B.C. OBPS PROGRAM AND REPORTING GUIDANCE

January 2025

BRITISH COLUMBIA

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PART 1 | Context

BACKGROUND

This program guidance sets out details of B.C.'s industrial carbon pricing system – the B.C. Output-Based Pricing System or OBPS – including context and program details, such as program eligibility, stringency and reporting as an industrial *operator*.

B.C.'s industrial sector is a major contributor to the province's economy that creates jobs and benefits communities. The sector is also a major source of greenhouse gas (GHG) emissions and, while the sector has taken steps to reduce its emissions, more needs to be done.

Operator: the person who owns and/or controls and directs the industrial operation.

Industrial Carbon Pricing in B.C.

In 2019, the federal government announced minimum national stringency standards known as the federal 'benchmark' that all carbon pricing systems are required to meet to ensure they are comparable and effective in reducing GHG emissions.

After two years of development, B.C. launched its CleanBC Program for Industry comprised of the CleanBC Industrial Incentive Program (CIIP) and the CleanBC Industry Fund (CIF) in 2019. The CIIP encouraged cleaner industrial operations by reducing carbon tax costs for industrial facilities demonstrating that their operations were amongst the lowest emitting for their sector compared to world leading GHG emissions-intensity benchmarks. The CIF supports the development, trial, and deployment of projects that reduce GHG emissions from large industrial operations in B.C.

As part of Budget 2023, the Province announced a change to the way it prices GHG emissions from industrial operations. The CIIP is phased out of the CleanBC Program for Industry and a made-in-B.C. OBPS for large industrial emitters has been introduced. The B.C. OBPS took effect on April 1, 2024, and replaced the CIIP. The CIF continues to invest in industrial decarbonization projects.

What is an Output Based Pricing System?

The B.C. OBPS is a carbon pricing model that ensures a price incentive for industrial emitters to reduce their GHG emissions through a performance-based system. The B.C. OBPS also provides flexible options, such as B.C. carbon offset units and earned credits, to meet compliance obligations.

Instead of paying the carbon tax on fuels and combustibles that they use or burn industrial facilities in the system will face a separate carbon price on the portion of their emissions that are above an operation-specific emissions limit.

The B.C. OBPS is enacted through recent amendments made in February 2024 to the *Greenhouse Gas Industrial Reporting and Control Act* (GGIRCA) and its regulations.

Purpose of the Document

This document aims to provide explanations and clarifications to assist operators in understanding compliance and reporting requirements. This guidance is not legally binding, with all legal obligations falling under the relevant legislation and regulations. Operators are responsible for the accuracy of their data and calculations.

Contact Information

Please send all feedback and questions by emailing the GHGRegulator@gov.bc.ca inbox.

PART 2 | Eligibility

Participation in the B.C. OBPS is mandatory for producers of regulated industrial products (see Appendix 1) under the GGIRCA that emit above 10,000 tonnes of carbon dioxide equivalent (CO_2e) per year. Operators of industrial operations that produce regulated products, have had a date of first shipment, but do not meet the 10,000 tCO_2e threshold may apply to opt-in to the program to be designated as regulated operations.

See Figure 1 to determine eligibility to participate in B.C. OBPS.

REPORTING OPERATIONS VS. REGULATED OPERATIONS

All operators required to report emissions under the GGIRCA are called reporting operations. Industrial operators that participate in the B.C. OBPS are called regulated operations with a compliance obligation.

Reporting Operations

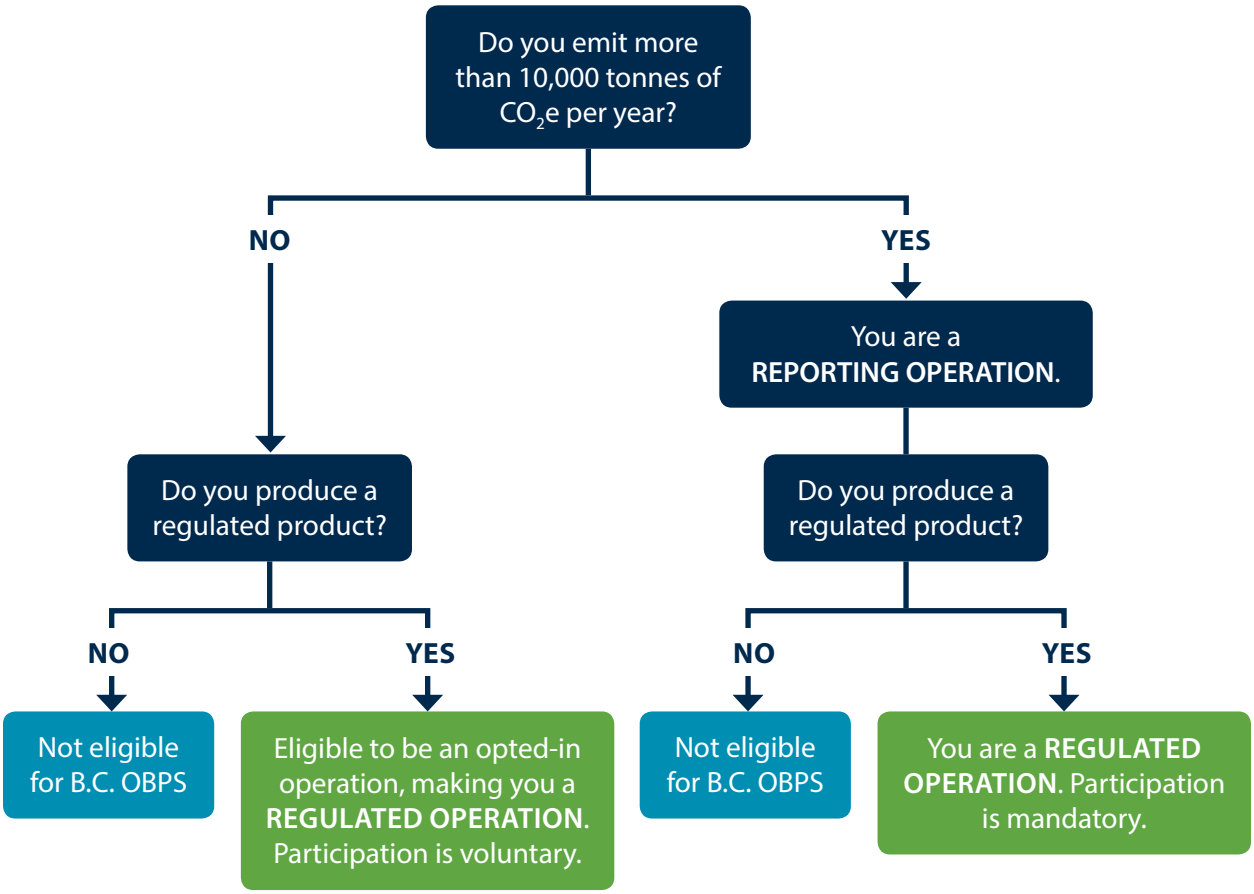
Reporting operations are industrial operations that emit 10,000 or more tonnes of CO_2e in *attributable emissions* in a calendar year and report their emissions to the Province. The operator is required to pay the carbon tax on fuel and combustibles. If a reporting operation's emissions fall below 10,000 tonnes CO_2e per year in subsequent years, they remain a reporting operation until they either cease all activities or remain below 10,000 tonnes CO_2e per year for three consecutive years.

Certain industry sectors are excluded from the B.C. OBPS but still have reporting requirements under the GGIRCA, such as electricity import operations, energy utilities, greenhouse growers, and waste management and remediation services. See Appendix 2 for a list of excluded industry sectors.

Regulated Operations

Regulated operations are reporting operations that produce, or are designed and constructed to produce, a regulated product, or are a new entrant, and participate in the B.C. OBPS. Regulated operations have a *compliance obligation* to emit less than their annual emissions limit, or else pay for any excess emissions above their annual emission limit.

Figure 1. Are you eligible for the B.C. OBPS?



Carbon tax exemption

Regulated operations are exempt from paying carbon tax on fuel and combustibles they use or burn to produce a regulated product, or if they are a New Entrant, and where emissions are attributable for reporting purposes under the B.C. OBPS. Exemptions are administered by the Ministry of Finance.

Operators of regulated operations are not required to self assess and remit carbon tax on exempt fuel use that qualifies for B.C. OBPS exemption. Operators should still self-assess carbon tax on all non-exempt fuel use. When monthly carbon tax amounts are zero or fuel is no longer used, contact the Fuel and Cabon Tax section to close self-assessor account at fueltax@gov.bc.ca.

Purchaser

Purchasers claim the B.C. OBPS exemption when buying fuel by giving the seller a fully completed FIN 467 *Certificate of Exemption B.C. Output-Based Pricing System* at or before the time of the sale. A purchaser who cannot support qualifying use, or attribute greenhouse gases from using the fuel to the regulated operation or new entrant, pays carbon tax on the fuel unless another carbon tax exemption applies.

A purchaser who claims the B.C. OBPS exemption when purchasing fuel on behalf of a regulated operation or new entrant is able to support qualifying use by the regulated operation or new entrant and attribute greenhouse gases from using the fuel to the regulated operation or new entrant.

Seller

Sellers who grant the B.C. OBPS exemption obtain the FIN 467 exemption certificate from the purchaser at or before the time of the sale and retain the certificate to substantiate the non-collection of tax. Sellers do not have to verify information on FIN 467 or obtain evidence that exemption applies.

CATEGORIES OF REPORTING OPERATIONS

Reporting operations include the following categories,

Single Facility Operation (SFO) is a reporting operation where specified industrial activities are carried out at a single facility by an *operator*. For example, a mine or a pulp mill.

Linear Facilities Operation (LFO) is a reporting operation where oil and gas activities are carried out at one or more (typically smaller) facilities that are controlled and directed by the same operator. For reporting purposes, LFOs are further disaggregated into categories. Additional information can be found in Part 6.

Single Facility Operation (SFO): reporting operation where specified industrial activities are carried out at a single facility by an operator.

Linear Facilities Operation (LFO): reporting operation where oil and gas activities are carried out at one or more facilities that are controlled and directed by the same operator.

Opted-In Operations: an industrial operation that produces a regulated product and emits less than 10,000 tonnes of CO_2e annually that voluntarily participates in the B.C. OBPS.

New Entrants: a designation for a regulated operation whose date of first shipment is on or after Jan 1, 2022, and who does not owe for excess emission nor earn credits, for the duration of its new entrant period

OPTED-IN OPERATIONS

Industrial operations that produce a regulated product and emit less than 10,000 tonnes of CO_2e per year may apply to the Director under the GGIRCA to be designated as an *opted-in operation* in the B.C. OBPS. Through the B.C. OBPS opt-in policy, lower-emitting industrial operations will be able to access the same competitiveness supports as larger, regulated emitters in their sector. Opted-in operations may claim an exemption from paying carbon tax on their qualifying facility-use fuels and combustibles. They meet the same reporting and verification requirements of a regulated operation, including annual preparation of a verified Annual Report. Operators confirm in their application that they meet the eligibility requirements and can fulfill the obligations of a regulated operation.

Opting Out of B.C. OBPS

Opted-in operations may apply to opt-out of the program. An application to opt-out should be submitted to the Director under the GGIRCA on or before August 1 of the compliance period prior to the year in which the *operator* would like the designation to be revoked. An opted-in operation may not have its designation revoked partway through a compliance period.

NEW ENTRANTS

New reporting operations that produce, or are designed and constructed to produce, regulated products may apply to the Director under the GGIRCA for a *new entrant* designation. If accepted, *new entrants* have the same reporting and verification obligations as other regulated operations under the B.C. OBPS but will not owe for any excess emissions, nor earn any credits, during their new entrant period.

In addition to the reporting requirements outlined previously, a new entrant will include the following information in their Annual Report:

- Date of first of shipment, if applicable
- The operation's authorization date, if applicable

If an operator is designated as a new entrant after the due date of the Annual Report (May 31st) for the compliance period that their new entrant period starts, they will submit an additional report with the new entrant-specific information from an Annual Report within 30 days after receiving notice of designation as a new entrant. The new entrant period then ends two full calendar years after the year in which their date of first shipment occurred.

If a new entrant's date of first shipment is on or after April 1, 2024, they have flexibility in terms of when their new entrant period begins and can select a date on or after their authorization date, but on or before their date of first shipment. Their new entrant period is two full compliance periods plus the remainder of the year in which the new entrant period began.

New Entrant Eligibility

An industrial operation will satisfy the following criteria to apply for a new entrant designation:

- Is a reporting operation that is, or is expected to become, a regulated operation.
- Has registered as a reporting operation in the manner specified by the Director under the GGIRCA.
- Has a date of first shipment on or after January 1, 2022.
- Is not an opted-in operation.

If you are considering whether to apply as an opted-in or a new entrant operation and would like more information, please contact us at GHGRegulator@gov.bc.ca.

PART 3 | Stringency

STRINGENCY METHODOLOGY

Provincial production and emissions data reported to the Province over three years of the CIIP, from 2019-2021, were used to calculate provincial production weighted average emissions intensities (PWAEIs) for each regulated product. *Emission limits* are representative of the average emissions intensity of regulated products, as described below. Table 1 provides stringency details which includes reduction factors, tightening rates, and compliance unit usage limits.

EMISSION LIMITS

In the B.C. OBPS, each regulated operation's emissions are assessed against an operation-specific *emission limit*. Regulated operations have a compliance obligation to emit less than their annual emission limit, or else pay for any excess emissions above said limit. Regulated operations that emit below their emission limit earn credits that may be traded or used to meet a future compliance obligation.

To determine each operation's emission limit, the following basic principle is applied to each product:

Emission limit per product = Annual Production * Reduction Factor * Production Weighted Average Emissions Intensity

An operation's annual emission limit is the sum of the emission limits for each regulated product. More information about calculating an annual emission limit can be found in Part 5 of this document.

