

Zinc Production



Final Rule: Mandatory Reporting of Greenhouse Gases

Under the Mandatory Reporting of Greenhouse Gases (GHGs) rule, owners or operators of facilities that contain zinc production processes (as defined below) and that emit 25,000 metric tons or more of GHGs per year (expressed as carbon dioxide equivalents) from stationary combustion, zinc production processes, and all other source categories (see information sheet on General Provisions) must report emissions from all source categories located at the facility for which emission calculation methods are defined in the rule. Owners or operators are required to collect emission data; calculate GHG emissions; and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting.

How Is This Source Category Defined?

Zinc production facilities consist of zinc smelters and secondary zinc recycling facilities.

What GHGs Must Be Reported?

Each zinc production facility must report:

- Carbon dioxide (CO₂) process emissions from each Waelz kiln and electrothermic furnace used for zinc production.
- CO₂ combustion emissions from each Waelz kiln and electrothermic furnace used for zinc production.
- Nitrous oxide (N₂O), and methane (CH₄) combustion emissions from each Waelz kiln. Calculate and report these emissions under 40 CFR part 98, subpart C (General Stationary Fuel Combustion Sources).
- CO₂, N₂O, and CH₄ combustion emissions from each stationary combustion unit other than Waelz kilns under 40 CFR part 98, subpart C (General Stationary Fuel Combustion Sources).

In addition, each facility must report GHG emissions for other source categories for which calculation methods are provided in the rule. Please refer to the relevant information sheet for a summary of the rule requirements for calculating and reporting emissions from any other source categories at the facility.

How Must GHG Emissions Be Calculated?

Calculate CO₂ process emissions from each Waelz kiln and electrothermic furnace by using one of two methods, as appropriate:

- Installing and operating a continuous emission monitoring system (CEMS) to measure combined process and combustion CO₂ emissions by following the requirements of 40 CFR part 98, subpart C (General Stationary Fuel Combustion Sources).
- Calculating the process CO₂ emissions using the following measurements:
 - Annual mass of each carbon-containing input material consumed (e.g., flux material, carbon electrodes, and other carbonaceous material).
 - Average carbon content of each material consumed or used in the calendar year.

However, if process CO₂ emissions from a Waelz kiln or electrothermic furnace are emitted through the same stack as a combustion unit or process equipment that uses a CEMS and follows Tier 4 methodology in subpart C to report CO₂ emissions, then the CEMS must be used to measure and report combined CO₂ emissions from that stack, instead of the calculation procedure described below.

A checklist for data that must be monitored is available at:
www.epa.gov/climatechange/emissions/downloads/checklists/zincproduction.pdf.

When Must Reports be Submitted?

The submission date for the annual GHG report can vary in the first 3 years of the program.

- Reporting Year 2010. The report was required to be submitted by September 30, 2011.
- Reporting Year 2011. The due date depends on which source categories are included in the report. If the report includes one or more of the source categories listed below, then the report must be submitted by September 28, 2012. This reporting deadline applies to all subparts being reported by the facility. In addition, if the facility contains one or more of these source categories and the facility submitted a GHG annual report for reporting year 2010 under another subpart (e.g., subpart C for general stationary fuel combustion), then by April 2, 2012 you must notify EPA through e-GGRT that you are not required to submit the second annual report until September 28, 2012 (the notification deadline according to 4 CFR 98.3(b) is March 31, 2012, however, because this date falls on a Saturday in 2012, the notification is due on the next business day).
 - Electronics Manufacturing (subpart I)
 - Fluorinated Gas Production (subpart L)
 - Magnesium Production (subpart T)
 - Petroleum and Natural Gas Systems (subpart W)
 - Use of Electric Transmission and Distribution Equipment (subpart DD)
 - Underground Coal Mines (subpart FF)
 - Industrial Wastewater Treatment (subpart II)
 - Geologic Sequestration of Carbon Dioxide (subpart RR)
 - Manufacture of Electric Transmission and Distribution (subpart SS)
 - Industrial Waste Landfills (subpart TT)
 - Injection of Carbon Dioxide (subpart UU)
 - Imports and Exports of Equipment Pre-charged with Fluorinated GHGs or Containing Fluorinated GHGs in Closed-cell Foams (subpart QQ)

If the report contains none of the source categories listed above, then the report must be submitted by April 2, 2012 (the deadline is March 31, 2012, however, because this date falls on a Saturday, the annual report is due on the next business day).

- Reporting Year 2012. Starting in 2013 and each year thereafter, the report 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.

What Information Must Be Reported?

In addition to the information required by the General Provisions at 40 CFR 98.3(c), each annual report must include the following information:

If a CEMS is used to measure emissions, then under this subpart the relevant information required under 40 CFR subpart C for the Tier 4 Calculation Methodology and the following information must be reported:

- Annual zinc product production capacity (tons).
- Annual production quantity for each zinc product (tons).
- Number of Waelz kilns at each facility used for zinc production.
- Number of electrothermic furnaces at each facility used for zinc production.

If a CEMS is not used to measure CO₂ emissions, then for each individual Waelz kiln or electrothermic furnace, the information listed below must be reported:

- Annual process CO₂ emissions (metric tons).
- Annual zinc product production capacity (tons).
- Annual production quantity (tons).
- Number of Waelz kilns at each facility used for zinc production.
- Number of electrothermic furnaces at each facility used for zinc production.
- Annual mass of each carbon-containing input material charged to each kiln or furnace, including zinc-bearing material, flux material (e.g. limestone, dolomite), carbon electrodes, and other carbonaceous materials (e.g., coal, coke)(tons).
- Annual average carbon content of each carbon-containing input material charged to each kiln or furnace (percent by weight, expressed as a decimal fraction).
- Whether carbon content of each carbon-containing input material charged to each kiln or furnace is based on reports from the supplier or through self measurement using applicable American Society for Testing and Materials (ASTM) Standard Test Method.
- If carbon content of each carbon-containing input material charged to each kiln or furnace is based on self measurement, the ASTM Standard Test Method used.
- Carbon content of the carbon electrode used in each furnace from the annual carbon analysis (percent by weight, expressed as a decimal fraction).
- Whether carbon content of the carbon electrode used in each furnace is based on reports from the supplier or through self measurement using applicable ASTM Standard Test Method.
- If carbon content of the carbon electrode used in each furnace is based on self measurement, the ASTM Standard Test Method used.

EPA has temporarily deferred the requirement to report data elements in the above list that are used as inputs to emission equations (76 FR 53057, August 25, 2011). For the current status of reporting requirements, including the list of data elements that are considered to be inputs to emissions equations, consult the following link: <http://www.epa.gov/climatechange/emissions/CBI.html>

For More Information

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 final rule.

Visit EPA's Web site (www.epa.gov/climatechange/emissions/ghgrulemaking.html) for more information, including the final preamble and rule, additional information sheets on specific industries, the schedule for training sessions, and other documents and tools. For questions that cannot be answered through the Web site, please contact us at: GHGReporting@epa.gov.