

CleanBC Industrial Incentive Program

Lead-Zinc Smelting Sector Guidance

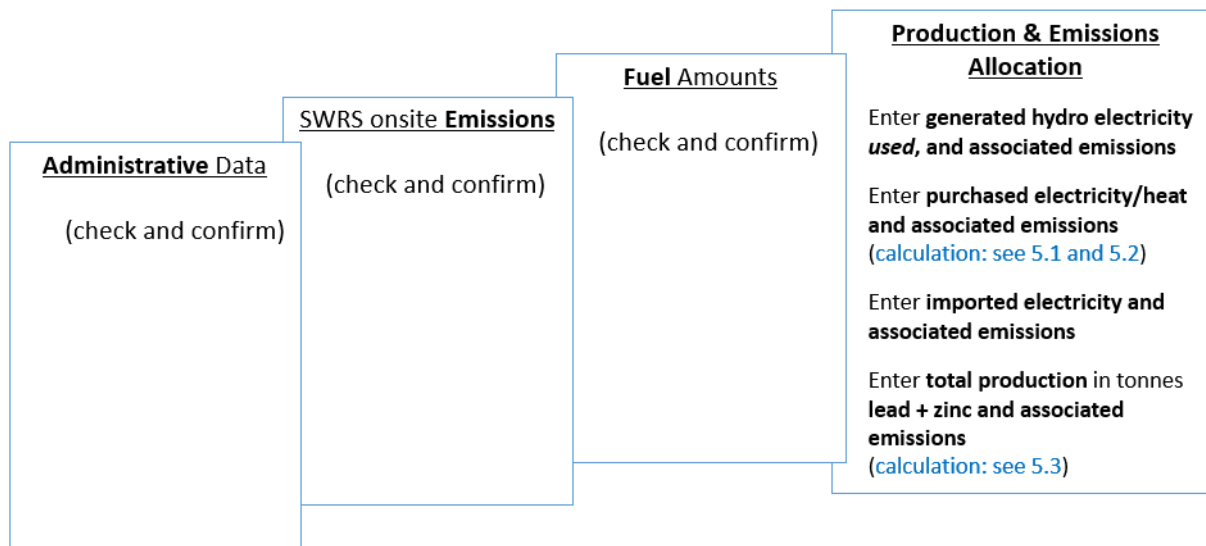
1. Applicable NAICS codes:

- **NAICS – 331410: Non-Ferrous Metal (except Aluminum) Production and Processing**

Sub-Sector	CIIP Product
Lead-Zinc Smelting	Smelting - lead-zinc

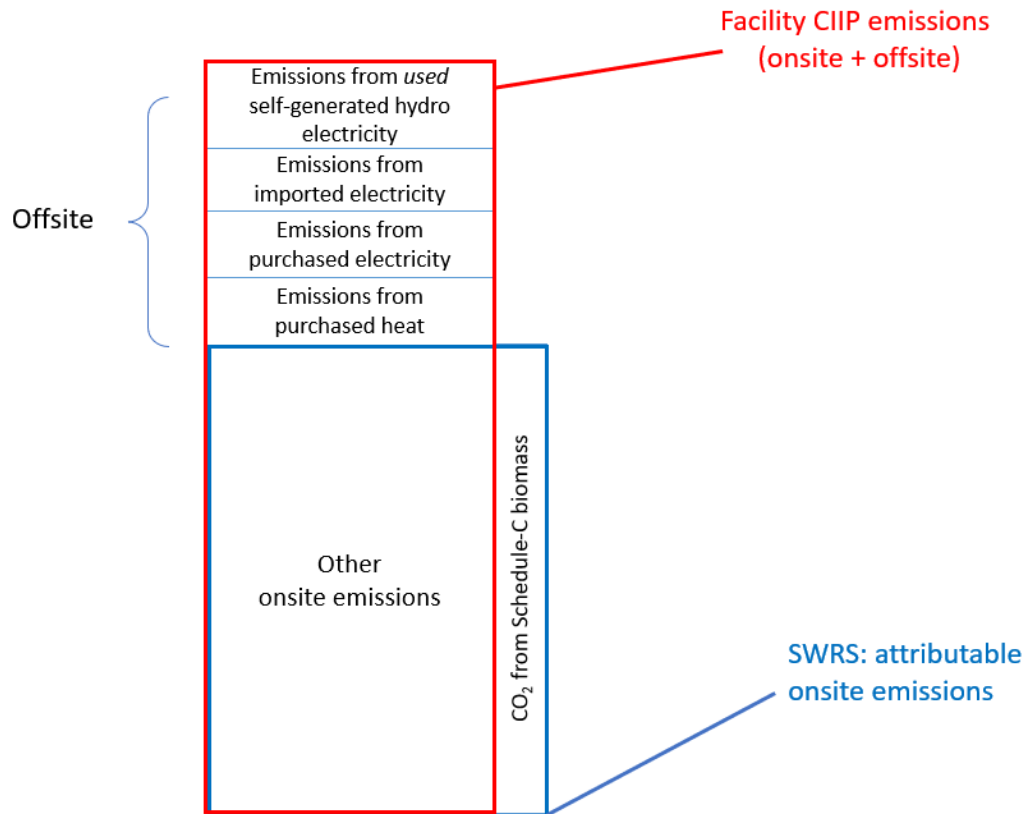
2. Quick Summary – Main Steps in CIIP application