Emission limit: for one-product operations, the regulated operation's annual production multiplied by the appropriate reduction factor and its production-weighted average emissions intensity. For multi-product operations, it means the sum of emission limits for each regulated product for the operation.

Annual Production: amount of product generated during the year.

Reduction Factor: determines the percentage of priced emissions for a specific product.

Production Weighted Average Emissions Intensity: calculated as the total emissions of the product divided by the total production amount of the product.

TIGHTENING RATES

Tightening rates are planned, yearly, gradual increases to B.C. OBPS stringency. The B.C. OBPS tightening rate is set at 1 percent on the reduction factor for all products. The tightening rate for industrial process emissions is set at 0 percent for all sectors.

REDUCTION FACTORS

The Province developed distinct *reduction factors* for products in the B.C. OBPS with disproportionately higher industrial process emissions than those produced in other sectors. Industrial process emissions result from chemical reactions that are necessary to create certain products, such as cement, chemical processing, and other products. Process emissions are challenging to decarbonize or abate because they are prohibitively costly or impossible to reduce with available technology. B.C. OPBS reduction factors are listed below:

65% for most products, except those with an explicit 80%, 85%, 90% and 95% reduction factor;
80% for copper mining, and critical mineral mining;
85% for lead-zinc smelting, and critical mineral smelting and refining;
90% for cement, chemical processing, and lime products; and
95% for aluminum smelting.

Table 1. B.C. OBPS Stringency Details

Parameter	Sector	NAICS code	Rate
Initial Reduction Factor	Aluminum	331313	95%
	Cement, Chemicals, Lime	327310, 325189, 327410	90%
	Critical Mineral Smelting and Refining	TBD	85%
	Lead-Zinc	331410	85%
	Copper Mining	212233	80%
	Critical Mineral Mining	TBD	80%
	Other sectors		65%
Tightening Rate			1%
Tightening Rate – Industrial Process Emissions[1]			0%
Offset Expiry Limit[2]			3 years
Credit[3] **Usage Limit (portion of compliance obligation)**	2024		50%
	2025		40%
	2026		30%
	2027		30%
	2028		30%
	2029		30%
	2030		30%

[1] Process emissions are from chemical reactions necessary to create certain products such as aluminum, cement, and lime. Process emissions are difficult to decarbonize or abate.

[2] The offsets themselves do not expire, only their eligibility for use in the B.C. OBPS.

[3] 'Credit' refers to compliance units, including both B.C. offset units and B.C. OBPS earned credits. Offset units represent one tonne equivalent of carbon dioxide removed or reduced from the atmosphere through approved projects on the B.C. Carbon Registry, and earned credits are credits that regulated operations earn when their annual emissions are under their emission limit, at a rate of one credit per one tonne of CO_2e below their emission limit.

PART 4 | Compliance Mechanisms

The B.C. OBPS offers flexibility in meeting a compliance obligation by allowing a variety of compliance mechanisms. Figure 2 illustrates the *compliance mechanisms* based on the emission limit of a facility. An operator of a regulated operation that is:

- under the emissions limit, has met their obligation and earns credits to sell or hold for future use,
- at the emission limit, has met their obligation and does not pay for emissions or earn credits
- above the emission limit, has a compliance obligation for each tonne of CO_2e above the emission limit. This obligation may be met through a direct monetary payment or a combination of a monetary payment and compliance units.

Compliance mechanisms include:

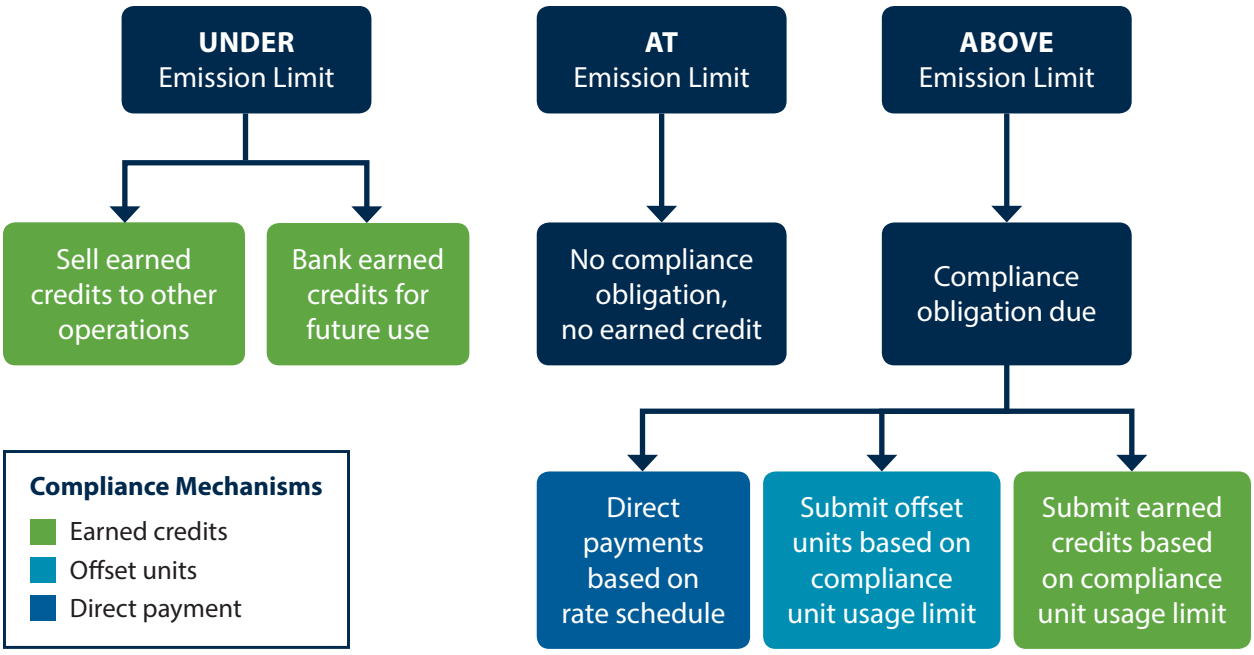
Compliance Units:

Earned Credits: Credits that are issued to an operation when their emissions are verified to be below their emission limit.

Offset Units: Verified units that represent emission reductions and removal generated from approved B.C. carbon offset projects.

Direct Payment: A monetary payment to meet the operation's compliance obligation at the full carbon price for that year.

Figure 2. Compliance Mechanisms in the B.C. OBPS



The combined total of compliance units (earned credits and offset units) will not exceed the compliance unit limit for the compliance period (Table 2) and will change over time as a measure of excess emissions. For the remaining monetary payment, the cost of one tonne CO_2e depends on the compliance period in which it was emitted, with the schedule of rates found in Table 3.

Table 2. B.C. OBPS compliance unit limits

Year	Credit Usage Limit
2024	50%
2025	40%
2026	30%
2027	30%
2028	30%
2029	30%
2030	30%

Table 3. Compliance Charge Rates 2024-2030

Calendar year	Compliance Charge Rate per tonnes CO_2e
2024	$80
2025	$95
2026	$110
2027	$125
2028	$140
2029	$155
2030	$170

COMPLIANCE UNITS

Compliance units are either earned credits or BC offset units and may be used to meet a compliance obligation up to the usage limit. Compliance units may be acquired by contacting offset project proponents, operators of regulated operations, or other general registry accounts holders through contact information that is publicly available on the B.C. Carbon Registry. Note that while all transactions of compliance unit holdings will happen in the B.C. Carbon Registry, financial transactions to purchase these units do not.

Earned Credits

Earned credits are issued once the Director under the GGIRCA is satisfied that a regulated operation emitted less than its emission limit for that compliance period. The credits are issued into the operator's B.C. Carbon Registry holding account, where they can be held, transferred into any other holding account in the B.C. Carbon Registry, used to meet a compliance obligation and/or retired. Earned credits do not expire.

Operators may use, transfer, or sell earned credits at their discretion, or hold for future use. Operators with multiple or separate operations will be able to use earned credits from one operation to meet the compliance obligation of another, up to the annual compliance unit limit. Operators of regulated operations who wish to use compliance units will open a holding account and a compliance account in

the B.C. Carbon Registry. To use compliance units to meet compliance obligations, compliance units are transferred from an operator's holding account to the compliance account. Once the obligation has been accurately determined and met, the units are retired by the Director under the GGIRCA.

Offset Units

An offset unit can only be used if its vintage year is within three years prior to the start of the compliance period. Table 4 highlights the oldest eligible vintage to the corresponding compliance period and compliance obligation deadline.

Table 4. Offset units vintage eligibility in B .C . OBPS

Oldest Eligible Offset Vintage	Compliance Period (Jan 1-Dec 31)	Compliance Obligation Deadline
2022	2025	30-Nov-26
2023	2026	30-Nov-27
2024	2027	30-Nov-28
2025	2028	30-Nov-29
2026	2029	30-Nov-30

PART 5 | Emission Limits and Coverage

How to Calculate an Emission Limit

A regulated operation's emission limit is determined by combining the emission limits for each regulated product. For each regulated product, the amount produced by a regulated operation is multiplied by that product's PWAEI and by the annual reduction factor as modified by the cumulative tightening rate for the portion of product-allocated emissions that are not industrial process emissions. The sum of the results for all the regulated operation's regulated products is the operation's annual emission limit for that compliance period. A regulated operation's emission limit for a given year is calculated as follows:

$$Annual\ Emission\ Limit_y = \sum_{p=1}^{n_p} \left\{ \left(Pr_{y,p} \times PWAEI_p \right) \times \left[RF - \left(1 - \frac{IPE_{y,p}}{CE_{y,p}} \right) \times TR \times (y - y_i) \right] \right\}$$

Where:

- p is a regulated product;
- n_p is the total number of regulated products p produced by the regulated operation;
- $Pr_{y,p}$ is the production of product p during compliance year y in units of product p;
- $PWAEI_p$ is the production-weighted average emission intensity of product p in tCO_2e/unit of product p;
- RF is the sectoral reduction factor;
- $IPE_{y,p}$ are the industrial process emissions at the regulated operation during the compliance period y, allocated to product p;
- $CE_{y,p}$ are the compliance emissions at the regulated operation during the compliance year y, allocated to product p;
- TR is the annual tightening rate for compliance emissions that are not industrial process emissions;
- y is the compliance period;
- y_i is 2024, the first compliance year of B.C. OBPS.

Emission Coverage

Operators of reporting operations need to identify which emissions will be measured, quantified, and reported. The emission attribution framework outlines the emissions and other information that will be submitted, by specific activity, source, and gas type.

Some emissions that are required to be reported under the GGIRCA are not priced under the B.C. OBPS (see Appendices 2 and 3). The following emissions are excluded from a regulated operation's attributable emission total for B.C. OBPS purposes but will be reported:

- All emissions (carbon dioxide, methane, nitrous oxide) from the combustion of excluded biomass fuels;
- All emissions (carbon dioxide, methane, nitrous oxide) from the combustion of excluded non-biomass fuels;
- Fugitive emissions;
- Venting emissions that are not among the 'useful venting emission sources' listed in the sector-specific guidance of the oil and gas sector (in other words, non-useful venting emissions);
- Emissions associated with non-compression and non-processing activities in the oil and gas sector;
- Emissions associated with line tracing in the petroleum refineries sector;
- Emissions associated with fat, oil and grease processing.

PART 6 | Reporting for Large Industrial Emitters in B.C.

OVERVIEW OF ANNUAL REPORTING REQUIREMENTS

All reporting operations, including regulated operations, have new reporting requirements since legislative and regulatory amendments came into force on April 1st, 2024.

Operations report data for activities that occurred during the previous calendar year, also known as the *compliance period*. The *compliance period* is defined as the calendar year in which the operator of a regulated operation has a compliance obligation—the year the operation emitted GHGs into the atmosphere (e.g., 2024). The *submission period* is the year following the compliance period (e.g. 2025). The *payment period* occurs between the date that the Annual Report is due (May 31st) and the Compliance Obligation Report (November 30th) of the submission period.

All registration and reporting will be done in the B.C. Industrial Emissions Reporting System (BCIERS). All operations will complete the Annual Report. Only regulated operations with excess emissions will submit the Compliance Obligation Report (see Figures 3 and 4).

Third-party verification of the Annual Report will be required for all regulated operations. Reporting operations that emit over 25,000 tonnes of CO_2e per year will also be required to have their Annual Report verified.

Annual Report: the annual report that all reporting and regulated operations submit by May 31st of the submission period to report emissions data among other types of data required.

Compliance Obligation Report: information needed to assess whether a regulated operation with excess emissions has met it compliance obligation due Nov 30th of the submission period.

Compliance Period: refers to the calendar year which the reporting operations including regulated operations has been emitting greenhouse gases, also sometimes referred to as a reporting period.

Submission Period: the year following the compliance period that the reporting operations, including regulated operations submit data through an Annual Report and if necessary, a Compliance Obligation Report.

Payment Period: the period of time between the due dates of the Annual Report (May 31) and Compliance Obligation Report (Nov 30) of every submission period.

Figure 3. Mapping names of reports from the Regulation to the BCIERS

Report Names in GGERR	Report Names in BCIERS	Due Date in Submission Period
Emission Report **Compliance report required under section 22.1**	Annual Report	May 31st
Compliance report required under section 23.1	Compliance Obligation Report	November 30th

Figure 4. Timeline of events for submission period

Annual Report due May 31st

- Reporting and regulated operations submit emission data and verification statement.
- Regulated operations also submit production data and emissions allocation data.

Payment Period

- Staff assess annual reports for quality assurance and control.
- Regulated operations with credited emissions will receive earned credits.
- Only regulated operations with excess emissions, determined based on their annual report, use compliance mechanisms to meet their obligation.

