



Greenhouse Gas Emissions

Update on EPA Actions

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Presentation Overview

- Recent Meeting in DC
- Mandatory Reporting Rule
- Tailoring Rule
- NAAQS Petition
- Climategate Scandal
- EPA's Endangerment Finding



State-EPA Dialogue on Climate and Energy

- Panel on EPA rulemakings and programs
- Panel on State Activities
- Lunch speaker David McIntosh on Congressional Activity
- Breakout Sessions
 - Mandatory Reporting Rule
 - Transportation
 - Stationary Sources
 - Cap-and-Trade Programs



Regulatory Actions

- **July 2008 ANPR** for Control of Greenhouse Gases
- **March 2009 Proposed** Mandatory Greenhouse Gas Reporting Rule
- **April 2009 Proposed Endangerment and Cause or Contribute Finding** for Greenhouse Gases Under Section 202(a) of the Clean Air Act
- **May 2009**, EPA and the Department of Transportation issued a **Notice of Intent** stating that the two agencies would work together to establish national vehicle greenhouse gas and fuel economy standards for new cars and trucks sold in the United States.
- On **September 15, 2009**, EPA and the Department of Transportation's National Highway Safety Administration (NHTSA) proposed the **Greenhouse Gas Emission Standards for Light-Duty Vehicles**



EPA Mandatory Reporting Rule

US EPA SLIDES



Mandatory Reporting Rule

(US EPA Slide)

- Directed by Congress in 2008 Appropriations Act
- Proposal signed March 10, 2009
- Public Comment Period (April 10 – June 10, 2009)
- Final rule signed September 22, 2009
- Published in Federal Register October 30, 2009



Mandatory Reporting Rule Con't

(US EPA Slide)

- Requires reporting of greenhouse gas (GHG) emissions from all sectors of the economy in the United States
- Provides accurate and timely data to inform future climate change policies and programs
- Does not require control of GHG



About 10,000 U.S. Facilities Covered (US EPA Statistics)



Other Category (US EPA Slide)

– Manure & Cement	107 each
– Lime	89
– Petrochemical	80
– Glass	55
– Nitric Acid	45
– Hydrogen	41
– Ammonia	23
– Phosphoric Acid & Aluminum	14 each
– Lead & CO2 Suppliers	13 each
– Ferroalloy	9
– Titanium Oxide	8
– Zinc and Soda Ash	5
– Adipic Acid	4
– HCFC-22	3
– Silicon Carbide	1



Key Elements of the Rule

(US EPA Slide)

- Annual reporting of GHG by:
- 25 source categories
- 5 types of suppliers of fuel and industrial GHG
- Motor vehicle and engine suppliers (except light duty sector)
- 25,000 metric tons CO₂ e per year reporting threshold for most sources
- Monitoring begins January 1, 2010; first reports due March 31, 2011
- Direct reporting to EPA electronically
- EPA verification of emissions data



How much is 25,000 MTCO₂ e?

(US EPA Slide)

- Equivalent to:
- Annual greenhouse gas emissions from the energy use of approximately **2,300 homes**
- Annual greenhouse gas emissions from approximately **4,600 passenger vehicles**
- Majority of commercial building owners not likely to meet reporting threshold
- Applicability Tool available online to help facilities assess whether they are required to report



What GHGs are Reported?

(US EPA Slide)

- CO₂
- CH₄ (methane)
- N₂O (nitrous oxide)
- Fluorinated GHGs
- HFCs (hydrofluorocarbons)
- PFCs (perfluorocarbons)
- SF₆ (sulfur hexafluoride)
- Other fluorinated gases



All-in Source Categories

(US EPA Slide)

- Electricity Generation if report CO₂ year-round through Part 75
- Adipic Acid Production
- Aluminum Production
- Ammonia Manufacturing
- Cement Production
- HCFC-22 Production
- HFC-23 Destruction Processes that are not collocated with a HCFC-22 production facility and that destroy more than 2.14 metric tons of HFC-23 per year
- Lime Manufacturing
- Nitric Acid Production
- Petrochemical Production
- Petroleum Refineries
- Phosphoric Acid Production
- Silicon Carbide Production
- Soda Ash Production
- Titanium Dioxide Production
- Municipal Solid Waste Landfills that generate CH₄ equivalent to 25,000 metric tons CO₂ e or more per year
- Manure Management Systems with combined CH₄ and N₂ O emissions in amounts equivalent to 25,000 metric tons



Threshold Source Categories

(US EPA Slide)

- Stationary Combustion Units
- Ferroalloy Production
- Glass Production
- Hydrogen Production
- Iron and Steel Production
- Lead Production
- Pulp and Paper Manufacturing
- Zinc Production

Note: Report if emissions are >25,000 metric tons CO₂ e per year from all source categories, combustion units, and miscellaneous use of carbonates.



Source Categories Not Included in Final Rule

(US EPA Slide)

EPA plans to further review public comments and other information before deciding on these subparts:

- Electronics manufacturing
- Ethanol production
- Fluorinated GHG production
- Food processing
- Magnesium production
- Oil and natural gas systems
- Sulfur hexafluoride (SF₆) from electrical equipment
- Underground coal mines
- Industrial landfills
- Wastewater treatment
- Suppliers of coal
- Geologic sequestration

Facilities with these source categories could be covered by the rule based on GHG emissions from stationary fuel combustion sources



Special Provisions for 2010: Best Available Monitoring Methods

(US EPA Slide)

- Best available monitoring methods may be used during **January 1, 2010 through March 31, 2010**
- Use emission estimation equations provided in the rule
- Obtain equation inputs using best available monitoring method (e.g., current monitoring methods, engineering calculations, company data)
- Must begin following all applicable monitoring and QA/QC requirements on **April 1, 2010**
- If extension is needed (equipment purchase, process unit shutdown etc.), facility may request an extension.
- Extension request must be submitted to EPA no later than 30 days after effective date of the rule.
- No extension will be granted beyond **December 31, 2010**
- First reports due to EPA by **March 2011**



Greenhouse Gas Tailoring Rule

US EPA SLIDES



Why the Tailoring Rule is needed

(US EPA Slide)

By rule/policy, PSD and Title V permitting programs under the Clean Air Act apply to major sources and modifications of *“regulated NSR pollutants.”*

GHG are currently not “regulated” and thus are not covered by these programs now.

