in the sector covered as of 2013;

k = Establishment in the sector covered as of 2013 in the sector;

$GHG\ GFR_{si\,k}$ = GHG combustion emissions attributable to the use of fuels subject to the payment of the annual duty to the Green Fund pursuant to section 85.36 of the Act respecting the Régie de l'énergie, excluding refinery fuel gas, at the establishment *k* during year *i*, in metric tonnes CO_2 equivalent;

$GHG\ C_{si\,k}$ = Total GHG combustion emissions attributable to the use of fuel at establishment *k* for year *i*, in metric tonnes CO_2 equivalent.

Equation 3-6 Calculation of the minimum average annual intensity of GHG combustion emissions attributable to the type of activity in the sector for 2007 to 2010

$$I_{C\min(s)\,j} = \min\left[\frac{\sum_{k=1}^{l} GHG\ C_{2007\,jk}}{\sum_{k=1}^{l} P_{2007\,jk}}; \frac{\sum_{k=1}^{l} GHG\ C_{2008\,jk}}{\sum_{k=1}^{l} P_{2008\,jk}}; \frac{\sum_{k=1}^{l} GHG\ C_{2009\,jk}}{\sum_{k=1}^{l} P_{2009\,jk}}; \frac{\sum_{k=1}^{l} GHG\ C_{2010\,jk}}{\sum_{k=1}^{l} P_{2010\,jk}}\right]$$

Where:

$I_{Cmin(s)j}$ = Minimum average annual intensity of GHG combustion emissions attributable to type of activity *j* in the sector for the years 2007 to 2010 inclusively, in metric tonnes CO_2 equivalent per reference unit;

j = Type of activity;

min = Minimum value, representing the lesser of the intensity values for the years 2007, 2008, 2009 and 2010;

l = Number of establishments covered as of 2013 in the sector;

GHG $C_{i\,jk}$ = GHG combustion emissions attributable to type of activity *j* at establishment *k* during the years *i* corresponding to 2007, 2008, 2009 and 2010, in metric tonnes CO_2 equivalent;

k = Establishment in the sector covered as of 2013;

$P_{i\,jk}$ = Total quantity of reference units produced or used at establishment *k* for type of activity *j* during the years *i* corresponding to 2007, 2008, 2009 and 2010.

Equation 3-7 **Average intensity of GHG combustion emissions attributable to a type of activity in the sector for the period 2007-2010**

$$I_{Cav(S)_j} = \frac{\sum_{i=2007}^{2010} \sum_{k=1}^{l} GHGC_{i\,jk}}{\sum_{i=2007}^{2010} \sum_{k=1}^{l} P_{Ri\,jk}}$$

Where:

$I_{Cav(S)\,j}$ = Average intensity of GHG combustion emissions attributable to type of activity *j* in the sector for the period 2007-2010, in metric tonnes CO_2 equivalent per reference unit;

j = Type of activity;

i = Each year included in the period 2007-2010;

l = Number of covered establishments as of 2013 in the sector;

GHG $C_{i\,jk}$ = GHG combustion emissions attributable to type of activity *j* at establishment *k* for year *i*, in metric tonnes CO_2 equivalent;

k = Covered establishment as of 2013 in the sector;

$P_{Ri\,jk}$ = Total quantity of reference units produced or used at establishment *k* for type of activity *j* for year *i*.

Equation 3-8 **Calculation of the minimum average annual intensity of other GHG emissions attributable to a type of activity in the sector for 2007 to 2010**

$$I_{O\min(s)\,j} = \min\left[\frac{\sum_{k=1}^{l} GHG\,O_{2007\,jk}}{\sum_{k=1}^{l} P_{2007\,jk}}; \frac{\sum_{k=1}^{l} GHG\,O_{2008\,jk}}{\sum_{k=1}^{l} P_{2008\,jk}}; \frac{\sum_{k=1}^{l} GHG\,O_{2009\,jk}}{\sum_{k=1}^{l} P_{2009\,jk}}; \frac{\sum_{k=1}^{l} GHG\,O_{2010\,jk}}{\sum_{k=1}^{l} P_{2010\,jk}}\right]$$

Where:

$I_{Omin(s)\,j}$ = Minimum average annual intensity of other GHG emissions attributable to type of activity *j* in the sector for 2007 to 2010 inclusively, in metric tonnes CO_2 equivalent per reference unit;

j = Type of activity;

min = Minimum value, representing the lesser of the intensity values for the years 2007, 2008, 2009 and 2010;

l = Number of establishments covered as of 2013 in the sector;

GHG $O_{i\,jk}$ = Other GHG emissions attributable to type of activity *j* at establishment *k* for the years *i* corresponding to 2007, 2008, 2009 and 2010, in metric tonnes CO_2 equivalent;

k = Establishment covered in the sector beginning in 2013;

$P_{i\,jk}$ = Total quantity of reference units produced or used at establishment *k* for type of activity *j* during the years *i* corresponding to 2007, 2008, 2009 and 2010.