Compliance Obligation Report due November 30th

- Only regulated operations with excess emissions submit this report to confirm that their compliance obligation has been met.

ANNUAL REPORT

All reporting operations and regulated operations submit an emissions report as part of an Annual Report. A single Annual Report may include multiple products. For regulated operations, additional data may include production data, emissions allocation and the compliance summary. See the sections of the Annual Report in Figure 5. The single Annual Report submission is reviewed by a third-party verification body in accordance with international standards. Annual Reports are due on May 31 of the year following the compliance period.

Figure 5. Sections of the Annual Report

Section of the Annual Report	Type of Operation	Types of Data
1. Operation Level	All reporting operations	Operator information
2. Facilities information		
a. Emission data	All reporting operations	▪ Total emissions attributable to the operation. ▪ Fuel usage. ▪ Non-attributable emissions: exceeding 100 tonnes of CO_2 equivalent, a description of activities, sources, and types of GHGs emitted ▪ Captured emissions: for on-site use, on-site sequestration, or transfer off-site.
b. Production data	Regulated operations	▪ Production data ▪ Emission allocation data ▪ Description of allocation methodologies
3. Compliance summary	Regulated Operations	Produced by BCIERS
4. Verification statement upload	▪ Reporting operations that emit over 25k tCO_2e ▪ Regulated operations	Verification statement
5. Sign-off and submit	All reporting operations	Completed by Operation Representative

FACILITIES INFORMATION

Emission Report

Operators of reporting and regulated operations will submit an annual emission report. The GGERR includes a detailed list of activities (associated with industrial production, manufacturing, processing and refining) and emission source types (associated with these activities) that result in GHG emissions that will be reported. Each activity has prescribed emission quantification methodologies. Please refer to the sector specific information in the appendix and the Western Climate Initiative (WCI) methodologies.

Fuel Usage

All reporting operations will be asked to submit data on fuel usage and will continue to retain all records used to quantify emissions, including fuel purchase records and fuel meter outputs.

Linear facilities operations (LFOs) with emissions from pneumatic venting or flaring will include detailed fuel usage information in their emission report. The intended scope of fuel usage reporting is limited to those that emit GHG emissions. Only in the case where venting or flaring creates GHG emissions does the volume of other substances vented or flared also need to be reported. Fuel usage information should include:

a) Whether the substance vented or flared is *sweet* or *sour* or processed or unprocessed natural gas, or another substance.

b) If it is another substance, identify the substance and

c) The amount of the substance used or flared, reported in standard cubic meters.

Production Report

In the Annual Report, regulated operations will be required to report production data for each regulated product they produce during the compliance period. Production data is required at both the operational and facility level. For operations with multiple facilities, production data will need to be disaggregated by facility (see Figure 6). All disaggregated facility data is included in a single Annual Report. Compression and processing in oil and gas production may not be reported in the same way as other products. Production fields are not mandatory for the oil and gas sector.

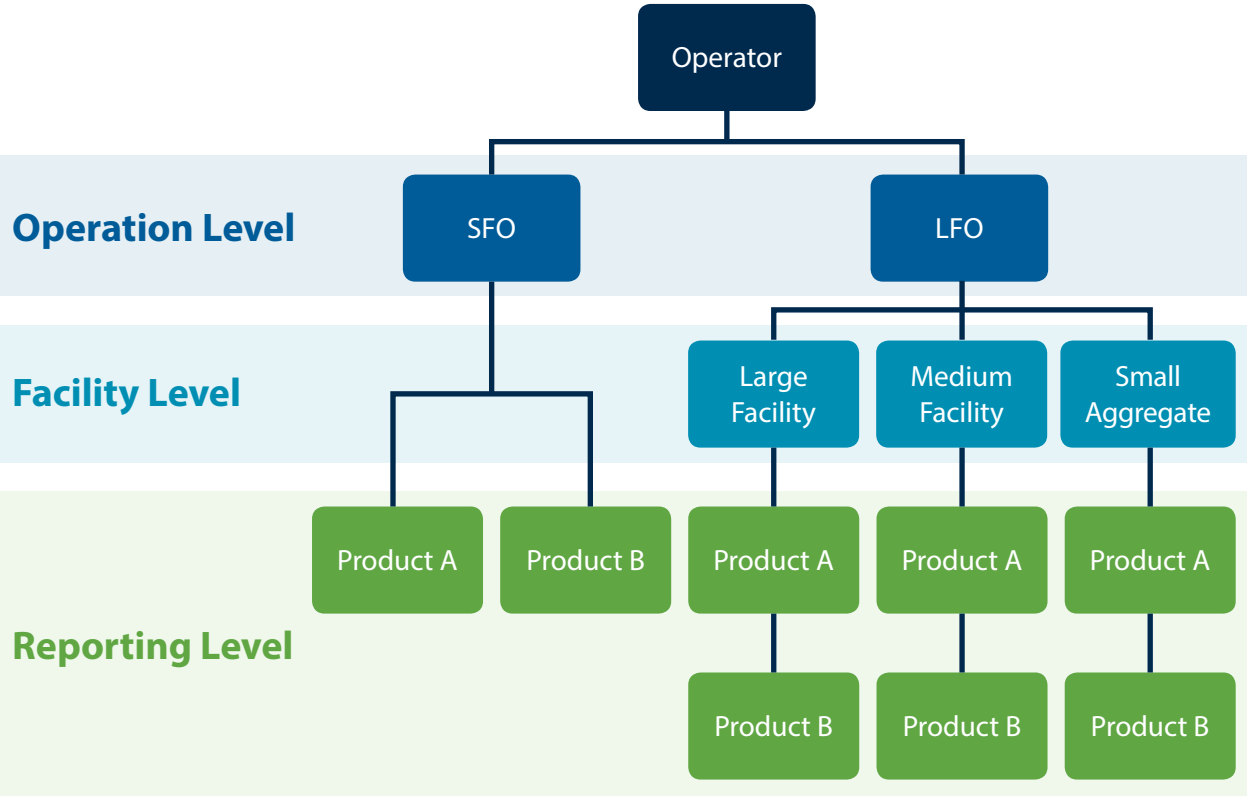
Disaggregation of Reporting for Linear Facilities Operations (Oil and Gas)

LFOs with emissions from pneumatic venting or flaring will include detailed fuel usage information in their emission report. LFOs are required to disaggregate emissions, fuel usage, production and other information in different report types which are summarized below:

- **Large Facility** – a report for each individual facility that emits 10,000 tonnes of CO_2e or more per year.
- **Medium Facility** – a report for each individual facility that emits between 1,000 and 10,000 tonnes of CO_2e per year.
- **Small Aggregate** – one aggregate report for all individual facilities that emit less than 1,000 tonnes of CO_2e per year.

Large and Medium Facility reports require information to be specified at the facility level, while the Small Aggregate report is specified at an operation level. Some information that is required for a Large Facility or Medium Facility report is not required for the Small Aggregate report and more can be found in sector-specific guidance.

Figure 6. Types of operations and their reporting level



Legend

Large Facility: >= 10,000 tCO_2e | Medium Facility: >=1,000 to 10,000 tCO_2e | Small Aggregate: < 1,000 tCO_2e

Emission Allocation

For operations with multiple products, operators will need to allocate emissions between each product and describe the methodology used to complete the allocations. For sector-specific guidance on emission allocation, please see Part 7.

Operators will report the amount of regulated product(s) produced during the compliance period, in the units set out in the GGERR (see Appendix 1), including the methodology used to quantify the production. If applicable, operators will report the amount of product in storage at the beginning and end of the compliance period, and the amount sold or throughput at the point of sale during the compliance period. Allocation of emissions by product is used to update the PWAEI.

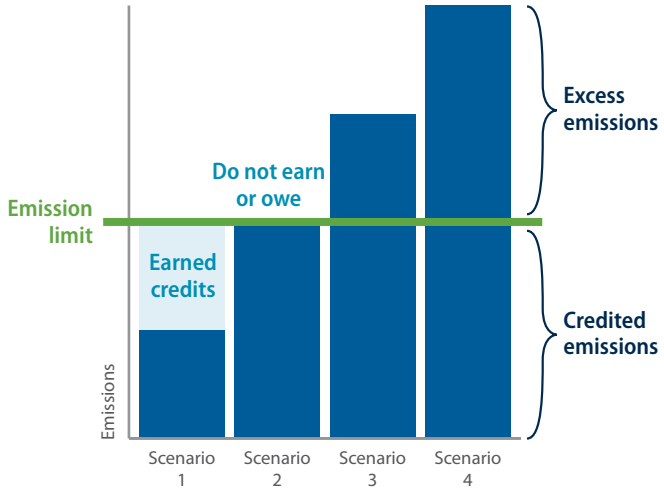
Compliance Summary

The compliance summary is generated in BCIERS based on inputs from the Annual Report and serves as the operational equivalent to the first compliance report (see Figure 3). The information generated by the BCIERS app for the compliance summary, includes:

- The calculated emission limit
- The calculated emissions attributable for compliance
- Any calculated excess emissions
- Any calculated credited emissions
- A summary of regulatory values: reduction factor, tightening rate, production-weighted average emission intensity, etc.
- A summary of each product's emissions attributable for compliance, quantified production, allocated emissions, and allocated industrial process emissions.

The compliance summary is only based on data that is provided by the operator and is not an assessment from the Ministry. Operators are responsible for ensuring that their data and calculations are correct, including the calculated emission limit, as well as any excess or credited emissions. Figure 7 illustrates the emission limit and its corresponding compliance scenarios.

Figure 7. Emission limits and compliance scenarios



VERIFICATION BODIES

All B.C. OBPS participants, including opted-in operations, will ensure that the Annual Report is verified by an accredited verification body. Verification bodies are third-party auditors that are regulated in accordance with international standards (i.e., ISO 14065).

In B.C., verification bodies are accredited by either the ANSI National Accreditation Board (ANAB) or the Standards Council of Canada (SCC). Lists of accredited verification bodies that can work in B.C. are available on the ANAB or SCC websites.

Verification bodies conduct a detailed compliance assessment of the Annual Report and help ensure that emissions and production data are reported accurately, consistently, and in accordance with regulations. Verification provides reasonable assurance to government that reports are reliable and can support operators to gain insight on how they can improve their operations.

B.C. OBPS participants should plan and prepare early for verification. The process involves a detailed review of many different types of records that have been compiled during the entire reporting period and one or more site visits.

Types of records that may be reviewed include inventory records, sales and/or purchase records, onsite and offsite delivery records, fuel measurement records, records or logs of equipment use and any other information that provide financial or direct measurement information about the emissions, product and energy data reported.

Verification bodies will conduct at least one site visit to the regulated operation as part of the process. Additionally, site visits are required for each individual facility in a linear facilities operation that emits over 10,000 tonnes of CO_2e. Site visits may be conducted in-person or virtually in accordance with the regulations.

Sign off and verification

Operation representatives will be asked to sign off on the accuracy and completion of data within the Annual Report and submit a verification statement from a third-party accredited verifier. A verified Annual Report confirms the operator's reported emissions limit.

Operation Representative means:

a) In the case of a single operator: the operator or individual authorized by the operator to act on behalf of the operator.

b) In the case of multiple operators: the individual authorized by all the operators to act on behalf of the operators.

If an annual report determines an operation had excess emissions, the operator is required to both meet that obligation and also to report on *how* it met that compliance obligation. This second compliance report, due November 30, is required under GGERR (see Figure 3) and will confirm that any compliance obligation has been met. This second compliance report will be made through the BCIERS. The compliance obligation can be met using the mechanisms outlined in Part 4. Payment and the second compliance report are due by November 30th of the submission period and does not require third-party verification. The compliance obligation charge related to the B.C. OBPS is considered administrative and not subject to BC Provincial Sales Tax, Motor Fuel Tax or Carbon Tax.

ERRORS AND CORRECTIONS

Most errors will be caught and corrected during the verification process and before reports are submitted. Some errors, however, will be discovered by the Ministry during a compliance review or inspection after submission.

Annual Reports that contain material errors or omissions will be corrected in a supplementary report within 90 days of the date the operator becomes aware of them. Material errors are defined in the regulations. Staff will work to document the errors and communicate them to the operator to ensure they can act on that information. If required by the regulations or by the Director under the GGIRCA, the operator will correct the report and have the corrections verified.

While the Ministry will work with operators to achieve compliance, there may be situations in which the Director under the GGIRCA determines whether a penalty is necessary. Penalties under the GGIRCA can apply in cases where reports do not comply with the regulations, as well as in other instances of noncompliance. Ministry staff will communicate with operators to answer questions and promote compliance with the GGIRCA as much as possible.

In addition to penalties imposed by the Director under the GGIRCA, late penalties automatically apply in cases where an operator fails to meet its compliance obligation by the deadline. Automatic late penalties increase until the compliance obligation is met. The Director under the GGIRCA will not have the power to prevent, delay, or decrease an automatic penalty.

UPDATES TO REPORTING

Supplemental Reporting

Both reporting operations and regulated operations will submit a supplementary report if the difference in attributable emissions (not including biomass listed in item 1 of schedule C) is more than the lesser of either 1% of total emissions reported, or 1000 tonnes of CO_2e. Regulated operations will also submit a supplementary report if the difference in production is equal to or greater than 0.1%.

Verification

A supplementary report for a regulated operation will include a verification statement if the difference in attributable emissions is greater than or equal to 250 tonnes of CO_2e, or if the difference in production data is greater than or equal to 0.1%.

A supplementary emission report for a reporting operation that is not a regulated operation will include a verification statement if the difference exceeds 5% of the total emissions attributable reported in the emission report.

Extended Submission Deadline

Operators now have 90 days (increased from 60 days) to submit supplementary reports after discovering an omission, inaccuracy, or change in information.

Reporting Corrections

The Director under the GGIRCA can now require corrected reports to be received by a specified date. Corrected reports will include corrections, updates, reasons for omissions or inaccuracies, and any other necessary information, as specified by the Director under the GGIRCA.

