CleanBC Industrial Incentive Program

Lime Sector Guidance

This guidance applies to reporting operations with primary NAICS codes as follows:

- NAICS – 327410: Lime Manufacturing

Sub-Sector: Lime and Lime Kiln Dust Production

CIIP Product: Lime and lime kiln dust

NOTE: Limestone for sale is not considered in the benchmark above for CIIP purposes. Therefore, the reporting operation emissions must be allocated between it and the CIIP product, as described in the section on emission allocation.

In addition to this guidance document, the ministry provides a spreadsheet with the appropriate calculation formulas built in, to assist in calculating inputs for the CIIP application (available via e-mail and webpage).

Quantification and Reporting of Emissions and Related Information

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

The WCI methodologies typically applicable to lime and LKD producing reporting operations include, but may not be limited to, the following:

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

Emissions associated with purchased electricity consumed at the reporting operation must not be included in the emissions total for CIIP purposes.

\[ E^{CIIP} = E_{\text{Onsite}} - E^GSC_{LS,sale} - E^{MC}_{LS,sale} \]
where $E_{\text{Onsite}}$ is the reporting operation’s emissions total as required to be reported under GGIRCA and submitted in the Single Window Reporting System, and $E_{\text{LS\_sale}}^{SC}$ and $E_{\text{LS\_sale}}^{MC}$ are as defined and calculated in the sections below.

### Quantification of Production

Applicants to the CIIP must report the amount of:

- Lime production, as lime equivalent at 94.5% Calcium Oxide (CaO) content, in tonnes;
- Lime kiln dust (LKD) production, in tonnes;
- Total limestone production, in tonnes;
- Produced limestone for sale out of total limestone (i.e. not used to produce L+LKD), in tonnes.

The amount of lime and LKD is the sum of all lime (as lime equivalent at 94.5% CaO) and all LKD production, in tonnes:

$$P_{L+LKD} = P_{\text{lime}}^{94.5\% \text{ CaO}} + P_{\text{LKD}}$$

where

$$P_{\text{lime}}^{94.5\% \text{ CaO}} = \frac{1}{0.945} \sum_{m=1}^{12} \left( Q_{m}^{\text{lime}} \times CaO_{m}^{fr} \right)$$

where

- $Q_{m}^{\text{lime}}$ is the monthly amount of lime, in tonnes (from emissions reports);
- $CaO_{m}^{fr}$ is the associated monthly average fraction of CaO in that lime (from emissions reports);
- 0.945 is the reference fraction of CaO (94.5%) for lime equivalency.

The amounts above must include all lime, LKD, limestone and limestone for sale produced during the reporting year, regardless of whether it is sold during the year or added to inventory. It does not include amounts sold from a previous year’s production.

### Emission Allocation between Products

Applicants to CIIP must allocate GHG emissions between the following:

- Lime and lime kiln dust, L+LKD (the CIIP product)
- Limestone for sale, LS\_sale (the non-CIIP product)
All process emissions must be allocated to L-LKD production.

When a dryer is used to dry limestone for sale, all general stationary combustion emissions associated with the drying process must be allocated to limestone for sale:

\[ E_{L_{sale}}^{GSC} = E^{dryerGSC} \]

where

\[ E^{dryerGSC} \] are the reporting operation’s stationary combustion emissions associated with the drying process only;

On-site transportation (mobile combustion) emissions \( E_{L_{sale}}^{MC} \) allocated to limestone for sale must be quantified as follows:

\[ E_{L_{sale}}^{MC} = \left( \frac{P_{L_{sale}}}{P_{L_{Total}}} \right) * E^{MC} \]

where

\[ E^{MC} \] are the reporting operation’s total mobile combustion emissions

\[ P_{L_{Total}} \] is total limestone production (tonnes)

\[ P_{L_{sale}} \] is limestone for sale, out of total limestone produced (tonnes)

**Emission Intensity**

For the purposes of CIIP, the Emission Intensity of lime and LKD \( EI_{L+LKD} \) will be calculated as:

\[ EI_{L+LKD} = \frac{E^{CIIP}}{P_{L+LKD}} \]