

Underground Coal Mines

Greenhouse Gas Reporting Program



Under the Greenhouse Gas Reporting Program (GHGRP), owners or operators of facilities that liberate 36,500,000 actual cubic feet (acf) of methane (CH₄) or more per year (equivalent to 100,000 acf of CH₄ or more per day) must report emissions from underground coal mines and all other source categories located at the mine for which methods are defined in the rule. Owners or operators are required to collect emission data; calculate greenhouse gas (GHG) emissions; and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting.

How Is This Source Category Defined?

This source category consists of both underground mines under development and underground mines categorized by MSHA (the Mine Safety & Health Administration) as active (where coal is currently being produced or has been produced within the previous 90 days). It includes all underground coal mines that have operational pre-mining and post-mining degasification systems. Abandoned (closed) mines, surface coal mines, and post-coal mining activities are not included in this source category.

This source category consists of the following emission points:

- Each ventilation shaft.
- Each degasification system well, including degasification systems deployed before, during, or after mining operations.

CH₄ liberation in the reporting year (including both emitted methane and methane that is combusted) from each ventilation shaft and each degasification well must be included; however, monitoring for each system type may take place at one or more centralized monitoring points that cover all emissions points within that system.

What GHGs Must Be Reported?

Underground coal mine owners and operators must report:

- Quarterly methane (CH₄) liberation from each ventilation shaft or each centralized ventilation system monitoring point.
- Weekly CH₄ liberated from each degasification system or each centralized degasification system monitoring point.
- Weekly CH₄ destruction from each destruction device or point of offsite transport.
- Quarterly carbon dioxide (CO₂) emissions from on-site coal mine gas CH₄ destruction where the gas is not a fuel input for energy generation or use.
- Annual CO₂, and nitrous oxide (N₂O) emissions from stationary fuel combustion devices using the calculation methods specified in 40 CFR part 98, subpart C (General Stationary Combustion Sources). The information sheet on general stationary fuel combustion sources summarizes calculating and reporting emissions from these 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, as applicable.

How Must GHG Emissions Be Calculated?

Total annual CH₄ emissions are the sum of CH₄ liberated from ventilation shafts and degasification systems, less the quantity of CH₄ that is collected and destroyed.

- For ventilation shafts, liberated CH₄ is determined by quarterly or more frequent sampling using grab samples or obtaining MSHA quarterly data, or continuous monitoring of flow rate and CH₄ concentration.
- For degasification systems, liberated CH₄ is determined by weekly or more frequent sampling, or continuous monitoring of flow rate and CH₄ concentration.
- CH₄ destroyed is determined by continuous monitoring of flow rate and CH₄ concentration of gas collected for destruction and by applying a destruction efficiency rate.

CO₂ emissions from CH₄ destruction are estimated by applying a factor to the estimate of CH₄ destroyed.

When and How Are Reports Submitted?

Facilities subject to subpart FF began monitoring GHG emissions on January 1, 2011. For Reporting Year (RY) 2011 only, GHG reports were required to be submitted no later than September 28, 2012. RY 2012 reports were required to be submitted no later than April 1, 2013. Starting in RY 2013 and each year thereafter, reports must be submitted to EPA 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.

Reports must be submitted through the Electronic Greenhouse Gas Reporting Tool (e-GGRT), <https://ghgreporting.epa.gov/ghg/login.do>.

What Information Must Be Reported?

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

- The seven-digit MSHA Identification Number. If the report includes multiple operations that meet the definition of a single facility in subpart A “Definitions,” all applicable MSHA ID numbers must be included in the report.
- A description of all ventilation, degasification and destruction systems including a description of each well or shaft and whether the well or shaft is monitored individually or as part of a centralized monitoring point.
- Dates in the reporting period where active ventilation of mining operations is taking place, dates where degasification of mining operations is taking place, and dates when continuous monitoring equipment (if used) is not properly functioning.
- Quarterly volumetric flow rate (acfm or scfm) and quarterly CH₄ concentration, n for each ventilation system and degasification system.
- Quarterly CH₄ liberated and CH₄ emitted (net) from each ventilation shaft and from each degasification system.
- Weekly volumetric flow (acfm or scfm) for CH₄ liberated from degasification systems.
- For both ventilation and degasification, temperature (°Rankine), absolute pressure (atm) and moisture content must be measured and reported.
- Measurement of volumetric flow and concentration on a wet basis or a dry basis; if different a moisture correction factor must be applied.

- For recovered gas, disposition of the CH₄ liberated: destroyed on-site, transported off-site and destroyed, or transported off-site and not destroyed.
- The weekly and quarterly volumetric flow used and CH₄ concentrations used to calculate CH₄ destruction on-site or transportation off-site.
- For on-site destruction, a description of the primary and any backup destruction devices, and the annual operating hours and destruction efficiency rates for all applicable destruction devices.

Under Subpart FF, facilities must also report Quarterly CO₂ emissions from onsite destruction of coal mine CH₄, where the gas is not a fuel input for energy generation or use.

If data for CH₄ concentration, volumetric flow rate, temperature, pressure, moisture content and moisture correction factor (if required) are missing, substitute data are required and must be determined using procedures outlined in the rule.

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.

For more information on subpart FF of the Greenhouse Gas Reporting Program, including a monitoring checklist and training slides with information on how to report, please visit <http://www.epa.gov/ghgreporting/reporters/subpart/ff.html>

Visit EPA's Web site (<http://www.epa.gov/ghgreporting/index.html>) for more information, including all rulemakings related to the Greenhouse Gas Reporting Program, 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.