- 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)



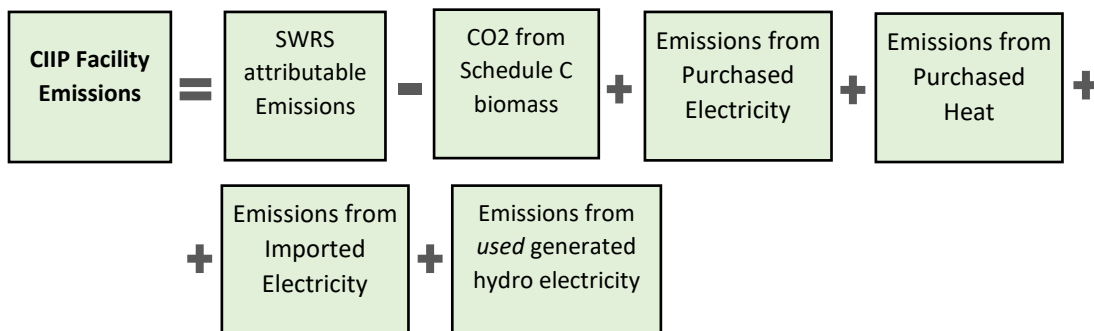
(calculation) steps are detailed in section **5. Calculation Methodologies** below.

3. Facility Emissions for CIIP purposes



For the Facility emission total for CIIP purposes:

- Facility onsite emissions CO₂ from Schedule C biomass are excluded,
- Facility offsite emissions from purchased electricity and/or heat are included,
- Facility offsite emissions from *used* generated hydro electricity are included, and
- Facility offsite emissions from imported electricity are included



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Or, equivalently,

$$E_{Facility}^{CIIP} = E_{Attr.}^{SWRS} - E_{CO2bioC}^{SWRS} + E_{Purchased}^{Electr.} + E_{Purchased}^{Heat} + E_{Imported}^{Electr.} + E_{Hydro\ used}^{Electr.}$$

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

Facility offsite emissions associated with electricity/heat purchased, or with hydro electricity *used*, must be calculated from the respective electricity/heat amounts.

Facility offsite emissions associated with imported electricity (imported into BC) are those of the corresponding Electricity Import Operation (EIO) as quantified and reported in SWRS according to Schedule D of GGERR.

All offsite electricity/heat amounts and emissions are entered in the *Production and Emissions Allocation* section of the CIIP application.

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](https://orgbook.gov.bc.ca). 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. Please note that automated system messages such as application status updates will only be sent to the primary contact.
- 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.

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](#)).

NOTE: To enter data as required in this section, first select 'Generated hydro electricity used', then 'Offsite Emissions: Purchased Electricity', then 'Offsite Emissions: Purchased Heat', then 'Offsite Emissions: Imported electricity', and finally 'Smelting: Lead-zinc', as applicable, from the 'Product or Service' dropdown menu.

Allocating CIIP Facility emissions

CIIP facility emissions, calculated as shown in section 3, must be allocated to '**Smelting: Lead-zinc**'.

Select '**Generated hydro electricity used**'

- Enter generated hydro electricity used (in GWh). Enter 0 if not applicable.
- Enter 0 for the emissions associated with that electricity (do not leave blank).
 - (We have determined that the hydro dam has negligible methane emissions at present; consequently, the emissions intensity for self-generated hydro electricity was changed to 0 (zero).)

