

CleanBC Industrial Incentive Program

Cement Sector Guidance

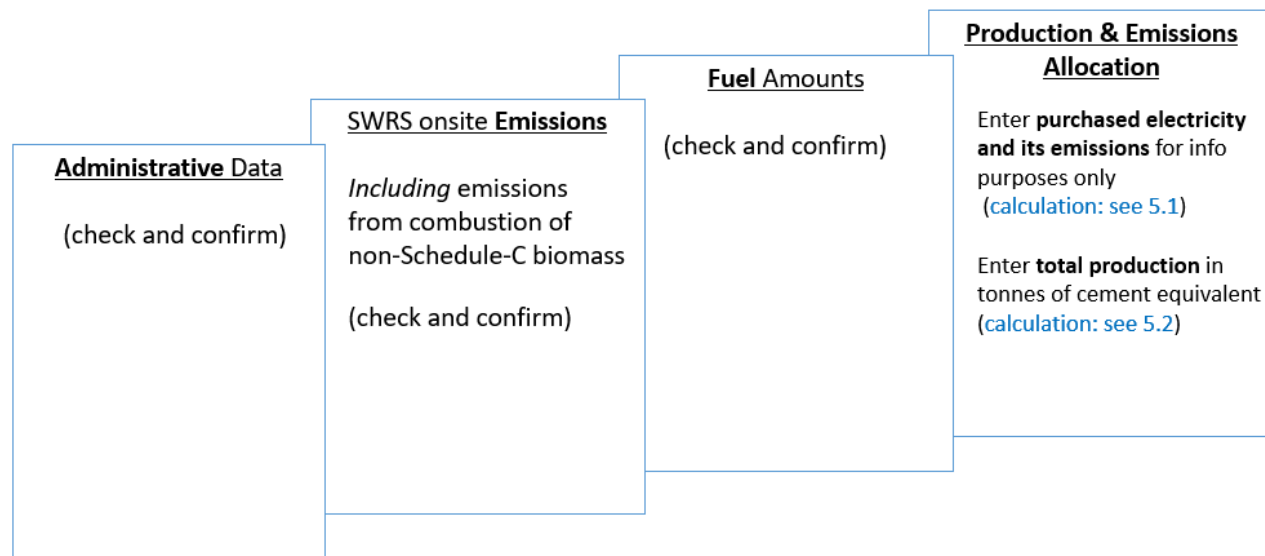
1. Applicable NAICS codes:

- **NAICS – 327310: Cement Manufacturing**

Sub-Sector	CIIP Product
Cement Manufacturing	Cement equivalent

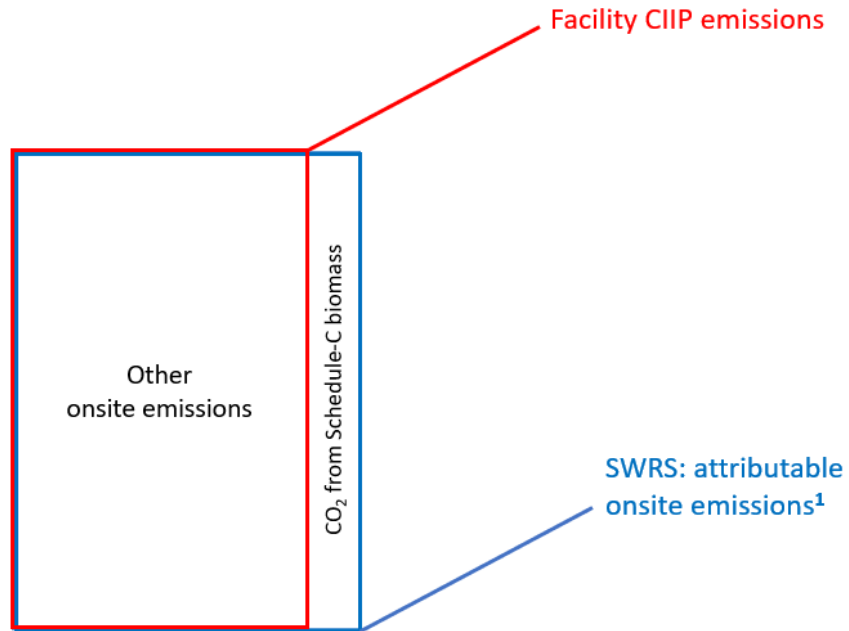
2. Quick Summary – Main Steps in CIIP application

- 2.1 Complete and submit a facility emission report in the Single Window Reporting System (SWRS)
- 2.2 Complete and submit a CIIP application (it is pre-filled with SWRS data where applicable)



(calculation) steps are detailed in section 5. **Calculation Methodologies** below.