Record Keeping and Retention

Reporting operations, including regulated operations, will keep records for at least 7 years after submission. Regulated operations will now also retain records related to an Annual Report and Compliance Obligation report, including but not limited to:

- Emissions quantification
- Fuel usage
- Product quantification
- Emissions allocation

PART 7 | Sector Specific Methodologies

This section provides the methodologies for each sector and their products listed in Appendix 1 and includes:

1. Methodologies for quantifying emissions
2. Emission scope differences
3. Methodologies for quantifying production and allocating emissions to regulated products

For sectors that need to do either emission or production allocation, operators can also use the B.C. OBPS Allocation Calculator to help with estimation.

OVERVIEW OF REQUIRED INFORMATION

In addition to the emissions and related data typically required in an emission report, starting Jan 1, 2024, each regulated operation will have systems in place to monitor, collect, and measure, as applicable, additional data required to quantify and meet its compliance obligation. These include:

- For each regulated product across all sectors:
  - Amount produced (or sold, for sold heat or sold electricity) from Jan 1 to Dec 31;
  - Amount in storage on Jan 1, if applicable;
  - Amount in storage on Dec 31, if applicable;
  - Amount sold or throughput at point of sale from Jan 1 to Dec 31, if applicable;
  - Only for 2024, the amount produced (or sold, for energy products) from Apr 1 to Dec 31.
- Energy utilities are excluded from B.C. OBPS. However, operations that produce a regulated product and produce some power and sell it back may participate in the B.C. OBPS.
- For self-generated energy (hydroelectricity, other electricity, heat):
  - Amount generated includes electricity and heat sold offsite and internally consumed (GWh for electricity and GJ for heat);
  - Amount sold includes electricity and heat sold offsite (GWh for electricity and GJ for heat).
- All data which are inputs, as specified below, required to calculate regulated operation emissions and production, including methodology used.
- All data which are inputs, as specified below, required to allocate emissions to multiple products, including methodology used.
- For new entrants, additional information as specified in the GGERR s. 23(2).
- Treatment of renewable fuels (i.e. renewable diesel) covered under the Low Carbon Fuel Standard are exempt from compliance obligation for the biogenic portion of renewable fuels. Only reporting information is required.

1. ALUMINUM

Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 aluminum smelting operations are:

- WCI.020 General Stationary Combustion
- WCI.040 Electricity Generation
- WCI.070 Primary Aluminum Production
- WCI.280 Mobile Equipment at Facilities

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes

As shown in the diagram above, the regulated operation's emissions total for compliance purposes (GGERR s.23(1)(e)) differs from its attributable emissions total for reporting purposes (GGERR s.14(3)(a)) as follows[1]:

- Emissions (CO_2, CH_4, and N_2O) from combustion of fuels listed in Schedules C and C.1 of GGERR are excluded,
- Fugitive emissions are excluded. Or, equivalently,

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report} - E_{\text{Fugitive}}^{E\ Report}$$

[1] If a source type happens to belong to more than one of the following categories, it is excluded only once.

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

Since the regulated product directly corresponds to the industry product, quantifying production simply means recording the amount of:

- Produced saleable aluminum, in tonnes, where 'saleable' is defined in Schedule A.1 of GGERR to mean "produced for the purposes of sale and, for certainty, is not a byproduct or intermediate product produced during the production of a product for the purposes of sale" during the compliance period, and, only for 2024, during the period Apr 1 – Dec 31.

Emissions Allocation Methodology

There is only one regulated product. Consequently, the compliance emissions total is allocated to it:

$$E_{Aluminum}^{Compliance} = E_{Attr.}^{Compliance}$$

2. BITUMINOUS COAL

Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 bituminous coal operations are:

- WCI.020 General Stationary Combustion
- WCI.040 Electricity Generation
- WCI.280 Mobile Equipment at Facilities

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes

As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows[2]:

- Emissions (CO_2, CH_4, and N_2O) from combustion of fuels listed in Schedules C and C.1 of GGERR are excluded,
- Fugitive emissions are excluded.

Or, equivalently

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report} - E_{\text{Fugitive}}^{E\ Report}$$

[2] If a source type happens to belong to more than one of the following categories, it is excluded only once.

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

Since the regulated product directly corresponds to the industry product, quantifying production simply means recording the amount of:

- Produced saleable coal, in tonnes, where 'saleable' is defined in Schedule A.1 of GGERR to mean "produced for the purposes of sale and, for certainty, is not a byproduct or intermediate product produced during the production of a product for the purposes of sale during the compliance period, and, only for 2024, during the period Apr 1 – Dec 31.

Emissions Allocation Methodology

There is only one regulated product. Consequently, the compliance emissions total is allocated to it:

$$E_{Coal}^{Compliance} = E_{Attr.}^{Compliance}$$

3. CEMENT MANUFACTURING

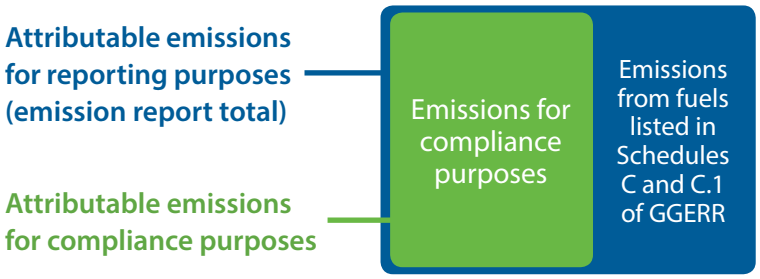
Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 operations are:

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

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes



As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows:

- Emissions (CO_2, CH_4, and N_2O) from combustion of fuels listed in Schedules C and C.1 of GGERR are excluded,

Or, equivalently,

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report}$$

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

Regulated operations will report production in tonnes of cement equivalent. To calculate production as cement equivalent, operations will need to have information on:

- Cement production C^P (tonnes) – annual and, for 2024 only, Apr 1 – Dec 31
- Clinker production CL^P (tonnes) – annual and, for 2024 only, Apr 1 – Dec 31
- Clinker sales CL^S (tonnes) – annual and, for 2024 only, Apr 1 – Dec 31
- Clinker inventories (tonnes), on January 1st, April 1st (for 2024 only), 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.

The annual cement-equivalent production is then determined as follows:

If

CE^P	(input) is cement produced (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
CUP	is clinker used to produce cement (annual amount)
CE_{eq}	is cement equivalent (annual amount)

Then

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

Where

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

In addition, only for 2024,

If

$CE^{P}{}_{Apr-Dec}$ (input) is cement produced (Apr 1 – Dec 31 amount)

$CL^{P}{}_{Apr-Dec}$ (input) is clinker produced (Apr 1 – Dec 31 amount)

$CL^{S}{}_{Apr-Dec}$ (input) is clinker sold (Apr 1 – Dec 31 amount)

$CL^{I}{}_{Apr\ 1}$ (input) is clinker amount in inventory on April 1

$CL^{I}{}_{Dec\ 31}$ (input) is clinker amount in inventory on December 31

$CUC_{Apr-Dec}$ is clinker used to produce cement (Apr 1 – Dec 31 amount)

$CE_{Apr-Dec}$ is cement equivalent (Apr 1 – Dec 31 amount)

Then

$$CE_{Apr-Dec} = CE^{P}_{Apr-Dec} \times \left(\frac{CE^{P}_{Apr-Dec}}{CUC_{Apr-Dec}} \right)$$

Where

$$CUC_{Apr-Dec} = CL^{P}_{Apr-Dec} - CL^{S}_{Apr-Dec} - \left(CL^{I}_{Dec\ 31} - CL^{I}_{Apr\ 1} \right)$$

Emissions Allocation Methodology

There is only one regulated product. Consequently, the compliance emissions total is allocated to it:

$$E^{Compliance}_{Cement-eq} = E^{Compliance}_{Attr.}$$

4. CHEMICAL MANUFACTURING

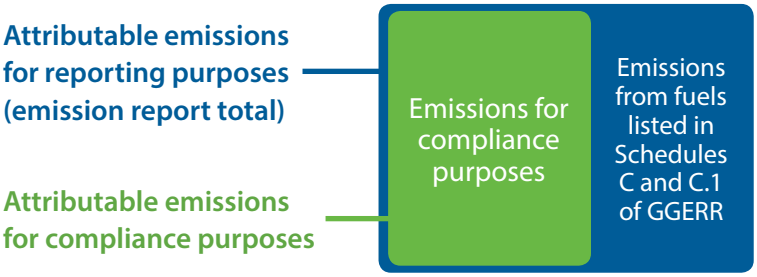
Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 chemicals operations are:

- WCI.020 General Stationary Combustion
- WCI.130 Hydrogen Production
- WCI.280 Mobile Equipment at Facilities

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes



As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows:

- Emissions (CO_2, CH_4, and N_2O) from combustion of fuels listed in Schedules C and C.1 of GGERR are excluded,

Or, equivalently,

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report}$$

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

Regulated operations will report production in tonnes of pure hydrogen peroxide.

Hydrogen Peroxide production includes all hydrogen peroxide (H_2O_2) produced during the reporting year, regardless of whether it is sold during the year or added to inventory. It does not include hydrogen peroxide sold from a previous year's production.

To calculate production as pure (100%) hydrogen peroxide, operations will need to have information, for each batch (i) of (n_B) batches produced during the compliance period, and, only for 2024, during the period Apr 1 – Dec 31, on:

- H_2O_2 production H_i^P (tonnes) for batch i
- H_2O_2 concentration HC_i (%) for batch i

The total production of 100% pure hydrogen peroxide in tonnes pure H2O2 for the compliance period is then determined as follows:

$$HP_{Pure}^{Total} = \sum_{i=1}^{n_B} \{H_i^P \times HC_i\}$$

In addition, for 2024, the total production of 100% pure hydrogen peroxide in tonnes pure

H_2O_2 during Apr 1 – Dec 31 HP $HP_{Pure}^{Apr-Dec}$ is determined using the formula above but only for the batches produced during Apr 1 – Dec 31.

Emissions Allocation Methodology

There is only one regulated product. Consequently, the compliance emissions total is allocated to it:

$$E_{Pure\ H_2O_2}^{Compliance} = E_{Attr.}^{Compliance}$$

5. GYPSUM MANUFACTURING

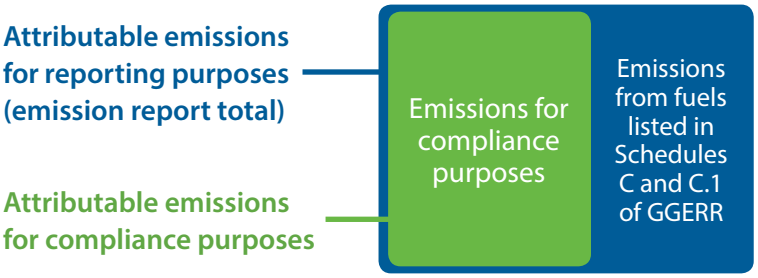
Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 gypsum operations are:

- WCI.020 General Stationary Combustion
- WCI.280 Mobile Equipment at Facilities

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes



As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows:

- Emissions (CO_2, CH_4, and N_2O) from combustion of fuels listed in Schedules C and C.1 of GGERR are excluded,

Or, equivale=ntly,

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report}$$

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

Since the regulated product directly corresponds to the industry product, quantifying production simply means recording the amount of produced gypsum wallboard (thousands square feet) during the compliance period, and, only for 2024, during the period Apr 1 – Dec 31.

Emissions Allocation Methodology

There is only one regulated product. Consequently, the compliance emissions total is allocated to it:

$$E_{Gypsum\ wallboard}^{Compliance} = E_{Attr.}^{Compliance}$$

6. LEAD-ZINC SMELTING

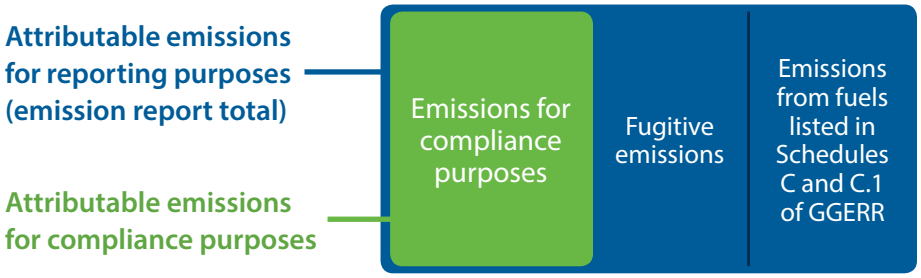
Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 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

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes



As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows[3]:

- Emissions (CO_2, CH_4, and N_2O) from combustion of biomass and fuels listed in Schedules C and C.1 of GGERR are excluded,
- Fugitive emissions are excluded.

Or, equivalently,

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report} - E_{\text{Fugitive}}^{E\ Report}$$

[3] If a source type happens to belong to more than one of the following categories, it is excluded only once.

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

Since the regulated product directly corresponds to the industry product, quantifying production simply means recording the amount of:

- Produced lead-zinc, in tonnes during the compliance period, only for 2024, during the period Apr 1 – Dec 31.