Equation 3-9 Average intensity of other GHG emissions attributable to a type of activity in the sector for the period 2007-2010

$$I_{Oav(S)_j} = \frac{\sum_{i=2007}^{2010} \sum_{k=1}^{l} GHG\ O_{i\,jk}}{\sum_{i=2007}^{2010} \sum_{k=1}^{l} P_{Rijk}}$$

Where:

$I_{O\,av(S)\,j}$ = Average intensity of other GHG emissions attributable to type of activity *j* in the sector for the period 2007-2010, in metric tonnes CO_2 equivalent per reference unit;

j = Type of activity;

i = Each year included in the period 2007-2010;

l = Number of covered establishments as of 2013 in the sector;

GHG $O_{i\,jk}$ = GHG other emissions attributable to type of activity *j* at establishment *k* for year *i*, in metric tonnes CO_2 equivalent;

k = Covered establishment as of 2013 in the sector;

P_{Rijk} = Total quantity of reference units produced or used by establishment *k* for to type of activity *j* for year *i*.

3.2. Calculation methods for the years 2015 to 2020

Equation 3-10 Calculation of the number of GHG emission units allocated without charge by type of activity at an establishment that is considered on a sectoral basis for the years 2015 to 2020

$$A_{i\,j} = \max\left[\frac{(6-x)\ I2013_j + x\ I2020s_j}{6}; I2020s_j\right] \times P_{Ri\,j}$$

Where:

$A_{i\,j}$ = Total number of GHG emission units allocated without charge by type of activity *j* at an establishment for year *i*;

i = Each year included in the second and third compliance periods, namely 2015, 2016, 2017, 2018, 2019 and 2020;

j = Type of activity;

max = Maximum value, representing the greater of the 2 intensity values calculated;

6 = 6 years in the linear regression, namely 2015, 2016, 2017, 2018, 2019 and 2020;

x = (*i* – 2015) + 1;

$I2013_j$ = Intensity target of GHG emissions attributable to type of activity *j* at the establishment for the years 2013 and 2014 calculated using equation 2-2, in metric tonnes CO_2 equivalent per reference unit;

$I2020s_j$ = Intensity target of GHG emissions attributable to type of activity *j* in the sector for the year 2020, calculated using equation 3-2, in metric tonnes CO_2 equivalent per reference unit;

P_{Rij} = Total quantity of reference units produced or used at the establishment for type of activity j during year *i*.

4. Covered establishment after 2013 that is not considered on a sectoral basis

4.1. Calculation method for the years 2013 and 2014

Equation 4-1 Calculation of the number of GHG emission units allocated without charge by type of activity at a covered establishment after 2013 that is not considered on a sectoral basis for the years 2013 and 2014

$$A_{ij} = Idep_j \times P_{Rij}$$

Where:

A_{ij} = Total number of GHG emission units allocated without charge by type of activity *j* at an establishment for year *i*;

i = Each year included in the first compliance period, namely 2013 and 2014;

j = Type of activity;

Idep j = Intensity target of GHG emissions attributable to type of activity *j* at a covered establishment after 2013, calculated using equation 4-2, in metric tonnes CO_2 equivalent per reference unit;

$P_{Ri\ j}$= Total quantity of reference units produced or used at the establishment for type of activity *j* during year *i*.

Equation 4-2 **Calculation of the intensity target of GHG emissions for the years 2013 and 2014 by type of activity at a covered establishment after 2013**

$$Idep_j = I_{FPdep_j} + (R \times I_{Cdep_j}) + I_{Odep_j}$$

Where:

Idep j= Intensity target of GHG emissions attributable to type of activity *j* at a covered establishment after 2013, in metric tonnes CO_2 equivalent per reference unit;

j = Type of activity;

$I_{FPdep\ j}$= Average intensity of GHG fixed process emissions attributable to type of activity *j* at the establishment for the years *d*-2 to *d*+1, when available, excluding the year in which the establishment is brought into service, calculated using equation 4-3, in metric tonnes CO_2 equivalent per reference unit;

d = First year for which the GHG emissions of the establishment are equal to or exceed the emissions threshold;

R = Multiplication factor for GHG combustion emissions at the establishment calculated using equations 4-6 and 4-7 or, in the case of an establishment producing pulp and paper described by NAICS code 3221 or 321216, a value of 1;

$I_{Cdep\ j}$ = Average intensity of GHG combustion emissions attributable to type of activity *j* at the establishment for the years *d*-2 to *d*+1, when available, excluding the year in which the establishment is brought into service, calculated using equation 4-4, in metric tonnes CO_2 equivalent per reference unit;

$I_{Odep\ j}$= Average intensity of other GHG emissions attributable to type of activity *j* at the establishment for the years *d*-2 to *d*+1, when available, excluding the year in which the establishment is brought into service, calculated using equation 4-5, in metric tonnes CO_2 equivalent per reference unit.