3. Facility Emissions for CIIP purposes



For the Facility emission total for CIIP purposes:

- SWRS onsite attributable emissions *include* emissions from combustion of non-Schedule-C biomass
- Facility onsite emissions CO2 from Schedule C biomass are excluded

CIIP Facility Emissions	= SWRS attributable Emissions ¹ - CO2 from Schedule C biomass
-------------------------	--

Or, equivalently,

$$E_{Facility}^{CIIP} = E_{Attr.}^{SWRS^1} - E_{CO2bioC}^{SWRS}$$

Facility onsite emissions are pre-filled in the CIIP application with data submitted through the SWRS system.

¹ Includes emissions from combustion of non-Schedule-C biomass.

4. Completing a CIIP Application

The CIIP application has four sections. Where possible, the *Administrative*, *SWRS Onsite Emissions* and *Fuels* sections are pre-populated with data reported through the SWRS system. Applicants must review, confirm, and, if applicable, update this information and also enter production and emissions allocation information in the *Production and Emissions Allocation* section.

Administrative Data

Most information in the administrative section will be pre-populated from SWRS.

- Review pre-populated data for accuracy
- Enter the BC Corporate Registry number as it appears on orgbook.gov.bc.ca

NOTE: The BC Corporate Registry number and the operator's legal name on the CIIP application must match the entry on OrgBook. The incentive payment will be issued to the legal business name as it appears on the CIIP application.

- Please ensure all mailing addresses follow the [Canada Post address format](#)
- Enter at least one application contact. The Primary Application Contact field will be pre-populated based on the user who starts an application; please confirm or edit as applicable. This will be the primary contact CAS will use for all application-related correspondence: questions, application status changes, review results, etc. A Secondary Application Contact can be added, if applicable
- Choose the primary NAICS code that the facility operates under from the available list. The NAICS codes in the pre-populated list reflect the sectors eligible to apply for CIIP. You will not be able to enter a NAICS code that is not on the list. The production information required to be entered in the *Production and Emissions Allocation* section will depend on the NAICS code selection

If you believe your facility's sector is eligible but your NAICS code is not on the list, please contact the CIIP team at GHGRegulator@gov.bc.ca.

SWRS Onsite Emissions

This section is pre-filled with data from the facility's SWRS report. Please review and confirm. If the information needs updating, this likely means that the SWRS report has to be updated first.

NOTE: Because emissions from combustion of non-Schedule-C biomass are included in the facility total for CIIP purposes, it is expected that the information associated with these emissions would be part of the facility's SWRS report (see section 3. above and footnote on previous page).

Fuels

This section is pre-filled with data from the facility's SWRS report. Please review and confirm. If the information needs updating, this likely means that the SWRS report has to be updated first.

Production & Emissions Allocation

NOTE: The ministry provides a calculator spreadsheet with the appropriate calculation formulas built in, to assist in calculations at this step of the CIIP application process (available [at this link](#)).

To enter data as required in this section, first select 'Purchased Electricity', then 'Cement equivalent', as applicable, from the 'Product or Service' dropdown menu.

NOTE: Facility offsite emissions associated with purchased electricity must be calculated from electricity amount purchased and are required for information purposes only. These emissions do not count towards a facility's emission total for CIIP purposes (see section 3. above).

- Enter purchased electricity (in GWh) for information purposes only
 - enter 0 if not applicable
- Calculate and enter the emissions associated with purchased electricity, for information purposes only, using the calculator (see section 5.1 below for details)
- Calculate and enter cement-equivalent production in tonnes, using the calculator (see section 5.2 below for details)

Allocating CIIP emissions to facility production

- 100 percent of CIIP facility emissions are automatically allocated to the cement-equivalent production reported

Summary

Review your application for accuracy, review the terms and conditions, and submit the application.

The system will automatically perform some checks for consistency. If inconsistencies are found, the application will show a warning message, highlighting the issue requiring attention. To address any highlighted inconsistencies, you must go back to the relevant application section/tab and either correct the reported values or provide an explanation by entering a comment in the relevant section.

Additionally, the system may detect errors in your application, such as missing data. These errors must be corrected in order to submit an application. In certain exceptional cases when the issue cannot be addressed through the application system, you will have the ability to override the error message by providing an explanation and then submit the application.

Any unresolved warnings or errors may delay the processing of your application.

5. Calculation Methodologies

Unless explicitly stated otherwise in CIIP guidance, quantification and reporting of greenhouse gas emissions and related information under CIIP must comply with the *Greenhouse Gas Industrial Reporting and Control Act* (GGIRCA) and the Greenhouse Gas Emission Reporting Regulation (GGERR), including with the referenced in GGERR Western Climate Initiative (WCI) quantification methodologies.

The [WCI methodologies](#) typically applicable to cement reporting operations are:

- WCI.020 General Stationary Combustion
- WCI.090 Cement Manufacturing
- WCI.100 Coal Storage
- WCI.280 Mobile Equipment at Facilities

A CIIP applicant must first submit an emission report in SWRS (SWRS report) complying with GGIRCA and GGERR and using the WCI methodologies.