Emissions Allocation Methodology

There is only one regulated product. Consequently, the compliance emissions total is allocated to it:

$$E_{Lead-zinc}^{Compliance} = E_{Attr.}^{Compliance}$$

7. LIME MANUFACTURING

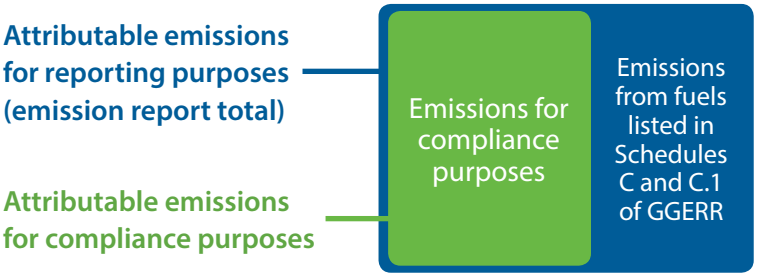
Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 lime operations are:

- WCI.020 General Stationary Combustion
- WCI.170 Lime Manufacturing
- WCI.280 Mobile Equipment at Facilities

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes



As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows:

- Emissions (CO_2, CH_4, and N_2O) from combustion of fuels listed in Schedules C and C.1 of GGERR are excluded,

Or, equivalently,

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report}$$

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

Regulated operations will report production, in tonnes, of lime at 94.5% CaO plus LKD (Lime Kiln Dust).

To calculate production of {94.5% CaO lime + LKD}, operations will need to have information, for each month (m) on:

- Lime production P_m^{Lime} (tonnes) for month
- Lime CaO content CaO_m (% fraction) for month
- LKD production P_m^{LKD} (tonnes) for month

The total production of {lime at 94.5% CaO + LKD} for the compliance period is then determined as follows:

If

P_m^{Lime} (input) is the monthly amount of lime, in tonnes;

CaO_m (input) is the associated monthly average fraction (%) of CaO in that lime;

P_m^{LKD} (input) is the monthly amount of LKD, in tonnes;

0.945 is the reference fraction of CaO (%) for lime equivalency;

Then

$$P_{94.5\%}^{Lime+LKD} = \frac{1}{0.945} * \sum_{m=1}^{12} \left(P_m^{Lime} * CaO_m\right) + \sum_{m=1}^{12} \left(P_m^{LKD}\right)$$

Also, for 2024, the total production of {lime at 94.5% CaO + LKD} during Apr 1 – Dec 31 is determined using the formula above but only for the months of April to December.

The second regulated product, limestone for sale, directly corresponds to the industry product, therefore quantifying its production simply means recording the amount of non-calcinated limestone produced for sale, out of the total limestone production, during the compliance period, and, only for 2024, during the period Apr 1 – Dec 31.

Emissions Allocation Methodology

Emissions are allocated to the two regulated products as follows:

If

$E^{dryerGSC}$ (input) are the facility's general stationary combustion emissions associated with the drying limestone for sale only;

E^{MC} (input) are the facility's mobile combustion emissions;

$P^{LS}{}_{total}$ (input) is the total limestone production;

$P^{LS_{for_{sale}}}$ (input) is the limestone for sale production, out of the total;

Then

$$E^{MC}_{LS_{for_{sale}}} = \left(\frac{P^{LS_{for_{sale}}}}{P^{LS_{total}}}\right) * E^{MC}$$

And

$$E^{Compliance}_{Limestone_{for_{sale}}} = E^{dryerGSC} + E^{MC}_{LS_{for_{sale}}}$$

$$E^{Lime+LKD}_{94.5\%} = E^{Compliance}_{Attr.} - E^{Compliance}_{Limestone_{for_{sale}}}$$

Allocation of emissions is to be reported by GSC and MC emission categories.

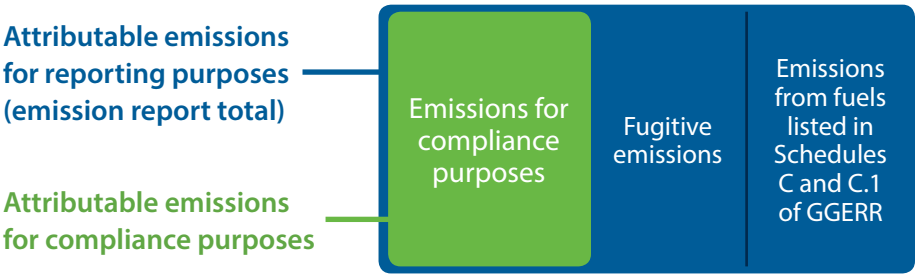
8. METAL ORE MINING SECTOR

Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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) metal ore mining smelting operations are:

- WCI.020 General Stationary Combustion
- WCI.040 Electricity Generation
- WCI.200 (203 (f)) Petroleum Storage Tanks
- WCI.200 (203 (g)) Industrial Wastewater Processing
- WCI.280 Mobile Equipment at Facilities

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes



As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows[4]:

- Emissions (CO_2, CH_4, and N_2O) from combustion of fuels listed in Schedules C and C.1 of GGERR are excluded,
- Fugitive emissions are excluded.

Or, equivalently,

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report} - E_{\text{Fugitive}}^{E\ Report}$$

[4] If a source type happens to belong to more than one of the following categories, it is excluded only once.

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

Regulated operations will report primary mineral production, in tonnes of the applicable mineral equivalent, during the compliance period, and, only for 2024, during the period Apr 1 – Dec 31.

An operation's primary mineral is the metal, ore of a metal, mineral, or ore of a mineral that yields the highest revenue on the basis of average market price. If the operation had a previously determined primary metal equivalent through participation in the CIIP, the operation's primary mineral in 2024 is the primary metal determined in the CIIP. The primary mineral determined for the 2024 compliance period remains the same for the 2024, 2025, and 2026 compliance periods.

Minerals currently mined in B.C. include, but may not be limited to, copper, gold, silver, molybdenum, lead, and zinc. The prices for each mineral are the 3-year average of the daily settlement prices per unit of mineral, over the 3-year period specified by the Director under the GGIRCA within the preceding five years, as reported by the London Metals Exchange (LME), or if there is no price on the LME, a comparable index. The LME Official Settlement Price is the last cash offer price.

The LME reports copper, lead, zinc, and molybdenum metal prices in United States Dollars per pound (USD/lb), Gold and silver are reported in United States Dollars per troy ounce (USD/ozt). Since the prices are only used as a scaling factor, the USD value will not be converted to Canadian Dollar (CAD) value.

When determining the operation's primary mineral, revenue is determined using the amount of each metal, ore of a metal, mineral, or ore of a mineral that was mined, beneficiated, or otherwise prepared by the regulated operation during the 3-year period specified by the Director under the GGIRCA within the five years preceding the reporting year, and the associated average price on the LME, or a comparable index if not on the LME, over the same period.

Total (annual) mine production in primary mineral equivalent is calculated by dividing the total revenue from all minerals by the average price of the primary mineral over the 3-year period specified by the Director under the GGIRCA in the preceding 5 years:

$$P_{Mineral_{eq}}^{(lbs\ or\ ozt)} = \frac{Total_{revenue}}{Price_{Primary\ Mineral}}$$

Where:

$P_{Mineral_{eq}}^{(lbs\ or\ ozt)}$	is the total production, during the compliance period, in primary mineral equivalent, in the same mass units of the primary mineral as its price;
$Total_{revenue}$	is the sum of estimated revenues for each mineral produced during the compliance period, in USD;
$Price_{Primary\ Mineral}$	is the is the 3-year average price of the primary mineral, in USD (per lb if copper, molybdenum, lead, zinc, or per ozt if gold, silver).

And where total revenue is determined as follows:

$$Total_{revenue}^{\text{Apr–Dec}} = \sum_{i=1}^{n_M} \left\{ P_{Mineral_i}^{\text{Apr–Dec}} \times Price_{Mineral_i} \right\}$$

Where:

$P_{Mineral_i}$	is the annual production of mineral i;
$Price_{Mineral_i}$	is the price, as defined above, of mineral i;
n_M	is the number of minerals produced.

In addition, only for 2024:

Total Apr 1 – Dec 31 production in primary mineral-equivalent is calculated by dividing the Apr 1 – Dec 31 total revenue from all minerals by the price of the primary mineral:

$$P_{Mineral_{eq}}^{\text{Apr–Dec}} = \frac{Total_{revenue}^{\text{Apr–Dec}}}{Price_{Primary\ Mineral}}$$

Where:

$P_{Mineral_{eq}}^{(lbs\ or\ ozt)}$	is the Apr 1 – Dec 31 production in primary mineral equivalent, in the same mass units of the primary mineral as its price;
$Total_{revenue}^{\text{Apr–Dec}}$	is the sum of revenues for each mineral produced during Apr 1 - Dec 31, in USD,

And where total revenue for the Apr 1 – Dec 31 period is determined as follows:

$$Total_{revenue} = \sum_{i=1}^{n_M} \left\{ P_{Mineral_i} \times Price_{Mineral_i} \right\}$$

Where:

$P_{Mineral_i}^{\text{Apr–Dec}}$	is the Apr 1 – Dec 31 production of mineral i;

Emissions Allocation Methodology

There is only one regulated product (at a time). Consequently, the compliance emissions total is allocated to it:

$$E_{Mineral-eq}^{Compliance} = E_{Attr.}^{Compliance}$$

9. OIL & GAS

Additional Required Information

For linear facilities operations and individual facilities within with emissions from pneumatic venting or flaring, fuel usage information as follows:

- Type of substance vented or flared (sweet/processed or sour/unprocessed natural gas, or other);
- The amount of each substance vented or flared (Sm^3)

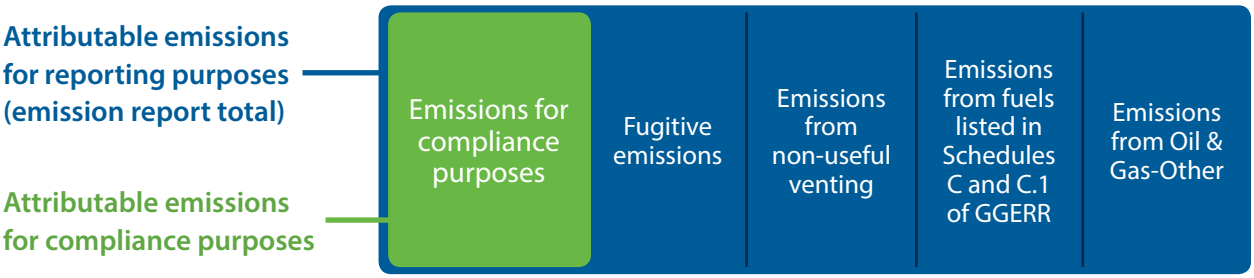
Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 oil and gas operations are:

- WCI.020 General Stationary Combustion
- WCI.040 Electricity Generation
- WCI.350 Natural Gas Transmission and Distribution
- WCI.360 Petroleum and Natural Gas Production and Natural Gas Processing

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes



As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows[5]:

- Emissions (CO_2, CH_4, and N_2O) from combustion of fuels listed in Schedules C and C.1 of GGERR are excluded,
- Emissions from non-useful venting are excluded,
- Fugitive emissions are excluded,
- Oil & Gas- Other (non-compression and non-processing) emissions are excluded.

[5] If a source type happens to belong to more than one of the following categories, it is excluded only once.

Or, equivalently

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report} - E_{\text{non-useful venting}}^{E\ Report} - E_{\text{fugitive}}^{E\ Report} - E_{\text{O\&G-Other}}^{E\ Report}$$

NOTE: Non-useful venting emissions are emissions from venting emission sources other than from the following, considered useful venting, emission sources:

- NG Distribution: NG continuous high bleed devices venting
- NG Distribution: NG continuous low bleed devices venting
- NG Distribution: NG intermittent devices venting
- NG Distribution: NG pneumatic pumps venting
- Onshore NG Transmission Compression/Pipelines: NG continuous high bleed devices venting
- Onshore NG Transmission Compression/Pipelines: NG continuous low bleed devices venting
- Onshore NG Transmission Compression/Pipelines: NG intermittent devices venting
- Onshore NG Transmission Compression/Pipelines: NG pneumatic pumps venting
- Onshore Petroleum and NG Production: NG continuous high bleed devices venting
- Onshore Petroleum and NG Production: NG continuous low bleed devices venting
- Onshore Petroleum and NG Production: NG intermittent devices venting
- Onshore Petroleum and NG Production: NG pneumatic pump venting

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

For reporting purposes, there are three distinct combinations of oil/gas facility types and oil and gas products related to regulated products (as listed in Appendix 1):

Oil/Gas facility types:

- Gas processing plant
- Compressor station
- Other

Oil/Gas products:

- Processing (sweet or sour gas)
- Compression – inlet/sales/ transmission (I/S/T)

CASE 1: Gas processing plant, no I/S/T compression (could have other compression)

- Only one (1) product applicable depending on the gas processed:
  - If sour gas: Processing sour gas – oil-equivalent
  - If sweet gas: Processing sweet gas – oil-equivalent
- Calculate oil-equivalent production (m3OE) (see below for details)
- All compliance emissions are allocated to the gas processing product (sweet or sour)

CASE 2: Gas processing plant with I/S/T compression (and could have other compression)

- 1 processing and 1 or 2 compression products applicable
- Calculate oil-equivalent production (m3OE), total energy generated, and energy consumed (MWh) for centrifugal/positive displacement compression (see below for details)
- Allocate all gas processing, including ancillary processes such as process compression, to the gas processing product – sweet or sour (see below for details)
- Allocate all I/S/T compression emissions to the respective compression products – positive displacement and/or centrifugal – in proportion to the total energy consumed.
- Report emission allocation by emission category.

CASE 3: Compressor station or another facility with non-zero emissions from compression

- 1 or 2 compression products applicable:
  - Compression, centrifugal – consumed energy
  - Compression, positive displacement – consumed energy
- Calculate total energy generated, and energy consumed (MWh) for centrifugal/positive displacement compression see below for details)
- Facility emissions not associated with compression are excluded (i.e. excluded are auxiliary gas processing activities e.g. liquid removals that emit relatively negligible GHG compared to emissions) from the facility's OBPS Facility emissions
- Allocate all I/S/T compression to the respective compression products – positive displacement and/or centrifugal – in proportion to the total energy consumed.
- Report emission allocation by emission category.