Select '**Offsite Emissions: Purchased Electricity**'

- Enter purchased electricity (in GWh). Enter 0 if not applicable.
- Calculate and enter the emissions associated with purchased electricity, using the calculator (see section 5.1 below for details).

Select '**Offsite Emissions: Purchased Heat**'

- Enter purchased heat (in GJ). Enter 0 if not applicable.

- Calculate and enter the emissions associated with purchased heat, using the calculator (see section 5.2 below for details)

Select '**Offsite Emissions: Imported electricity**'

- Enter imported electricity (in GWh)
- Enter emissions from imported electricity as stated in the corresponding SWRS report of the Electricity Import Operation (EIO)

Select '**Smelting: Lead-zinc**'

- Enter the amount of lead-zinc as the sum of all lead and all zinc production, in tonnes

Lead-Zinc production includes all lead and zinc produced during the reporting year, regardless of whether it is sold during the year or added to inventory. It does not include lead and zinc sold from a previous year's production.

Other metals or minerals produced as by-products must not be included. Production must also not include any waste products.

- Calculate and enter the CIIP facility emissions, using the calculator (see section 5.3 below for details).

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 lead-zinc smelting reporting operations are:

- WCI.020 General Stationary Combustion
- WCI.040 Electricity Generation

- WCI.100 Coal Storage
- WCI.160 Lead Production
- WCI.240 Zinc Production
- 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. 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 on Purchased Electricity, select the applicable electrical grid (Integrated or Fort Nelson) from the pulldown menu in cell D11. This will cause the appropriate electricity intensity factor in tCO₂e/GWh to be displayed in cell F11.

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 F13, in tonnes CO₂e. For example:

Purchased Electricity

INPUT each variable listed below:

Purchased Electricity

	Electrical Grid:		Amount	Units
Emissions Intensity Factor of Grid	Integrated Grid	EIF _{El. Grid}	11.5	tCO ₂ e/GWh
Amount of electricity purchased		PURCHASED	300.00	GWh
Emissions from Purchased Electricity		PURCHASED	3,450.00	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.

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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 emissions associated with purchased heat

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 on Purchased Heat, in the blue cell, enter the amount of purchased heat (in GJ).

Emissions associated with purchased heat are then automatically calculated and displayed in cell F22, in tonnes CO2e. For example:

Purchased Heat

		Amount	Units
Emissions Intensity Factor of Purchased	EIF _{BC Heat}	0.063	tCO ₂ e/GJ
Amount of heat purchased	Q _{H_PURCHASED}	40,000.00	GJ
Emissions from Purchased Heat	E _{BC Heat}	2,520.00	tCO ₂ e

Enter the amount of emissions from purchased heat in the CIIP application.

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

If

0.063 is the BC-specific heat emission factor, in tCO₂e/GJ;

$Q_{Purchased}^{Heat}$ (input) is the quantity of purchased heat, in GJ;

$E_{Purchased}^{Heat}$ are the emissions associated with purchased heat, in tCO₂e.

Then

$$E_{Purchased}^{Heat} = 0.063 * Q_{Purchased}^{Heat}$$

5.3 Calculating CIIP Facility emissions

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 'CIIP Facility Emissions', in the blue cells:

- Enter SWRS attributable onsite emissions, including from Schedule C biomass (tonnes CO₂e)
- Enter CO₂ emissions from Schedule C biomass (tonnes CO₂e)
- Enter emissions from imported electricity

The calculator then displays the CIIP Facility emissions. For example:

CIIP Facility Emissions

INPUT emissions where applicable:

Do not leave blank - enter zero if needed

	Emissions	Units
SWRS Attributable Emissions	400,000.00	tCO ₂ e
-- CO ₂ emissions from Schedule C biomass	100.00	tCO ₂ e
+ Emissions from Generated hydro electricity <u>used</u>	-	tCO ₂ e
+ Emissions from Purchased Electricity	2,910.00	tCO ₂ e
+ Emissions from Purchased Heat	630.00	tCO ₂ e
+ Emissions from Imported Electricity	45,000.00	tCO ₂ e
CIIP Facility Emissions	441,360.00	tCO₂e

Enter the CIIP Facility Emissions in the CIIP application.