NOTE: Because emissions from combustion of non-Schedule-C biomass are included in the facility total for CIIP purposes, it is expected that the information associated with these emissions would be part of the facility’s SWRS report (see section 3. above and footnote on page 2).

A CIIP application is then pre-filled where possible with applicable information from the SWRS report.

5.1 Calculating emissions associated with purchased grid electricity

The ministry provides a calculator spreadsheet with the appropriate calculation formulas built in, to assist in calculations at this step of the CIIP application process (available [at this link](#)).

In the calculator, in the section ‘Purchased Electricity (for information purposes only)’, select the applicable electrical grid (Integrated or Fort Nelson) from the pulldown menu in cell E11. This will cause the appropriate electricity intensity factor in tCO₂e/GWh to be displayed in cell G11.

In the blue cell, enter the amount of purchased electricity (in GWh).

Emissions associated with purchased grid electricity are then automatically calculated and displayed in cell G13, in tonnes CO₂e. For example:

Purchased Electricity (for information purposes only)				
INPUT each variable listed below:				
Purchased Electricity		Electricity Grid	Amount	Units
Emissions Intensity Factor of Grid	Integrated Grid	EIF _{EI.Grid}	40.10	tCO ₂ e/GWh
Amount of electricity purchased		Q _{EL_PURCHASED}	300.00	GWh
Emissions from Purchased Electricity		E _{EL_PURCHASED}	12,030.00	tCO ₂ e

Enter the amount of emissions from purchased grid electricity in the CIIP application.

The calculator uses the following methodology to determine emissions associated with purchased grid electricity:

If

$EIF^{El-Grid}$ (selection) is the grid electricity emission factor for the selected grid and applicable year, in tCO₂e/GWh;

$Q_{Purchased}^{Electr.}$ (input) is the quantity of purchased grid electricity, in GWh;

$E_{Purchased}^{Electr.}$ are the emissions associated with purchased grid electricity, in tCO₂e.

Then

$$E_{Purchased}^{Electr.} = EIF^{El-Grid} * Q_{Purchased}^{Electr.}$$

where $EIF^{El-Grid}$ data comes from the published [electricity emission intensity factor for grid-connected entities](#) for the selected grid for applicable year.

5.2 Calculating total facility production in terms of cement equivalent

CIIP applicants must report production in tonnes of cement equivalent.

The ministry provides a calculator spreadsheet with the appropriate calculation formulas built in, to assist in calculations at this step of the CIIP application process (available [at this link](#)).

In order to use the calculator, facilities will need to have information on:

- Cement production C^P (tonnes)
- Clinker production CL^P (tonnes)
- Clinker sales CL^S (tonnes)
- Clinker inventories (tonnes), on both January 1st and December 31st of the reporting year

Cement production (C^P) means the amount of cement produced during the reporting year, regardless of whether it is sold during the year or added to inventory. It does not include cement sold from a previous year's production.

Clinker production (CL^P) means all clinker produced during the reporting year, regardless of whether it is converted into cement, sold as clinker, or added to inventory. It does not include clinker sold from inventory from a previous year's production.

Clinker sales (CL^S) means clinker sold which was produced during the reporting year as well as clinker sold from inventory.

In the calculator, enter in the blue cells:

MAY 2021

- For cement, the production
- For clinker, the production, sales, and Jan 1 and Dec 31 inventories

When all five quantities are entered, the calculator displays

- The calculated amount of clinker used to produce cement, and
- The facility production in tonnes of cement equivalent

For example:

Cement Production	Clinker Production	Clinker Sales	Clinker Inventory January 1	Clinker Inventory December 31
Tonnes	Tonnes	Tonnes	Tonnes	Tonnes
12,000.00	10,000.00	400.00	1,000.00	950.00
Clinker used to produce Cement:			9,650.00	Tonnes

Cement Equivalent Production	12,435.23	Tonnes
------------------------------	-----------	--------

Enter the amount of cement equivalent production in the CIIP application.

The calculator uses the following methodology to determine cement equivalent production:

If

- CE_{eq} is cement equivalent (annual amount)
- CE^P (input) is cement produced (annual amount)
- CUC is clinker used to produce cement (annual amount)
- CL^P (input) is clinker produced (annual amount)
- CL^S (input) is clinker sold (annual amount)
- $CL^I_{Jan 1}$ (input) is clinker amount in inventory on January 1
- $CL^I_{Dec 31}$ (input) is clinker amount in inventory on December 31

Then

$$CE_{eq} = CE^P \times \left(\frac{CL^P}{CUC} \right)$$

Where

$$CUC = CL^P - CL^S - (CL^I_{Dec 31} - CL^I_{Jan 1})$$