NOTE: In CASE 1 and CASE 2 (gas processing plant), the processed gas type is determined as sweet or sour based on the mole percentage composition of the input gas. At minimum, the following components will be included: CH4, C2, C3+, H2S, CO2 and H2O. Based on the annual average composition, then, the following definitions apply:

- Sour gas: If hydrogen sulfide (H2S) mole percentage is greater than or equal to two percent
- Sweet gas: If hydrogen sulfide (H2S) mole percentage is less than two percent.

Production Quantification Methodology

Regulated operations will report total oil-equivalent production (if applicable based on the CASES outlined above), in cubic metres of oil equivalent, during the compliance period, and, only for 2024, during the period Apr 1 – Dec 31.

Cubic metres of oil equivalent (m3OE) is a unit of energy based on the energy released by combusting one cubic metre (m3) of crude oil[6]. Total oil-equivalent production is calculated as the sum of oil-equivalent production for each of six industry products – natural gas, liquid propane, liquid ethane, liquid butane, NGL-mix, and Pentanes+.

The oil-equivalent production for each of the above products is calculated by multiplying the amount of product in native units by a conversion factor.

The conversion factor for natural gas depends on its high-heating value (HHV) as follows[7]:

$$Conv_{Factor_{NG}} = 0.987 * \left(\frac{HHV_{NG}}{38}\right)$$

The conversion factors for the other five products are constants and provided below.

Regulated operations will also report total energy consumed for centrifugal compression and/or positive displacement compression (if applicable based on the CASES outlined above), in MWh, during the compliance period, and, only for 2024, during the period Apr 1 – Dec 31.

The total energy consumed, for each compression type, is the sum of the energy consumed by all compressors of that type, each reported individually using one of three methods:

- Direct metering of energy consumed, in MWh; or, if not available,
- Quantification of energy consumed, in MWh, from
  - Fuel consumption and fuel HHV, assuming 35% energy generation efficiency, or
  - Rated power (MW), runtime (h), and load factor, depending on available data.

Emissions Allocation Methodology

CASE 1

There is only one regulated product (either sweet or sour gas processing). Consequently, the compliance emissions total is allocated to that regulated product:

$$E_{gas\ processing}^{Compliance} = E_{Attr.}^{Compliance}$$

[6] One barrel (42 US gallons) of crude oil is assumed to contain 5.8 MBTU, where 1 BTU = 1055.056 J. Converting to metric units yields 1 m3OE = 38.4894 GJ energy.

[7] The conversion factor for natural gas of 0.987 is based on an HHV_{NG} of 38 GJ/e3m3 of marketable gas.

CASE 2

There is one gas processing product (either sweet or sour gas processing as determined above). In addition, there are 1 or 2 compression-related products, depending on whether the facility employs compressors of both centrifugal and positive displacement type, or of just one of those types.

If

$E_{consumed}^{compr{\cdot}total}$ are the total emissions associated with energy consumed;

$P_{consumed}^{centr.}$ is the total energy consumed for centrifugal compression as determined from the data reported for all centrifugal compressors;

$P_{consumed}^{pos.displ.}$ is the total energy consumed for positive displacement compression as determined from the data reported for all compressors with positive displacement;

Then

$$E_{centr.}^{Compliance} = \left(\frac{P_{consumed}^{centr{\cdot}}}{P_{consumed}^{compr{\cdot}total}}\right) * E_{consumed}^{compr{\cdot}total}$$

$$E_{pos{\cdot}displ{\cdot}}^{Compliance} = \left(\frac{P_{consumed}^{pos{\cdot}displ{\cdot}}}{P_{consumed}^{compr{\cdot}total}}\right) * E_{consumed}^{compr{\cdot}total}$$

$$E_{gas\ processing}^{Compliance} = E_{Attr.}^{Compliance} - E_{centr.}^{Compliance} - E_{pos{\cdot}displ{\cdot}}^{Compliance}$$

CASE 3

There are 1 or 2 compression-related products, depending on whether the facility employs compressors of both centrifugal and positive displacement type, or of just one of those types. Since these are the only regulated products,

$$E_{centr.}^{Compliance} + E_{pos{\cdot}displ{\cdot}}^{Compliance} = E_{consumed}^{compr{\cdot}total} = E_{Attr.}^{Compliance}$$

Where

$$E_{centr.}^{Compliance} = \left(\frac{P_{consumed}^{centr{\cdot}}}{P_{consumed}^{compr{\cdot}total}}\right) * E_{consumed}^{compr{\cdot}total}$$

$$E_{pos{\cdot}displ{\cdot}}^{Compliance} = \left(\frac{P_{consumed}^{pos{\cdot}displ{\cdot}}}{P_{consumed}^{compr{\cdot}total}}\right) * E_{consumed}^{compr{\cdot}total}$$

10. PETROLEUM REFINERIES

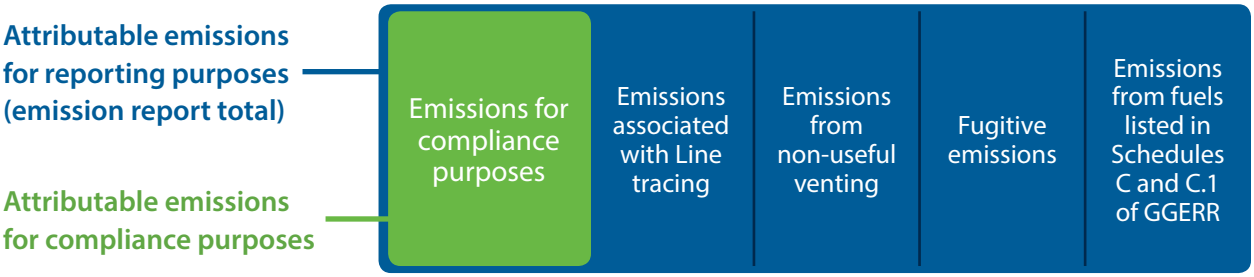
Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 petroleum refineries operations are:

- WCI.020 General Stationary Combustion
- WCI.030 Refinery Fuel Gas Combustion
- WCI.200 Petroleum Refineries
- WCI.280 Mobile Equipment at Facilities

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes



As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows[8]:

- Emissions (CO_2, CH_4, and N_2O) from combustion of fuels listed in Schedules C and C.1 of GGERR are excluded,
- Emissions associated with line tracing are excluded,
- Emissions from non-useful venting are excluded.
- Fugitive emissions are excluded

Or, equivalently,

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report} - E_{\text{Line}_{\text{tracing}}} - E_{\text{non-useful venting}}^{E\ Report} - E_{\text{fugitive}}^{E\ Report}$$

[8] If a source type happens to belong to more than one of the following categories, it is excluded only once.

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

Refinery production will be reported in B.C.-Specific Refinery Complexity Throughput (BCRCT) units.

A set of B.C.-specific refinery complexity weighting factors (BCRCFs) were developed to recognize the processing complexity and unique operating conditions of B.C. refineries. Each of these factors represents the ratio of the stated emissions intensity of a given processing unit relative to that of an atmospheric crude distillation unit. A list of these emissions intensities and corresponding BCRCFs is provided in Table 1 of Schedule A.1 of GGERR, and they are incorporated in the calculator below.

The following methodology is used to determine production in BCRCT units:

If

$BCRCF_i$ is BC-specific refinery complexity weighting factor for processing Unit_i

P^{Unit_i} is the average daily throughput in the appropriate unit of measurement for processing Unit_i (annual)

P^{BCRCT} is refinery production in BC-Specific Refinery Complexity Throughput (BCRCT) units (annual)

N is the total number of refinery processing units

Then

$$P^{BCRCT} = 365 * \sum_{i=1}^{N} \left(BCRCF_i * P^{Unit_i} \right)$$

In addition, only for 2024

$$P^{BCRCT}_{\text{Apr–Dec}} = 365 * \sum_{i=1}^{N} \left(BCRCF_i * P^{Unit_i}_{\text{Apr–Dec}} \right)$$

Where

P^{Unit_i} is the average daily throughput in the appropriate unit of measurement for processing Unit_i for the Apr 1 – Dec 31 period

Emissions Allocation Methodology

There is only one regulated product. Consequently, the compliance emissions total is allocated to it:

$$E^{Compliance}_{BCRCT} = E^{Compliance}_{Attr.}$$

11. PULP AND PAPER

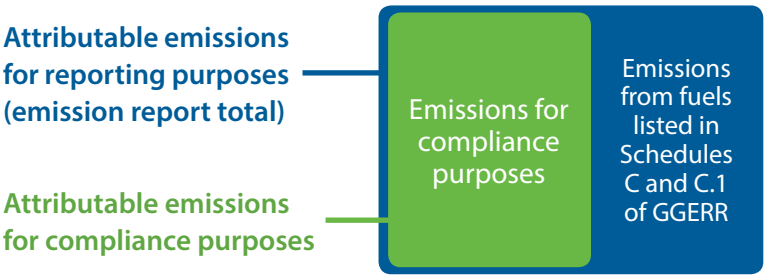
Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 pulp and paper operations are:

- WCI.020 General Stationary Combustion
- WCI.040 Electricity Generation
- WCI.210 Pulp and Paper Manufacturing
- WCI.280 Mobile Equipment at Facilities

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes



As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows[9]:

- Emissions (CO_2, CH_4, and N_2O) from combustion[10] of fuels listed in Schedules C and C.1 of GGERR are excluded,

Or, equivalently,

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report}$$

[9] If a source type happens to belong to more than one of the following categories, it is excluded only once.

[10] This includes from combustion of spent liquor even though that combustion source is otherwise classified in Schedule B as industrial process emissions.

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

Since the regulated products directly correspond to industry products, quantifying production simply means recording the amount of:

- Produced saleable air-dried chemical pulp, non-chemical pulp, paper, and tissue paper, in tonnes, where 'saleable' is defined in Schedule A.1 of GGERR to mean "produced for the purposes of sale and, for certainty, is not a byproduct or intermediate product produced during the production of a product for the purposes of sale,
- Sold electricity, in GWh, and
- Sold heat, in GJ, during the compliance period, and, only for 2024, during the period Apr 1- Dec 31.

Emissions Allocation Methodology

Emissions are allocated to the energy products according to the following methodology:

$$E_{EL} = \left[\frac{P_{EL}}{\left(\frac{e_{EL}}{e_H}\right)P_H + P_{EL}}\right] * E_{EL+H}$$

$$E_H = E_{EL+H} - E_{EL}$$

Where:

E_{EL}	are the emissions associated with all self-generated electricity (tCO_2e)
E_H	are the emissions associated with all self-generated heat (steam) (tCO_2e)
E_{EL+H}	(input) are the emissions associated with all self-generated energy (tCO_2e)
P_{EL}	(input) is total generated electricity (GJ; 1 GWh = 3600 GJ)
P_H	(input) is total generated heat (steam) (GJ)
e_{EL}	(input) is efficiency of electricity generation (default value = 0.35)
e_H	(input) is efficiency of heat (steam) generation (default value = 0.80)

And

$$E_{EL_{sold}} = \left(\frac{P_{EL_{sold}}}{P_{EL}}\right) * E_{EL}$$

$$E_{H_{sold}} = \left(\frac{P_{H_{sold}}}{P_{H}}\right) * E_{H}$$

$$E_{EL_{consumed}} = E_{EL} - E_{EL_{sold}}$$

$$E_{H_{consumed}} = E_{H} - E_{H_{sold}}$$

Also

$$E_{consumed}^{EL+H} = E_{EL_{consumed}} + E_{H_{consumed}}$$

$$E_{sold}^{EL+H} = E_{EL_{sold}} + E_{H_{sold}}$$

$$E_{EL+H} = E_{consumed}^{EL+H} + E_{sold}^{EL+H}$$

Where:

$E_{EL_{sold}}$	are the emissions associated with sold electricity (tCO_2e)
$E_{H_{sold}}$	are the emissions associated with sold heat (tCO_2e)
$P_{EL_{sold}}$	(input) is sold electricity (GJ; 1 GWh = 3600 GJ)
$P_{H_{sold}}$	(input) is sold heat (steam) (GJ)
$E_{EL_{consumed}}$	are the emissions associated with consumed electricity (tCO_2e)
$E_{H_{consumed}}$	are the emissions associated with consumed heat (tCO_2e)
$P^{EL+H}_{consumed}$	are the emissions associated with all consumed energy (tCO_2e)

Emissions are allocated to the pulp and paper products based on the share of:

- general stationary combustion excluding energy generation,
- mobile combustion,
- industrial process,
- waste emissions,
- emissions associated with electricity consumed,
- emissions associated with heat consumed,

for each product. Allocation of emissions is to be reported for each of these emission categories.

12. RENDERING

Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 rendering operations are:

- WCI.020 General Stationary Combustion
- WCI.280 Mobile Equipment at Facilities

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes

As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows[11]:

- Emissions (CO_2, CH_4, and N_2O) from combustion of fuels listed in Schedules C and C.1 of GGERR are excluded,
- General Stationary Combustion (GSC) emissions associated with refined and stored Fat, Oil and Grease (FOG) are excluded.

Or, equivalently,

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report} - E_{FOG}^{GSC}$$

[11] If a source type happens to belong to more than one of the following categories, it is excluded only once.