Equation 4-3 **Average intensity of GHG fixed process emissions by type of activity at a covered establishment after 2013 for the reference years *d-2* to *d+1***

$$I_{FPdep\,j} = \frac{\sum_{i=(d-2)}^{d+1} GHGFP_{i\,j}}{\sum_{i=(d-2)}^{d+1} P_{Ri\,j}}$$

Where:

$I_{FPdep\,j}$ = Average intensity of GHG fixed process emissions attributable to type of activity *j* at the establishment for the years *d*-2 to *d*+1, when available, excluding the year in which the establishment is brought into service, in metric tonnes CO_2 equivalent per reference unit;

j = Type of activity;

i = Years *d*-2, *d*-1, *d* and *d*+1, when available, excluding the year in which the establishment is brought into service;

d = First year for which the GHG emissions of the establishment are equal to or exceed the emissions threshold;

GHG $FP_{i\,j}$ = GHG fixed process emissions attributable to type of activity *j* at the establishment for year *i*, in metric tonnes CO_2 equivalent;

$P_{Ri\,j}$= Total quantity of reference units produced or used at the establishment for type of activity j during year *i*.

Equation 4-4 **Average intensity of GHG combustion emissions by type of activity for a covered establishment after 2013 for the reference years *d-2* to *d+1***

$$I_{Cdep_j} = \frac{\sum_{i=(d-2)}^{d+1} GHG\ C_{ij}}{\sum_{i=(d-2)}^{d+1} P_{Ri_j}}$$

Where:

$I_{Cdep\ j}$ = Average intensity of GHG combustion emissions attributable to type of activity *j* at the establishment for the years *d*-2 to *d*+1, when available, excluding the year in which the establishment is brought into service, in metric tonnes CO_2 equivalent per reference unit;

j = Type of activity;

i = Years *d*-2, *d*-1, *d* and *d*+1, when available, excluding the year in which the establishment is brought into service;

d = First year for which the GHG emissions of the establishment are equal to or exceed the emissions threshold;

GHG $C_{i\ j}$ = GHG combustion emissions attributable to type of activity *j* at the establishment for year *i*, in metric tonnes CO_2 equivalent;

$P_{Ri\ j}$ = Total quantity of reference units produced or used at the establishment for type of activity j during year *i*.

Equation 4-5 **Average intensity of other GHG emissions by type of activity for a covered establishment after 2013 for the reference years *d-2* to *d+1***

$$I_{Odepj} = \frac{\sum_{i=(d-2)}^{d+1} GHG\ O_{ij}}{\sum_{i=(d-2)}^{d+1} P_{Rij}}$$

Where:

$I_{Odep\,j}$ = Average intensity of other GHG emissions attributable to type of activity *j* at the establishment for the years *d*-2 to *d*+1, when available, excluding the year in which the establishment is brought into service, in metric tonnes CO_2 equivalent per reference unit;

j = Type of activity;

i = Years *d*-2, *d*-1, *d* and *d*+1, when available, excluding the year in which the establishment is brought into service;

d = First year for which the GHG emissions of the establishment are equal to or exceed the emissions threshold;

GHG $O_{i\,j}$ = GHG other emissions attributable to type of activity *j* at the establishment for year *i*, in metric tonnes CO_2 equivalent;

$P_{Ri\,j}$ = Total quantity of reference units produced or used at the establishment for type of activity j during year *i*.

Equation 4-6 **Calculation of the intensity multiplication factor for combustion emissions at an establishment covered after 2013 that is not considered on a sectoral basis**

$$R = 0.80 \times GFR + (1 - GFR)$$

Where:

R = Intensity multiplication factor for GHG combustion emissions at the establishment;

0.80 = Proportion corresponding to 80% of the GFR ratio;

GFR = Ratio between the total GHG combustion emissions attributable to the use of fuels subject to the payment of the annual duty to the Green Fund pursuant to section 85.36 of the Act respecting the Régie de l'énergie (R.S.Q., c. R-6.01), excluding refinery fuel gas, and the total GHG combustion emissions attributable to the use of fuel at the establishment, calculated using equation 4-7.

