

Glass Production



Final Rule: Mandatory Reporting of Greenhouse Gases

Under the Mandatory Reporting of Greenhouse Gases (GHGs) rule, owners or operators of facilities that contain glass production processes (as defined below) and that emit 25,000 metric tons or more of GHGs per year (expressed as carbon dioxide equivalents) from glass production processes, stationary combustion, miscellaneous use of carbonates, and 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?

The glass production source category consists of facilities that manufacture glass (including flat, container, or pressed and blown glass) or wool fiberglass using one or more continuous glass melting furnaces. Experimental furnaces and research and development process units are excluded.

What GHGs Must Be Reported?

Glass production facilities must report the following:

- Carbon dioxide (CO₂) process emissions from each continuous glass melting furnace.
- CO₂ combustion emissions from each continuous glass melting furnace.
- Methane (CH₄) and nitrous oxide (N₂O) emissions from fuel combustion at each continuous glass melting furnace. 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, CH₄, and N₂O emissions from each onsite stationary fuel combustion unit other than continuous glass melting furnaces under 40 CFR part 98, subpart C (General Stationary Combustion Sources).

In addition, each facility must report GHG emissions for any other source categories for which calculation methods are provided in other subparts of the rule.

How Must GHG Emissions Be Calculated?

For CO₂ emissions from glass melting furnaces, the rule requires facilities to use one of two methods, as appropriate:

- For glass melting furnaces with certain types of continuous emission monitoring systems (CEMS) in place, facilities must report combined process and combustion CO₂ emissions using the CEMS in accordance with the Tier 4 calculation methodology of 40 CFR part 98, subpart C.
- For other glass melting furnaces, the reporter can elect to use one of two methods:
 - Install and operate a CEMS and follow Tier 4 methodology to measure combined process and combustion CO₂ emissions.
 - Calculate process CO₂ emissions for each furnace using a default emission factor appropriate for the carbonate raw material multiplied by:
 - The annual mass of carbonate-based raw material charged to the furnace (required to be measured).

- The mass-fraction of carbonate in the raw material (based on data supplied by the raw material supplier and verified by an annual measurement).
- The fraction of calcination achieved for each carbonate-based raw material if a value other than 1.0 is used.

For CH₄ and N₂O emissions from glass melting furnaces, owners or operators must follow the requirements of 40 CFR part 98, subpart C.

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

www.epa.gov/climatechange/emissions/downloads/checklists/glassproduction.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), the rule requires each glass manufacturing facility to report the following information:

If a CEMS is used to measure CO₂ emissions, then under this subpart the relevant information required for the CEMS by subpart C (General Stationary Fuel Combustion Sources) and the information listed below must be reported:

- Annual quantity of each carbonate-based raw material charged to each continuous glass melting furnace and for all furnaces combined (tons)
- Annual quantity of glass produced for each continuous glass melting furnace and for all furnaces combined (tons).

If a CEMS is not used to determine CO₂ emissions from continuous glass melting furnaces, then the following information must be reported for each continuous glass melting furnace:

- Annual process emissions of CO₂ for each continuous glass melting furnace and for all furnaces combined (metric tons).
- Annual quantity of each carbonate-based raw material charged (tons) to each continuous glass melting furnace and for all furnaces combined.
- Annual quantity of glass produced (tons) from each continuous glass melting furnace and for all furnaces combined.
- Carbonate-based mineral mass fraction (percentage, expressed as a decimal) for each carbonate-based raw material charged.
- Results of all tests used to verify the carbonate-based mineral mass fraction for each carbonate-based raw material charged, as specified in 40 CFR 98.146(b)(5).
- The fraction of calcination achieved (percentage, expressed as a decimal) for each carbonate-based raw material, if a value other than 1.0 is used to calculate process mass emissions of CO₂.
- Method used to determine fraction of calcination (percentage, expressed as a decimal).
- Number of continuous glass melting furnaces.

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.