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

The total annual amount of "protein plus fat" produced by the rendering process in the facility, in tonnes, is calculated using the following formula:

$$P_{P+F} = P^{Blood} + P^{Fish} + P^{Porcine} + P^{Poultry} + P^{Feather} + P^{Fish\ oil} + P^{Fat} + P^{Lard}$$

Where

P^{Blood}	is the annual amount of Blood Meal, in tonnes;
P^{Fish}	is the annual amount of Fish Meal, in tonnes;
$P^{Porcine}$	is the annual amount of Porcine Meal, in tonnes;
$P^{Poultry}$	is the annual amount of Poultry Meal, in tonnes;
$P^{Feather}$	is the annual amount of Feather Meal, in tonnes;
$P^{Fish\ oil}$	is the annual amount of Fish Oil, in tonnes;
P^{Fat}	is the annual amount of Animal Fats, in tonnes;
P^{Lard}	is the annual amount of Lard, in tonnes;

In addition, only for 2024:

$$P_{P+F}^{Apr-Dec} = P_{Apr-Dec}^{Blood} + P_{Apr-Dec}^{Fish} + P_{Apr-Dec}^{Porcine} + P_{Apr-Dec}^{Poultry} + P_{Apr-Dec}^{Feather} + P_{Apr-Dec}^{Fish\ Oil} + P_{Apr-Dec}^{Fat} + P_{Apr-Dec}^{Lard}$$

Where

$P_{Apr-Dec}^{Blood}$	is the Apr 1 – Dec 31 amount of Blood Meal, in tonnes;
$P_{Apr-Dec}^{Fish}$	is the Apr 1 – Dec 31 of Fish Meal, in tonnes;
$P_{Apr-Dec}^{Porcine}$	is the Apr 1 – Dec 31 of Porcine Meal, in tonnes;
$P_{Apr-Dec}^{Poultry}$	is the Apr 1 – Dec 31 of Poultry Meal, in tonnes;
$P_{Apr-Dec}^{Feather}$	is the Apr 1 – Dec 31 of Feather Meal, in tonnes;
$P_{Apr-Dec}^{Fish\ oil}$	is the Apr 1 – Dec 31 of Fish Oil, in tonnes;
$P_{Apr-Dec}^{Fat}$	is the Apr 1 – Dec 31 of Animal Fats, in tonnes;
$P_{Apr-Dec}^{Lard}$	is the Apr 1 – Dec 31 of Lard, in tonnes;

Emissions Allocation Methodology

General Stationary Combustion (GSC) emissions associated with fat, oil, and grease (FOG) which are excluded from attribution for compliance purposes, are calculated as follows:

If

E_{onsite}^{GSC} are the reporting operation's general stationary combustion emissions;

S_{Total} is the total quantity of the steam generated onsite;

S_{FOG} is the quantity of steam used in FOG refining, unloading, storage and export;

Then

$$E_{FOG}^{GSC} = E_{onsite}^{GSC} * \left(\frac{S_{FOG}}{S_{Total}}\right)$$

There is only one regulated product. Consequently, the compliance emissions total is allocated to it:

$$E_{P+F}^{Compliance} = E_{Attr.}^{Compliance}$$

13. STEEL WIRE

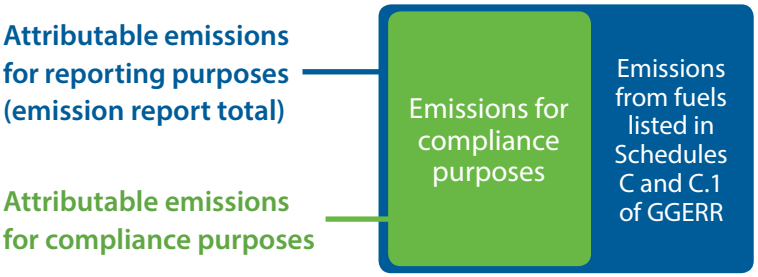
Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 steel wire operations are:

- WCI.020 General Stationary Combustion
- WCI.280 Mobile Equipment at Facilities

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes



As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows:

- Emissions (CO_2, CH_4, and N_2O) from combustion of fuels listed in Schedules C and C.1 of GGERR are excluded,

Or, equivalently,

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report}$$

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

Since the regulated products directly correspond to industry products, quantifying production simply means recording the amount of:

- Produced HDG-process steel wire, in tonnes, and
- Produced non-HDG steel wire, in tonnes,

during the compliance period, and, only for 2024, during the period Apr 1 – Dec 31.

Emissions Allocation Methodology

The following methodology is used to determine allocation of emissions between HDG-process steel wire and non-HDG steel wire:

If

E^{GSC} (input) are the facility's general stationary combustion emissions (excluding emissions from listed biomass and non-biomass fuels);

E^{MC} (input) are the facility's mobile combustion emissions (excluding emissions from listed biomass and non-biomass fuels);

$Average\ Daily\ Fuel\ {}^{Generator}_{HDG\ Only}$ is the generator's average daily fuel consumption for HDG-only production;

$Annual\ Fuel\ {}^{Generator}_{All}$ (input) is the generator's annual fuel consumption for all production;

P^{HDG} (input) is the HDG steel wire production;

P^{nonHDG} (input) is the non-HDG steel wire production;

Then

$$E_{HDG}^{GSC} = \left(\frac{365 * Average\ Daily\ Fuel\ {}^{Generator}_{HDG\ Only}}{Annual\ Fuel\ {}^{Generator}_{All}}\right) * E^{GSC}$$

And

$$E_{HDG}^{MC} = \left(\frac{P^{HDG}}{P^{nonHDG} + P^{HDG}}\right) * E^{MC}$$

Therefore

$$E_{HDG}^{Compliance} = E_{HDG}^{GSC} + E_{HDG}^{MC}$$

$$E_{nonHDG}^{Compliance} = E_{Attr.}^{Compliance} - E_{HDG}^{Compliance}$$

Emissions allocation is to be reported by emission category (General stationary combustion, mobile combustion).

14. SUGAR REFINING

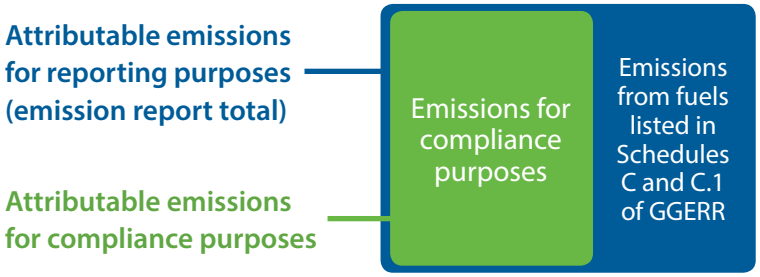
Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 sugar refining operations are:

- WCI.020 General Stationary Combustion
- WCI.040 Electricity Generation
- WCI.280 Mobile Equipment at Facilities

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes



As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows:

- Emissions (CO_2, CH_4, and N_2O) from combustion of fuels listed in Schedules C and C.1 of GGERR are excluded,

Or, equivalently,

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report}$$

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

Since the regulated products directly correspond to sums of industry products, quantifying production simply means recording:

- The sum of all solid products, P_S, in tonnes (granulated, cubes, brown, demerara, golden yellow, icing, and plantation raw), and
- The sum of all liquid products, P_L, in tonnes sold sugar content (invert, sucrose, Rogers golden syrup, Remelt syrup and molasses),

Emissions Allocation Methodology

The following methodology is used to determine emission allocation between the two products:

If

P_S	is total solid sugar production (tonnes)
P_L	is total liquid sugar production (tonnes solid sugar content)
$E^{Compliance}_{Solid\ sugar}$	are the emissions allocated to solid sugar (tCO_2e)
$E^{Compliance}_{Liquid\ sugar}$	are the emissions allocated to liquid sugar (tCO_2e)

Then

$$E^{Compliance}_{Liquid\ sugar} = \frac{0.018 * P_L + \left(\frac{P_L}{P_S}\right) * E^{Compliance}_{Attr.}}{1 + \left(\frac{P_L}{P_S}\right)}$$

$$E^{Compliance}_{Solid\ sugar} = E^{Compliance}_{Attr.} - E^{Compliance}_{Liquid\ sugar}$$

15. WOOD PRODUCTS

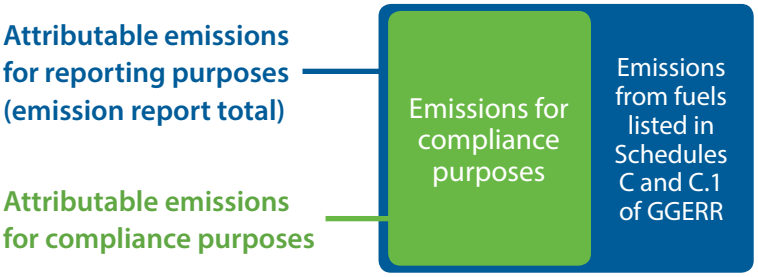
Methodologies for Quantifying Emissions and Related Information

Quantification and reporting of greenhouse gas emissions and related information will 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 wood products operations are:

- WCI.020 General Stationary Combustion
- WCI.040 Electricity Generation
- WCI.280 Mobile Equipment at Facilities

Emission Scope Differences: Totals for Reporting Versus Compliance Purposes



As shown in the diagram above, the regulated operation's emissions total for compliance purposes differs from its attributable emissions total for reporting purposes as follows[12]:

- Emissions (CO_2, CH_4, and N_2O) from combustion of fuels listed in Schedules C and C.1 of GGERR are excluded,

Or, equivalently,

$$E_{Attr.}^{Compliance} = E_{Attr.}^{E\ Report} - E_{\text{listed fuels}}^{E\ Report}$$

[12] If a source type happens to belong to more than one of the following categories, it is excluded only once.

Methodologies for Quantifying Production and Allocating Emissions to Regulated Products

Production Quantification Methodology

Since the regulated products directly correspond to industry product, quantifying production simply means recording the amount of:

- Produced, across all processing units, total saleable lumber, MDF, plywood, veneer, and wood chips (hog fuel, sawdust, trim blocks and shavings), in cubic metres, where 'saleable' is defined in Schedule A.1 of GGERR to mean produced for the purposes of sale and, for certainty, is not a byproduct or intermediate product produced during the production of a product for the purposes of sale,
- Produced, across all processing units, total saleable wood pellets, in tonnes, by using a reference density of 0.641 tonnes/m3 to convert from native units of cubic metres to tonnes,
- Sold electricity, in GWh, and
- Sold heat, in GJ, during the compliance period, and, only for 2024, during the period Apr 1 – Dec 31.

Emissions Allocation Methodology

Emissions are allocated to the energy products according to the following methodology:

$$E_{EL} = \left[\frac{P_{EL}}{\left(\frac{e_{EL}}{e_H}\right)P_H + P_{EL}}\right] * E_{EL+H}$$

$$E_H = E_{EL+H} - E_{EL}$$

Where:

E_{EL}	are the emissions associated with all self-generated electricity (tCO_2e)
E_H	are the emissions associated with all self-generated heat (steam) (tCO_2e)
E_{EL+H}	(input) are the emissions associated with all self-generated energy (tCO_2e)
P_{EL}	(input) is total generated electricity (GJ; 1 GWh = 3600 GJ)
P_H	(input) is total generated heat (steam) (GJ)
e_{EL}	(input) is efficiency of electricity generation (default value = 0.35)
e_H	(input) is efficiency of heat (steam) generation (default value = 0.80)

And

$$E_{EL_{sold}} = \left(\frac{P_{EL_{sold}}}{P_{EL}}\right) * E_{EL}$$

$$E_{H_{sold}} = \left(\frac{P_{H_{sold}}}{P_{H}}\right) * E_{H}$$

$$E_{EL_{consumed}} = E_{EL} - E_{EL_{sold}}$$

$$E_{H_{consumed}} = E_{H} - E_{H_{sold}}$$

Also

$$E_{consumed}^{EL+H} = E_{EL_{consumed}} + E_{H_{consumed}}$$

$$E_{sold}^{EL+H} = E_{EL_{sold}} + E_{H_{sold}}$$

$$E_{EL+H} = E_{consumed}^{EL+H} + E_{sold}^{EL+H}$$

Where:

$E_{EL_{sold}}$	are the emissions associated with sold electricity (tCO_2e)
$E_{H_{sold}}$	are the emissions associated with sold heat (tCO_2e)
$P_{EL_{sold}}$	(input) is sold electricity (GJ; 1 GWh = 3600 GJ)
$P_{H_{sold}}$	(input) is sold heat (steam) (GJ)
$E_{EL_{consumed}}$	are the emissions associated with consumed electricity (tCO_2e)
$E_{H_{consumed}}$	are the emissions associated with consumed heat (tCO_2e)
$P_{consumed}^{EL+H}$	are the emissions associated with all consumed energy (tCO_2e)

Emissions are allocated to the wood products based on the share of each emission category:

- emissions from general stationary combustion (excluding energy generation)
- emissions from mobile combustion,
- emissions associated with electricity consumed,
- emissions associated with heat consumed,

for each processing unit, multiplying the share, within a processing unit, of volume produced of each product. Allocation of emissions is to be reported by emission category.

Glossary

Activities: actions taken by industrial operators that result in attributable emissions.

Annual Production: amount of product generated during the year.

Annual Report: the annual report that all reporting operations submit by May 31st of the submission period to report emissions data, production data, allocation of emissions and compliance summary.

Attributable Emissions: emissions that are directly emitted as a result of industrial activities included in the GGERR, such as general stationary combustion.

Compliance Mechanisms:

1) Compliance Units:
    a. Earned credits: credits that are issued to an operation when their emissions are verified to be below their emission limit. Earned credits can be used to meet future compliance obligations or sold to another operation.
    b. Offset units: verified units that represent emission reductions and removals generated from approved B.C. carbon offset projects. The amount of offset that can be used against an operation's compliance obligation will be limited.
2) Direct payment: a monetary payment to meet the operation's compliance obligations at the full carbon price for that year (for example, $170/tonne CO_2e for 2030).

Compliance Obligation: the requirement for an operation to emit less than or equal to the emission limit for a compliance period, or else to pay for any excess emissions above the emission limit by making a monetary payment or using a limited number of compliance units.

Compliance period: refers to the calendar year which the reporting operations including regulated operations has been emitting greenhouse gases and has a compliance obligation, also sometimes referred to as the reporting period.

Compliance Obligation Report: includes information needed to assess whether a regulated operation with excess emissions has met its compliance obligation and is due November 30th of the submission period.