Equation 4-7 **Calculation of the GFR ratio for an establishment covered after 2013 that is not considered on a sectoral basis**

$$GFR = \frac{\sum_{i=(d-1)}^{(d+1)} GHG\ GFR_i}{\sum_{i=(d-1)}^{(d+1)} GHG\ C_i}$$

Where:

GFR = Ratio between the total GHG combustion emissions attributable to the use of fuels subject to the payment of the annual duty to the Green Fund pursuant to section 85.36 of the Act respecting the Régie de l'énergie (R.S.Q., c. R-6.01), excluding refinery fuel gas, and total GHG combustion emissions at the establishment;

i = Years *d*-2, *d*-1, *d* and *d*+1, when available, excluding the year in which the establishment is brought into service;

GHG GFR_i = GHG combustion emissions attributable to the use of fuels subject to the payment of the annual duty to the Green Fund pursuant to section 85.36 of the Act respecting the Régie de l'énergie, excluding refinery fuel gas, at the establishment during year *i*, in metric tonnes CO_2 equivalent;

GHG C_i = Total GHG combustion emissions attributable to the use of fuel at the establishment for year *i*, in metric tonnes CO_2 equivalent.

4.2. Calculation method for the years 2015 to 2020

Equation 4-8 Calculation of the number of GHG emission units allocated without charge by type of activity at an establishment that is not considered on a sectoral basis for the years 2015 to 2020

$$A_{ij} = \left[I_{FPdep_j} + (R)(0.99)^n I_{Cdep_j} + (0.99)^n I_{Odepj} \right] \times P_{Ri\,j}$$

Where:

A_{ij} = Total number of GHG emission units allocated without charge by type of activity *j* for an establishment for year *i*;

j = Type of activity;

i = Each year in the period 2015-2020 for which the emitter is required to cover GHG emissions;

$I_{FPdep\,j}$ = Average intensity of the GHG fixed process emissions attributable to type of activity *j* at the establishment for the years *d*-2 to *d*+1, when available, excluding the year in which the establishment is brought into service, calculated using equation 4-3, in metric tonnes CO_2 equivalent per reference unit;

R = Multiplication factor for GHG combustion emissions at the establishment calculated using equations 4-6 and 4-7 or, in the case of an establishment producing pulp and paper described by NAICS code 3221 or 321216, a value of 1;

0.99 = Proportion corresponding to an annual improvement of 1% in the intensity factor;

n = i - (d + 2);

d = First year for which the GHG emissions of the establishment are equal to or exceed the emissions threshold;

$I_{Cdep\ j}$ = Average intensity of the GHG combustion emissions attributable to type of activity j at the establishment for the years d-2 to d+1, when available, excluding the year in which the establishment is brought into service, calculated using equation 4-4, in metric tonnes CO_2 equivalent per reference unit;

$I_{Odep\ j}$ = Average intensity of the other GHG emissions attributable to type of activity j at the establishment for the years d-2 to d+1, when available, excluding the year in which the establishment is brought into service, calculated using equation 4-5, in metric tonnes CO_2 equivalent per reference unit;

$P_{Ri\ j}$ = Total quantity of reference units produced or used at the establishment for type of activity j during year i.

5. Covered establishment after 2013 that is considered on a sectoral basis

5.1. Calculation method for the years 2013 and 2014

Equation 5-1 Calculation of the number of GHG emission units allocated without charge by type of activity at an establishment that is considered on a sectoral basis for the years 2013 and 2014

$$A_{ij} = \max(Idepj; I2020sj) \times P_{Rij}$$

Where:

A_{ij} = Total number of GHG emission units allocated without charge by type of activity *j* for the establishment for year *i*;

i = Each year in the first compliance period, namely 2013 and 2014;

j = Type of activity;

max = Maximum value, representing the greater of the intensity values *Idep j* and *I2020s j*;

$Idep_j$ = Intensity target of the GHG emissions attributable to type of activity *j* at a covered establishment after 2013, calculated using equation 4-2, in metric tonnes CO_2 equivalent per reference unit;

$I2020s_j$ = Intensity target of GHG emissions attributable to type of activity *j* in the sector for the year 2020, calculated using equation 3-2, in metric tonnes CO_2 equivalent per reference unit;

P_{Rij} = Total quantity of reference units produced or used at the establishment for type of activity j during year *i*.

