



**Final Rule:  
Mandatory Reporting of  
Greenhouse Gases from Magnesium  
Production, Underground Coal  
Mines, Industrial Wastewater  
Treatment, and Industrial Waste  
Landfills**

EPA Climate Change Division

# Overview



- **Sources included in this final rule:**
  - Underground Coal Mines (Subpart FF)
  - Magnesium Production (Subpart T)
  - Industrial Wastewater (Subpart II)
  - Industrial Waste Landfills (Subpart TT)
- **Sources covered by the final rule but no longer separately categorized:**
  - Ethanol Production (Subpart J)
  - Food Processing (Subpart M)
- **Final decision not to require reporting at this time:**
  - Suppliers of Coal (Subpart KK)

# Reporters and Emissions Expected to be Covered



<b>Source</b>	<b>No. of Reporters Expected</b>	<b>Emissions Covered mmtCO<sub>2</sub>e (% of industry)</b>
Underground Coal Mines (CH <sub>4</sub> )	114	33.8 (86%)
Magnesium Production (SF <sub>6</sub> )	11	2.9 (92%)
Industrial Landfills (CH <sub>4</sub> )	200*	13.7 (89%)
Industrial Wastewater (CH <sub>4</sub> )	358*	6.9 (81%)
<b>Total</b>	<b>680</b>	<b>57.3</b>

Including these sources, 86 percent of U.S. GHG emissions will be covered by the Greenhouse Gas Reporting Program.

\* The majority of these sources are already required to report under other subparts.

# Subpart FF – Underground Coal Mines



- **Reporters**
  - All coal mines that are subject to MSHA quarterly sampling
- **Data Reported**
  - CH<sub>4</sub> generation and CH<sub>4</sub> emissions
  - CH<sub>4</sub> destruction from gas collection and destruction systems
    - Systems where gas is sold, used onsite, or otherwise destroyed, (including by flaring)
- **Estimating/Monitoring Methods**
  - Quarterly or more frequent grab samples of ventilation CH<sub>4</sub>
  - Weekly or more frequent samples of degasification CH<sub>4</sub>
  - Continuous monitoring of CH<sub>4</sub> to combustion devices (including offsite uses)

# Subpart FF – Underground Coal Mines



- **Changes from proposal to final rule**
  - Degasification wells may be monitored with continuous emissions monitoring systems (CEMS) or through weekly sampling of degasification wells
  - Adding an option to use one or more CEMS to obtain data on mine ventilation systems.
  - CEMS may be used to monitor aggregate CH<sub>4</sub> from more than one well, as long as CH<sub>4</sub> from all wells is monitored, and the methodology for estimating total emissions from all wells is documented.

# Subpart T – Magnesium Production



- **Reporters**
  - Magnesium metal producers (primary and secondary) and processing (e.g. casting) facilities
- **Data Reported**
  - Emissions of GHGs used as protective cover gases in magnesium operations (i.e. SF<sub>6</sub>, HFC-134a, FK 5-1-12 and CO<sub>2</sub>)
- **Estimating Methods**
  - Consumption = emissions
  - Three measurement options:
    - Weighing gas cylinders as they are brought into and out of service
    - Using a mass flow meter to continuously measure the mass of GHGs used
    - Performing a facility-level mass balance for all GHGs used at least once annually
      - Review gas purchase records and inventory to determine actual mass of gas used
- **No changes from proposal to final rule**

# Subpart II – Industrial Wastewater



- Reporters
  - On-site industrial treatment systems at pulp and paper mills, food processing plants, ethanol production plants, and petroleum refineries
- Data reported
  - CH<sub>4</sub> emissions generated, recovered, and emitted from anaerobic processes (lagoons, reactors, sludge digesters)
- Estimating/Monitoring Methods
  - Weekly measuring of flow rate and weekly sampling of COD/BOD<sub>5</sub> concentration of influent wastewater
  - Continuous monitoring of volumetric flow of biogas and either continuous or weekly monitoring of CH<sub>4</sub> concentration of biogas recovered

# Subpart II – Industrial Wastewater



- **Changes from proposal to final rule:**
  - More clearly defining covered facilities and system components (anaerobic only)
    - Focus on those with most significant emissions
    - Continue to exclude publicly owned treatment works (POTWs)
  - Refining monitoring and reporting requirements
    - Providing options for monitoring frequency and emissions calculations
  - Continuing to require monitoring of influent for wastewater flow

# Subpart TT – Industrial Waste Landfills\*



- **Reporters**
  - Open or closed landfills (LFs) that accepted waste after 1/1/1980 with a design capacity of 300,000 metric tons or more
  - No hazardous waste LFs or dedicated construction and demolition waste LFs
  - Excludes those that receive only inert or “inorganic” wastes
- **Data reported**
  - CH<sub>4</sub> generation and CH<sub>4</sub> emissions from LFs
  - CH<sub>4</sub> emissions from LF gas destruction
- **Estimating/monitoring methods**
  - CH<sub>4</sub> generation based on first order decay model
  - CH<sub>4</sub> emissions monitoring and calculations identical to municipal solid waste LFs for landfills with gas recovery
    - Continuous gas flow monitoring, continuous or weekly CH<sub>4</sub> concentration monitoring

\*At proposal subpart HH included both Municipal Solid Waste and Industrial Landfills. Landfill reporting is now separated into two subparts: subpart HH for MSW Landfills (published Oct 30, 2009) and subpart TT for industrial landfills.

# **Subpart TT – Industrial Waste Landfills**



- **Changes from proposal to final rule:**
  - Limiting coverage to LFs with significant emissions
    - Organic waste stream
    - Design capacity >300,000 metric tons of waste
  - Providing more options for determining waste quantities
  - Including emissions factors more appropriate for industrial LFs and option to calculate their own if appropriate

# Subparts J and M – Ethanol & Food Processing



- Initially proposed as separate subparts to guarantee that these industries would be covered
  - But no unique process emissions were required to be reported in proposal
- Reconsidered – separate subparts not needed
  - Already covered by the rule if meet the threshold based on applicable subparts
  - Subparts J&M will not be used
- Benefits
  - Not singled out; reduce confusion among other potential reporters
  - Not losing any coverage of emissions

# Subpart KK – Coal Suppliers



- EPA is not including coal suppliers in the final rule:
  - EPA already collects emissions data on coal combustion:
    - From downstream sources covered in rule
    - From the Acid Rain Program
- Can revisit later if circumstances warrant

# Further Information



- Go to [www.epa.gov/climatechange/emissions/ghgrulemaking.html](http://www.epa.gov/climatechange/emissions/ghgrulemaking.html)
  - Preamble and rule
  - Technical support documents on source categories
  - Comment response documents
  - Link to rulemaking docket
  - Technical assistance materials
- Hotline: email [GHGMRR@epa.gov](mailto:GHGMRR@epa.gov)