

Subpart H, Greenhouse Gas Reporting Program

Under the Greenhouse Gas Reporting Program (GHGRP), owners or operators of facilities that contain cement production processes (as defined below) must report emissions from cement production processes and all other source categories located at the facility for which methods are defined in 40 CFR Part 98. Owners and operators are required to collect emission data; calculate GHG emissions; and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting per the requirements of 40 CFR Part 98 Subpart H – Cement Production.

How Is This Source Category Defined?

The cement production source category consists of each kiln and each in-line kiln/raw mill at any portland cement manufacturing facility, including alkali bypasses and kilns and in-line kilns/raw mills that burn hazardous waste.

What Greenhouse Gases Must Be Reported?

Cement production facilities must report the following emissions:

- Carbon dioxide (CO₂) process emissions from calcination in each kiln.
- CO₂ combustion emissions from each kiln.
- Nitrous oxide (N₂O) and methane (CH₄) combustion emissions from each kiln. Report these emissions under 40 CFR part 98 subpart C (General Stationary Fuel Combustion Sources). The information sheet on General Stationary Fuel Combustion Sources summarizes the rule requirements for calculating and reporting emissions from these units.
- CO₂, N₂O, and CH₄ emissions from each stationary combustion unit other than kilns. Report these emissions under 40 CFR part 98 subpart C (General Stationary Fuel Combustion Sources).

How Must Greenhouse Gas Emissions Be Calculated?

Cement production facilities must calculate and report CO₂ emissions from each kiln using one of the following two methods:

- For kilns that meet the requirements in 40 CFR 98.33(b)(4)(ii) or (b)(4)(iii) for continuous emission monitoring systems (CEMS), the owner or operator must calculate and report the combined CO₂ emissions from calcination and fuel combustion by operating and maintaining a CEMS to measure CO₂ emissions in accordance with the Tier 4 calculation methodology of 40 CFR part 98 subpart C.
- For other kilns, owners or operators can elect to either:
 - Install and operate a CEMS to measure combined calcination and fuel combustion CO₂ emissions according to the Tier 4 methodology specified in 40 CFR 98 subpart C, or
 - Calculate and report annual process CO₂ emissions as the sum of annual clinker emissions and annual raw material emissions:
 - Annual clinker emissions from each kiln are calculated using:
 - Monthly clinker production (measurement required).
 - A monthly kiln-specific clinker emission factor calculated from the monthly carbonate and noncarbonate content of the clinker (measurement required).
 - Quarterly cement kiln dust (CKD) not recycled, i.e., discarded (measurement required).

- A quarterly kiln-specific CKD emission factor for CKD not recycled to the kiln (measurement or default values).
- Annual raw material emissions are calculated using:
 - The annual consumption of raw materials or raw kiln feed.
 - The organic carbon content of the raw material or raw kiln feed (or a default value of 0.2 percent of total raw material weight may be used).

A checklist for data that must be monitored is available at:

<https://www.epa.gov/ghgreporting/subpart-h-checklist>

Any portland cement manufacturing facility meeting the criteria 40 CFR 98.2(a)(1) through (3) in 2010 or any calendar year thereafter must begin monitoring and reporting GHG emissions in accordance with the methods specified in subpart H.

What Information Must Be Reported?

In addition to the information required by the General Provisions at 40 CFR 98.3(c), each portland cement manufacturing facility must report the following information:

If a CEMS is used to measure CO₂ emissions, report under this subpart the relevant information required by 40 CFR 98.36 for the Tier 4 calculation methodology and the following information:

- Monthly clinker production from each kiln.
- Annual cement production from each kiln.
- Number of kilns and number of operating kilns.

If a CEMS is not used to measure CO₂ emissions, report the following information for each kiln:

- Kiln identification number
- Annual cement production.
- Number of kilns and number of operating kilns.
- Method used to determine non-calcined CaO and non-calcined MgO in clinker.
- Method used to determine non-calcined CaO and non-calcined MgO in CKD.
- Quarterly kiln-specific CKD CO₂ emission factors (metric tons CO₂/metric ton CKD produced).
- Name of raw kiln feed or raw material.
- Number of times missing data procedures were used to determine the following information:
 - Clinker production (number of months).
 - Carbonate contents of clinker (number of months).
 - Non-calcined content of clinker (number of months).
 - CKD not recycled to kiln (number of quarters).
 - Non-calcined content of CKD (number of quarters).
 - Organic carbon contents of raw materials (number of times).
 - Raw material consumption (number of months).
- Method used to determine the monthly clinker production from each kiln.
- Annual clinker production (metric tons)
- Annual average clinker CO₂ emission factor for the facility, averaged across all kilns (metric tons CO₂/metric ton clinker produced).

- Annual average CKD CO₂ emission factor for the facility, averaged across all kilns (metric tons CO₂/metric ton CKD produced).

Facilities must enter required data into the electronic Greenhouse Gas Reporting Tool (e-GGRT) to be reported in the annual report, and must also enter into e-GGRT's Inputs Verifier Tool (IVT) the inputs to emission equations for which reporting is not required. IVT uses these entered data to calculate the equation results.

When and How Must Reports Be Submitted?

Annual reports must be submitted by March 31 of each year, unless the 31st is a Saturday, Sunday, or federal holiday, in which case the reports are due on the next business day. Annual reports must be submitted electronically using [e-GGRT](#), the GHGRP's online reporting system. Additional information on setting up user accounts, registering a facility and submitting annual reports is available at <https://ccdsupport.com/confluence/>.

When Can a Facility Stop Reporting?

There are several scenarios under which a facility may discontinue reporting. These scenarios are summarized in the [Subpart A Information Sheet](#) as well as in an [FAQ](#).

For More Information

For additional information on Subpart H, visit the [Subpart H Resources](#) webpage. For additional information on the Greenhouse Gas Reporting Program, visit the [Greenhouse Gas Reporting Program Website](#), which includes information sheets on other rule subparts, [data](#) previously reported to the Greenhouse Gas Reporting Program, [training materials](#), and links to [frequently asked questions](#).

This document is provided solely for informational purposes. It does not provide legal advice, have legally binding effect, or expressly or implicitly create, expand, or limit any legal rights, obligations, responsibilities, expectations, or benefits in regard to any person. The series of information sheets is intended to assist reporting facilities/owners in understanding key provisions of the Greenhouse Gas Reporting Program.