5.2. Calculation method for the years 2015 to 2020

Equation 5-2 **Calculation of the number of GHG emission units allocated without charge by type of activity for an establishment that is considered on a sectoral basis for the years 2015 to 2020**

$$A_{ij} = \max\left[\frac{m\ Idep_j + (n-m)I2020s_j}{n}; I2020s_j\right] \times P_{Ri\,j}$$

Where:

$A_{i\,j}$ = Total number of GHG emission units allocated without charge by type of activity *j* for the establishment for year *i*;

i = Each year in the period 2015-2020 for which the emitter is required to cover GHG emissions;

j = Type of activity;

max = Maximum value, representing the greater of the intensity values calculated;

m = 2020 – *i*;

n = Minimum, representing the lesser of 6 and (2020 – (*d*+1));

d = First year for which the GHG emissions of the establishment are equal to or exceed the emissions threshold.

$Idep_j$ = Intensity target of the GHG emissions attributable to type of activity *j* at a covered establishment after 2013, calculated using equation 3-2, in metric tonnes CO_2 equivalent per reference unit;

$I2020s_j$ = Intensity target of GHG emissions attributable to type of activity *j* in the sector for the year 2020, calculated using equation 3-2, in metric tonnes CO_2 equivalent per reference unit;

$P_{Ri\ j}$ = Total quantity of reference units produced or used at the establishment for type of activity j during year *i*.

6. Special cases

6.1. Establishment producing aluminum using Söderberg anode technology after 2014

Equation 6-1 Calculation of the intensity target of GHG emissions for year 2020 at an establishment producing aluminum using Söderberg anode technology after 2014

$$I_{2020\ sod} = I_{2020\ s\ electrolysis} + \left(I_{2020\ s\ baked\quad anode} \times 0.55\right)$$

Where:

$I_{2020\ sod}$ = Intensity target of GHG emissions for year 2020 at an establishment producing aluminum using Söderberg anode technology after 2014, in metric tonnes CO_2 equivalent per metric tonne of liquid aluminum;

$I_{2020s\ electrolysis}$ = Intensity target of GHG emissions for year 2020 in the aluminum sector for the type of activity “aluminum production”, calculated using equation 3-2 based on data from establishments using prebaked anode technology, in metric tonnes CO_2 equivalent per metric tonne of liquid aluminum;

$I_{2020s\ baked\ anode}$ = Intensity target of GHG emissions for year 2020 in the aluminum sector for the type of activity “baked anode production”, calculated using equation 3-2 based on data from establishments using prebaked anode technology, in metric tonnes CO_2 equivalent per metric tonne of baked anodes;

0.55 = Ratio between consumed baked anode production and aluminum production, in metric tonnes of baked anodes per metric tonne of liquid aluminum.

6.2. Establishment producing aluminum hydroxide from bauxite

Equation 6-2 Calculation of the total quantity of GHG emission units allocated without charge for an establishment producing aluminum hydroxide from bauxite for 2013 to 2020

$$A_i = 0.40 \times P_{Ri}$$

Where:

A_i = Total quantity of GHG emission units allocated without charge for an establishment producing aluminum hydroxide from bauxite for year *i*;

i = Each year included in the period 2013-2020;

0.40 = Intensity target of GHG emissions attributable to the production of aluminum hydroxide from bauxite for 2013 to 2020, in metric tonnes CO_2 equivalent per metric tonne of aluminum hydroxide;

P_{Ri} = Total quantity of aluminum hydroxide produced at the establishment in year *i*, in metric tonnes.

6.3. Establishment producing rigid foamed insulation

The total quantity of GHG emission units allocated without charge for an establishment producing rigid foamed insulation is calculated, for 2013 and 2014, using equation 2-1, where "I_{2013}" is calculated using equations 6-3 to 6-6 and, for 2015 to 2020, using equation 6-7:

Equation 6-3 **Calculation of the intensity target of GHG emissions attributable to an establishment producing rigid foamed insulation for 2013 and 2014**

$$I_{2013} = I_{FP} + \left(R \times I_C\right) + I_O$$

Where:

I_{2013} = Intensity target of GHG emissions at the establishment for 2013 and 2014, in metric tonnes CO_2 equivalent per board foot of rigid foamed insulation;

I_{FP} = Intensity of GHG fixed process emissions at the establishment for year 2010, calculated using equation 6-4, in metric tonnes CO_2 equivalent per board foot of rigid foamed insulation;

R = Multiplication factor for GHG combustion emissions intensity at the establishment, calculated using equations 4-6 and 4-7;

I_C = Intensity of GHG combustion emissions at the establishment for year 2010, calculated using equation 6-5, in metric tonnes CO_2 equivalent per board foot of rigid foamed insulation;

I_O = Intensity of other GHG emissions at the establishment for year 2010, calculated using equation 6-6, in metric tonnes CO_2 equivalent per board foot of rigid foamed insulation.