Copper-equivalent: for any regulated mining operation focused on copper, the total amount of marketable minerals produced is calculated as: (a)total tonnes of copper extracted, processed, or prepared by the operation (b)total tonnes of any other minerals produced by the operation, adjusted to match the value of copper using average market prices. This total represents the combined production of copper and other minerals, expressed in terms of copper's market price.

Critical Mineral: means a mineral listed in Appendix 5.

Critical Mineral Mining: the mining, beneficiation or other preparation of a mineral, or an ore of a mineral by a regulated operation if the operation's primary mineral is a critical mineral.

Date of First Shipment: date on which an industrial operation transports its first shipment of a regulated product from the operation for delivery:

a) to a commercial purchaser of the product for consumption or resale,

b) to another regulated operation that is to refine or otherwise add commercial value to the product, or,

c) outside of British Columbia.

Director under the GGIRCA: Statutory Decision Maker for the *Greenhouse Gas Industrial Reporting and Control Act*.

Emission category: a grouping of source types, as listed in column 2 of the table in Schedule B of the GGERR.

Gas type: a specific greenhouse gas, such as carbon dioxide, methane, and nitrous oxide, among others.

Energy Utility: an industrial operation involved in the production, generation, storage, transmission, sale, delivery or provision of electricity, natural gas, steam or any other agent for the production of light, heat, cold or power to or for the public or companies for payment. However, this does not include: (a) an industrial operation involved in extracting and processing oil and gas. (b) common carrier within the meaning of section 65 of the Utilities Commission Act.

Emission Limit: for one-product operations, the regulated operation's annual production multiplied by the appropriate reduction factor and its production-weighted average emissions intensity. For multi-product operations, it means the sum of emission limits for each regulated product for the operation.

Facility: includes all buildings, structures, stationary items and equipment that are

i) are located or used primarily on a single site, contiguous sites or adjacent sites,

ii) are controlled and directed by the same person, and

iii) function as a single integrated site. Includes wastewater collection and treatment systems, storage of petroleum or natural gas products at a terminal and mobile equipment that is primarily at the site.

Gold Equivalent: for regulated operations focused on gold, the total marketable minerals are calculated as follows: (a) the total tonnes of gold extracted, processed or prepared by the operation. (b) the total equivalent tonnes of any other minerals produced by the operation, adjusted to reflect their values as if they were gold based on average market prices.

Individual Facility: refers to an individual facility within a linear facilities operation.

Industrial Operation: one or more facilities, or a prescribed activity, to which greenhouse gas emissions are attributable.

Linear-facilities operation (LFO): is a reporting operation where oil and gas activities are carried out at one or more (typically smaller) facilities that are controlled and directed by the same operator. For example, multiple well sites or a pipeline.

New Entrant: a designation for a newly constructed regulated operation whose date of first shipment is on or after January 1, 2022, and who does not owe for excess emissions, nor earn credits, for the duration of its new entrant period.

OBPS Facility: means a regulated operation or a part of a regulated operation submitting a separate compliance report, which is one of the following:

(i) A single facility operation (SFO);

(ii) An individual facility within a LFO which emits >= 10,000 tonnes of CO_2e;

(iii) An individual facility within a LFO which emits >= 1,000 tonnes of CO_2e and < 10,000 tonnes of CO_2e

(iv) The aggregate of all individual facilities within an LFO emitting <1,000 t CO_2e each

Operation Representative: (a) for a single operator is the operator or individual authorized to act on behalf of the operator in relation to the administration of GGERR. (b) for multiple operators is the individual authorized by all the operators to act on behalf of all the operators in relation to the administration of GGERR.

Opted-in operation: an industrial operation that produces a regulated product and emits less than 10,000 tonnes of CO_2e annually that voluntarily participates in the B.C. OBPS.

Payment period: the period of time between the due dates of the Annual Report (May 31st) and the Compliance Obligation Report (November 30th) of every submission period.

Primary metal: for regulated operations that processes metals or metal ores: (a)if the operation processes only one type of metal or metal ore, that metal is the focus. (b)if the operation processes more than one type of metal or metal ore, the primary metal is the one that generates the most revenue, based on average market price.

Primary mineral: for regulated operations that processes minerals or mineral ores: (a) the operation handles metals or metal ores, the primary focus is the main metal produced by the operation. (b)in all cases the main mineral is the one that generates the highest revenue for the operation, based on average market price.

Production: the amount of regulated product produced during a compliance period in the correct units.

Production-Weighted Average Emission Intensity: means, for a product, the published B.C. production-weighted average emission intensity (PWAEI) for that product found in Schedule A.1 of the GGERR.

Reduction Factor: determines the percentage of priced emissions for a specific product.

Regulated operation: regulated operations are reporting operations that produce, or are designed and constructed to produce, a regulated product and will participate in the B.C. OBPS. Regulated operations have a compliance obligation to emit less than their annual emissions limit, or else pay for any excess emissions above their annual emission limit.

Reporting operation: industrial operations that emit 10,000 or more tonnes of CO_2e in attributable emissions under section 3 of GGERR in a calendar year and will report their emissions to ENV.

Reporting period: same as compliance period (see above).

Regulated Product: a product as defined by the B.C. OBPS and published in Schedule A.1, Table 2, column 2 in GGERR or in Appendix 1.

Single-facility operation (SFO): is a reporting operation where specified industrial activities are carried out at a single facility by an operator. For example, a mine or a pulp mill.

Submission period: the year following the compliance period that reporting operations submit data through an Annual Report, and if necessary, a Compliance Obligation report.

Source type: a source of greenhouse gas emissions, as identified in column 3 of table 1 and 2 of Schedule A of the GGERR.

Sour gas: means natural gas that contains 2% or more by mole fraction, hydrogen sulphide .

Sweet gas: means natural gas that contains less than 2% by mole fraction, hydrogen sulphide.

Tightening Rate: tightening rates are planned, yearly, gradual increases to B.C. OBPS stringency and applied to the product's reduction factor.

Tonnes of CO_2e: tonnes of carbon dioxide equivalent.

Waste: unwanted or unusable residual material that is a result of industrial activities. Waste includes wastewater and products that are of a lower grade that are unsalable.

Appendices

APPENDIX 1. LIST OF REGULATED PRODUCTS, NAICS, AND UNITS FOR THE B.C. OBPS BY SECTOR

Sector	NAICS	Regulated product(s)	Unit
Aluminum	331313: Primary Production of Alumina and Aluminum	Smelting: Aluminum	Tonne saleable aluminum
		Sold Electricity	GWh
Bituminous coal	212114: Bituminous Coal Mining	Mining: Coal	Tonne saleable coal
Cement	327310: Cement Manufacturing	Cement equivalent	Tonne cement equivalent
Chemical manufacturing	325189: All Other Basic Inorganic Chemical Manufacturing	Chemicals: Pure hydrogen peroxide	Tonne per hydrogen peroxide
Critical minerals	212***: Smelting and Refining 331***: Mining	See Appendix 5	N/A
Gypsum manufacturing	327420: Gypsum Product Manufacturing	Gypsum wallboard	Thousand square feet
Lead-zinc	331410: Non-Ferrous Metal (except Aluminum) Production and Processing	Smelting: Lead-Zinc	Tonne lead-zinc
		Sold Electricity	GWh
Lime manufacturing	327410: Lime Manufacturing	Lime at 94 .5% CaO and Lime Kiln Dust	Tonne lime@94 .5% CaO + LKD
		Limestone for sale	Tonne limestone
Metal Ore Mining	212233: Copper-zinc Ore Mining 212220: Gold and Silver Ore Mining	Mining – Copper equivalent, open pit	Tonne copper equivalent
		Mining – Copper equivalent, underground	
		Mining- Gold equivalent	Tonne gold equivalent
Oil and Gas*	2111110: Oil and Gas Extraction (except oil sands) 486210: Pipeline Transportation of Natural Gas Sub-sectors: Natural Gas Processing Plants Natural Gas Compressor Stations	Processing sour gas – oil-equivalent	Cubic meter oil-equivalent
		Processing sweet gas – oil-equivalent	
		Compression, centrifugal – consumed energy	MWh consumed energy
		Compression, positive displacement – consumed energy	
Petroleum refineries	324110: Petroleum Refiners	B.C.-specific Refinery Complexity Throughput	BCRCT
Pulp and Paper	322111: Mechanical Pulp Mills 322112: Chemical Pulp Mills 322121: Paper (except newsprint) Mills 322122: Newsprint Mills 322130: Paperboard Mills	Pulp and Paper: Chemical Pulp	Tonne saleable dry chemical pulp
		Pulp and Paper: Non-chemical pulp	Tonne saleable dry non-chemical pulp
		Pulp and Paper: Paper (except newsprint)	Tonne saleable paper
		Pulp and Paper: Tissue Paper	Tonne saleable tissue paper
		Sold electricity	GWh
		Sold heat	GJ

Sector	NAICS	Regulated product(s)	Unit
Rendering	311614: Rendering and Meat Processing Sub sector: Food Manufacturing, Animal Slaughtering and Processing	Rendering and meat processing: Protein and Fat (P+F)	Tonne protein and fat
Manufacturing	331511:Primary Metal Manufacturing	Forged steel balls: greater than 4 inches and less than 3.5 inches	Tonne forged steel balls
Steel Wire	331222: Steel Wire Production	Steel wire: HDG-process (hot dip galvanization)	Tonne hot dip galvanization wire
		Steel wire: Non-HDG	Tonne Non-HDG wire
Sugar Refining	311310: Sugar Manufacturing	Sugar: Solid	Tonne solid sugar
		Sugar Liquid	Tonne solid sugar content
Wood Products	32111: Sawmills (except Shingle and Shake Mills) 3211112: Shingle and Shake Mills 321212: Softwood veneer and plywood mills 321216: Particle board and fibreboard mills 321999: All other miscellaneous wood product manufacturing	Wood products: Lumber	Cubic metre saleable lumber
		Wood products: Medium density fibreboard	Cubic metre saleable MDF
		Wood products: Plywood	Cubic metre saleable plywood
		Wood products: Veneer	Cubic metre saleable veneer
		Wood products: Wood chips	Cubic metre saleable wood chips
		Wood products: Wood pellets	Tonne saleable wood pellets
		Sold electricity	GWh
		Sold heat	GJ

*Liquified Natural Gas (LNG) and Renewable Diesel information is not available at this time.

**Critical Mineral Mining and Critical Mineral Smelting information is limited at this time.

APPENDIX 2. NAICS INDUSTRY SECTOR EXCLUDED FROM THE B.C. OBPS

NAICS Codes			
NAICS Code	NAICS Sector	GGIRCA/GGERR – Reporting	BC OBPS – Compliance
11	Agriculture, forestry, fishing, and hunting	Yes	No
22	Utilities	Yes	No
562	Waste management and remediation services	Yes	No

APPENDIX 3. FUEL TYPES EXCLUDED FROM THE B.C. OBPS

Fuel Types		
Fuel Type	**GGIRCA/GGERR – Reporting**	**BC OBPS – Compliance**
Woody biomass	Yes	No
Biodiesel	Yes	No
Bone char – organics	Yes	No
Digester gas	Yes	No
Ethanol	Yes	No
Landfill gas	Yes	No
Municipal solid waste – biomass component	Yes	No
Renewable diesel	Yes	No
Renewable natural gas	Yes	No
Solid byproducts	Yes	No
Acetylene	Yes	No
Carpet fibre	Yes	No
E-waste	Yes	No
Explosives	Yes	No
Isobutylene	Yes	No
Lubricants	Yes	No
Municipal solid waste – non-biomass component	Yes	No
Trona	Yes	No
Plastics	Yes	No
Propylene	Yes	No
SMR PSA tail gas	Yes	No
Sodium bicarbonate	Yes	No

APPENDIX 4. EMISSION CATEGORIES

Emission Categories		
Emission Category	**GGIRCA/GGERR – Reporting**	**BC OBPS – Compliance**
Flaring	Yes	Yes
Fugitive	Yes	No
General Stationary Combustion	Yes	Yes
Industrial Process	Yes	Yes
On-Site Transportation	Yes	Yes
Venting	Yes	(see below)
Non-Useful venting	Yes	No
Useful venting	Yes	Yes
Waste	Yes	Yes
Wastewater	Yes	Yes
Fat, oil and grease collection, refining and storage	Yes	Yes
Useful Venting – Emission Source Type		
Onshore NG Transmission Compression/Pipelines: NG intermittent devices venting		
Onshore NG Transmission Compression/Pipelines: NG continuous low bleed devices venting		
Onshore NG Transmission Compression/Pipelines: NG continuous high bleed devices venting		
Onshore NG Transmission Compression/Pipelines: NG pneumatic pumps venting		
Onshore Petroleum and NG Production: NG continuous low bleed devices venting		
Onshore Petroleum and NG Production: NG pneumatic pump venting		
Onshore Petroleum and NG Production: NG continuous high bleed devices venting		
Onshore Petroleum and NG Production: NG intermittent devices venting		
LNG Activities: NG continuous low bleed devices venting		
LNG Activities: NG pneumatic pump venting		
LNG Activities: NG continuous high bleed devices venting		
LNG Activities: NG intermittent devices venting		

APPENDIX 5. LIST OF 25 CRITICAL MINERALS

Item	Critical Mineral
1	Aluminum
2	Antimony
3	Bismuth
4	Chromite
5	Cobalt
6	Copper
7	Fluorspar
8	Germanium
9	Graphite
10	Indium
11	Lithium
12	Magnesium
13	Manganese
14	Molybdenum
15	Nickel
16	Niobium
17	Platinum group metals
18	Rare Earth Metals
19	Tantalum
20	Tellurium
21	Tin
22	Titanium
23	Tungsten
24	Vanadium
25	Zinc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