Equation 6-4 **Intensity of GHG fixed process emissions at an establishment producing rigid foamed insulation for year 2010**

$$I_{FP} = \frac{GHG\ FP_{2010}}{P_{R\,2010}}$$

Where:

I_{FP} = Intensity of GHG fixed process emissions at the establishment for year 2010, in metric tonnes CO_2 equivalent per board foot of rigid foamed insulation;

GHG FP_{2010} = GHG fixed process emissions at the establishment for year 2010, in metric tonnes CO_2 equivalent;

P_{R2010} = Total quantity of rigid foamed insulation produced at the establishment in year 2010, in board feet of rigid foamed insulation.

Equation 6-5 **Intensity of GHG combustion emissions at an establishment producing rigid foamed insulation for year 2010**

$$I_C = \frac{GHG\ C_{2010}}{P_{R\,2010}}$$

Where:

I_C = Intensity of GHG combustion emissions at the establishment for year 2010, in metric tonnes CO_2 equivalent per board foot of rigid foamed insulation;

GHG C_{2010} = GHG combustion emissions at the establishment for year 2010, in metric tonnes CO_2 equivalent;

$P_{R\,2010}$ = Total quantity of rigid foamed insulation produced at the establishment in year 2010, in board feet of rigid foamed insulation.

Equation 6-6 **Intensity of other GHG emissions at an establishment producing rigid foamed insulation for year 2010**

$$I_O = \frac{GHG\ O_{2010}}{P_{R\,2010}}$$

Where:

I_O = Intensity of other GHG emissions at the establishment for year 2010, in metric tonnes CO_2 equivalent per board foot of rigid foamed insulation;

GHG O_{2010} = Other GHG emissions at the establishment for year 2010, in metric tonnes CO_2 equivalent;

$P_{R\,2010}$ = Total quantity of rigid foamed insulation produced at the establishment in year 2010, in board feet of rigid foamed insulation.

Equation 6-7 **Calculation of the total quantity of GHG emission units allocated without charge for an establishment producing rigid foamed insulation for 2015 to 2020**

$$A_i = \left[I_{FP} + R(0.99)^n\ I_C + (0.99)^n\ I_O\right] \times P_{Ri}$$

Where:

A_i = Total quantity of GHG emission units allocated without charge for an establishment producing rigid foamed insulation for year *i*;

i = Each year included in the period 2015-2020 for which the emitter is required to cover its GHG emissions;

I_{FP} = Intensity of GHG fixed process emissions at the establishment for year 2010, calculated using equation 6-4, in metric tonnes CO_2 equivalent per board foot of rigid foamed insulation;

R = Multiplication factor for GHG combustion emissions intensity at the establishment, calculated using equations 4-6 and 4-7;

0.99 = Proportion corresponding to an annual improvement of 1% of the intensity factor;

n = *i* – 2015+1;

I_C = Intensity of GHG combustion emissions at the establishment for year 2010, calculated using equation 6-5, in metric tonnes CO_2 equivalent per board foot of rigid foamed insulation;

I_O = Intensity of other GHG emissions at the establishment for year 2010, calculated using equation 6-6, in metric tonnes CO_2 equivalent per board foot of rigid foamed insulation;

P_{Ri} = Total quantity of rigid foamed insulation produced at the establishment in year *i*, in board feet of rigid foamed insulation.

6.4. Establishment producing catalytic zinc and using hydrogen as a fuel to supply its furnaces

The total quantity of GHG emission units allocated without charge for an establishment producing zinc and using hydrogen as a fuel to supply its furnaces is calculated using equation 6-8 for 2013 and 2014 and using equation 6-9 for 2015 to 2020:

Equation 6-8 **Calculation of the total quantity of GHG emission units allocated without charge to an establishment producing cathodic zinc and using hydrogen as a fuel to supply its furnaces for 2013 and 2014**

$$A_{ij} = (I2013_j + F_{Hi}) \times P_{Rij}$$

Where:

$A_{i\,j}$ = Total quantity of GHG emission units allocated without charge for cathodic zinc production at the establishment for year *i*;

i = Each year included in the first compliance period, namely 2013 and 2014;

j = Type of activity, namely cathodic zinc production;

$I2013_j$ = Intensity target of GHG emissions attributable to the production of cathodic zinc at the establishment for 2013 and 2014, calculated using equation 2-2, in metric tonnes CO_2 equivalent per metric tonne of cathodic zinc;

$F_{H\,i}$ = Adjustment factor for the partial or total loss of hydrogen supply for year *i*, calculated using equation 6-10;

$P_{Ri\,j}$ = Total quantity of cathodic zinc produced at the establishment in year *i*, in metric tonnes of cathodic zinc.

Equation 6-9 **Calculation of the total quantity of GHG emission units allocated without charge to an establishment producing cathodic zinc and using hydrogen as a fuel to supply its furnaces for 2015 to 2020**

$$A_{i\,j} = \left(\frac{(6 - x)\, I2013_j + x\, I2020_j}{6} + F_{H\,i} \right) \times P_{Ri\,j}$$

Where:

$A_{i\,j}$ = Total quantity of GHG emission units allocated without charge for cathodic zinc production at the establishment for year *i*;

i = Each year included in the second and third compliance periods, namely 2015, 2016, 2017, 2018, 2019 and 2020;

j = Type of activity, namely cathodic zinc production;

6 = Six years in the linear regression, namely 2015, 2016, 2017, 2018, 2019 and 2020;

x = (i – 2015) + 1;

$I2013_j$ = Intensity target of GHG emissions attributable to the production of cathodic zinc at the establishment for 2013 and 2014, calculated using equation 2-2, in metric tonnes CO_2 equivalent per metric tonne of cathodic zinc;

$I2020_j$ = Intensity target of GHG emissions attributable to the production of cathodic zinc at the establishment for year 2020, calculated using equation 2-8, in metric tonnes CO_2 equivalent per metric tonne of cathodic zinc;

$F_{H\,i}$ = Adjustment factor for the partial or total loss of hydrogen supply for year i calculated using equation 6-10;

$P_{Ri\,j}$ = Total quantity of cathodic zinc produced at the establishment for year i, in metric tonnes of cathodic zinc.

Equation 6-10 Calculation of the adjustment factor for the partial or total loss of hydrogen supply

$$F_{H\,i} = \left[0.060 - \frac{H_{2,i}}{P_{Ri\,j}}\right] \times 0.3325 \times 1.889 \times 0.80 \times (0.99)^n \quad when \quad \left[\frac{H_{2,i}}{P_{Ri\,j}}\right] \leq 0.060$$

$$F_{H\,i} = 0 \; when \; \left[\frac{H_{2,i}}{P_{ri\,j}}\right] \succ 0.060$$

Where:

F_{Hi} = Adjustment factor for the partial or total loss of hydrogen supply for year *i*;

i = Each year included in the period 2013-2020 for which the emitter is required to cover its GHG emissions;

0.060 = Minimum ratio between the annual consumption of hydrogen and the annual production from 2007 to 2010, in cubic kilometres of hydrogen per metric tonne of cathodic zinc;

$H_{2,i}$ = Hydrogen consumption for year *i*, in cubic kilometres;

$P_{Ri\,j}$ = Total quantity of cathodic zinc produced at the establishment for year *i*, in metric tonnes of cathodic zinc;

0.3325 = Volume equivalency factor for hydrogen and natural gas, in cubic kilometres of natural gas per cubic kilometre of hydrogen;

1.889 = Emission factor for natural gas, in metric tonnes CO_2 equivalent par cubic kilometre of natural gas;

0.80 = Proportion corresponding to 80% combustion emission intensity;

0.99 = Proportion corresponding to an annual improvement of 1% of the intensity factor;

n = Value of 0 for 2013 and 2014, or *(i*-2015 +1) for 2015 to 2020.

6.5. New facility

An emitter must, as soon as possible, notify the Minister of any new facility on the site of one of the emitter's covered establishments by submitting the following information:

(1) the name and contact information of the enterprise and of the establishment where the new facility is located;

(2) the business number assigned to the emitter pursuant to the Act respecting the legal publicity of enterprises (R.S.Q., c. P-44.1), along with the identification number assigned under the National Pollutant Release Inventory of the Government of Canada, if any;

(3) where production at the new facility replaces all or some production at one of the emitter's establishments or facilities in Québec that closed after 1 January 2008, the name and contact information of the establishment or facility that closed;

(4) the average annual quantity of reference units produced or used, by type of activity, at the closed establishment or facility during the 3 complete years preceding its closure.

6.5.1. New facility at which production does not replace production at another establishment or facility

The quantity of GHG emission units allocated without charge to an emitter to take into account a new facility located on the site of one of the emitter's covered establishments at which production does not replace production at another establishment or facility is calculated

(1) in the case of a facility that is not considered on a sectoral basis, using equations 4-1 to 4-8;

(2) in the case of a facility that is considered on a sectoral basis, using equations 5-1 and 5-2.

6.5.2. New facility of an emitter at which production replaces all or some production at another of the emitter's establishments or facilities in Québec that closed after 1 January 2008

The quantity of GHG emission units allocated without charge to an emitter to take into account a new facility located on the site of one of the emitter's covered establishments at which production replaces all or some production at another of the emitter's establishments or facilities in Québec that closed after 1 January 2008 is calculated

(1) for any annual quantity of reference units produced or used by the new facility not exceeding the average annual quantity of reference units produced or used, by type of activity, at the closed establishment or facility during the 3 complete years preceding its closure:

a) in the case of a facility that is not considered on a sectoral basis, using equations 1-1 and 2-1 to 2-9 and applying equations 2-2 to 2-8 based on data from the closed establishment or facility;

b) in the case of a facility considered on a sectoral basis, using equations 1-1 and 3-1 to 3-10 and applying equations 3-2 to 3-9 based on data from the closed establishment or facility;

(2) for any annual quantity of reference units produced or used by the new facility that exceeds the average annual quantity of reference units produced or used, by type of activity, at the closed establishment or facility during the 3 complete years preceding its closure:

a) in the case of a facility that is not considered on a sectoral basis, using equations 4-1 to 4-8;

b) in the case of a facility considered on a sectoral basis, using equations 5-1 and 5-2.

6.6. Establishment covered after 2013 at which production replaces all or some production at one of the emitter's establishments or facilities in Québec that closed after 1 January 2008

Every emitter, at one of whose establishments covered after 2013 production replaces all or some production at another of the emitter's establishments or facilities in Québec that closed after 1 January 2008, must, as soon as possible, notify the Minister by submitting the following information:

(1) the name and contact information of the enterprise and the establishment;

(2) the business number assigned to the emitter pursuant to the Act respecting the legal publicity of enterprises (R.S.Q., c. P-44.1), along with the identification number assigned under the National Pollutant Release Inventory of the Government of Canada, if any;

(3) the name and contact information of the replaced establishment or facility;

(4) the quantity, by type of activity, of reference units produced or used at the closed establishment or facility.

The quantity of GHG emission units allocated without charge to the emitter for the establishment is calculated

(1) for any annual quantity of reference units produced or used at the establishment not exceeding the average annual quantity of reference units produced or used, by type of activity, at the closed establishment or facility during the 3 complete years preceding its closure:

a) in the case of an establishment that is not considered on a sectoral basis, using equations 1-1 and 2-1 to 2-9 and applying equations 2-2 to 2-8 based on data from the closed establishment or facility;

b) in the case of an establishment that is considered on a sectoral basis, using equations 1-1 and 3-1 to 3-10 and applying equations 3-2 to 3-9 based on data from the closed establishment or facility;

(2) for any annual quantity of reference units produced or used at the establishment that exceeds the average annual quantity of reference units produced or used, by type of activity, at the closed establishment or facility during the 3 complete years preceding its closure:

a) in the case of an establishment that is not considered on a sectoral basis, using equations 4-1 to 4-8;

b) in the case of an establishment that is considered on a sectoral basis, using equations 5-1 and 5-2.

6.7. Enterprise that acquires, for consumption of the enterprise or for sale in Québec, of power generated in another Canadian province or territory or in a state in which the government has established a cap-and-trade system for greenhouse gas emission allowances targeting power generation, but has not signed an agreement referred to in section 46.14 of the Environment Quality Act (R.S.Q., c. Q-2)

Equation 6-11 Calculation of the total GHG emission units allocated without charge to an enterprise that acquires for consumption of the enterprise or for sale in Québec, of power generated in another Canadian province or territory or in a state in which the government has established a cap-and-trade system for greenhouse gas emission allowances targeting power generation, but has not signed an agreement referred to in section 46.14 of the Environment Quality Act (R.S.Q., c. Q-2)

$$A_i = \frac{P_i^{Non-WCI}}{P_i^{WCI}} \times E_i^{Non-WCI}$$

Where:

A_{i} = Number of units allocated without charge for year *i*;

P_i^{WCI} = Average sale price at auction held during year *i* by other Canadian provinces or territories or by the states in which the government has established in their territory a cap-and-trade system for greenhouse gas emission allowances targeting power generation, but has signed an agreement referred to in section 46.14 of the Environment Quality Act, in US dollars;

$P_i^{Non\text{-}WCI}$ = Average sale price at auction held during year *i* by other Canadian provinces or territories or by the states in which the government has established in their territory a a cap-and-trade system for greenhouse gas emission allowances targeting power generation, but has not signed an agreement referred to in section 46.14 of the Environment Quality Act, in US dollars;

$E_i^{Non\text{-}WCI}$ = GHG emissions for year *i* relating to the generation of power acquired by a Canadian province or territory where generating facilities are subjet to a cap-and-trade system for greenhouse gas emission allowances not covered by an agreement referred to in section 46.14 of the Environment Quality Act, in metric tonnes.

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