“ There are concerns about how we (EPA) would administer these programs” if GHG become “regulated”.

Specifically the concerns about regulation of GHG stem from the fact that:

By statute, for Title V, the major source threshold is 100 tons/year.

By statute, for PSD, the threshold is 250 tons/year (100 tons/year for some categories).

For PSD modifications, any change at a major source that results in “any increase” of GHGs would trigger PSD unless “we” establish a “significance level” that excludes smaller modifications.

GHGs (especially CO₂) are emitted in much greater mass than conventional pollutants, so very small sources exceed the 100/250 ton per year levels.



Why the Tailoring Rule is Needed Con't (US EPA Slide)

For Title V, millions of smaller sources would be newly classified as major for GHG.

About 15,000 major sources now

For PSD, tens of thousands of smaller new sources and modifications each year would be newly classified as major for GHG.

About 300 new major sources/modifications per year now

The administrative burdens of permitting large numbers of newly subject sources would cause severe disruption to the existing programs.

Many of these sources are in commercial/residential categories that have no experience with CAA permitting

Tailoring these programs to address large numbers of small sources is necessary to provide a common sense approach to GHG regulation.



How would the Tailoring Rule Address This?

(US EPA Slide)

Proposes to raise the “major source” thresholds and PSD “significance levels”

PSD and Title V: major source size raised to **25,000 tons/year CO₂e** (sum of 6 gases).

PSD significance level: raised to a number within the range of **10,000-25,000 tons/year CO₂e** —singular value to be decided upon finalization.

Proposal takes comment on other levels.

Proposal also takes comment on use of CO₂e metric/6 gases

Use of CO₂e (sum of six gases) improves source flexibility, simplicity, and consistency with GHG control regulations/climate endpoint.

Facilities above these levels would be required to obtain permits.

Facilities that remain covered are responsible for **nearly 70 percent** of stationary source GHG emissions.

Facilities proposed for **exclusion comprise only 7 percent** of emissions.

Small farms, restaurants, office buildings, etc. would not need permits.

Threshold selection driven by what is necessary to meet congressional intent as closely as possible, and what is administratively feasible.

Must choose lowest level that we judge possible to administer.



Selection of Proposed Levels

(US EPA Slide)

25,000 tons per year CO₂e (and 10,000-25,000 tons per year CO₂e for modifications) is proposed as the lowest level at which the program could be administered for the next six years, because:

- Going lower (we (**EPA**) evaluated 1,000, 5,000, and 10,000 tpy) starts to rapidly increase numbers and commercial/residential source applicability.
- Going higher (we (**EPA**) evaluated 50,000 and 100,000) is likely harder to justify with administrative necessity because coverage is less than we have now.

At proposed levels, GHG regulation would add workload to permitting authorities, but proposal suggests it would not overwhelm them:

- About **3,000 sources** to Title V's current universe of 15,000 sources.
- **Fewer than 100 sources** and modifications per year to PSD's current universe of 300 permits per year.

Most of the added sources are large municipal solid waste landfills with major amounts of methane.

A large share (but not all) of existing major source population will also be major for GHG.

- **Promotes coverage of nearly 70% of stationary source GHG emissions.**



Facilities vs Thresholds

(US EPA Slide)



Legal Basis for Proposal

(US EPA Slide)



“Although the rule departs from statutory thresholds it is permissible to do so under two separate legal bases” –EPA-

“Absurd results”

Courts have held that a statutory requirement need not be applied literally if doing so would produce “absurd results” that would be inconsistent with congressional intent. Applying the PSD and Title V statutory thresholds literally would be a classic case of an “absurd result” because it would sweep into the two permitting programs unprecedented numbers of small sources that Congress did not intend be included, and the resulting administrative burdens would prevent the State permitting authorities from permitting the larger sources that Congress did intend be included.

“Administrative necessity”

Courts have held that a statutory requirement need not be applied literally if it would be impossible for the agency to administer it. Applying the PSD and Title V statutory thresholds literally would create impossible administrative burdens for the State permitting agencies.



Additional Elements of EPA's Proposal

(US EPA Slide)

EPA identifies measures it will consider for **streamlining permitting** over the next several years

- For example, general permits.

After 5 years, EPA will evaluate whether to **change the threshold** and will do a rulemaking to reflect this.

Does not address **how to set BACT** for sources left in program, but commits to separate process to assist with this.

- CAAAC Climate Change Workgroup to present recommendations in early 2010.

Proposal separately notes that, while it makes sense to remove smaller sources from permitting, there may be other cost effective ways to address their emissions.



NAAQS Petition

- Environmentalists are petitioning EPA to declare carbon dioxide (CO₂) a **criteria pollutant** and set a strict national ambient air quality standard (**NAAQS**) to reduce emissions to 350 parts per million (ppm), citing concerns that President Obama and Congress are taking insufficient steps to cut CO₂ emissions.
- However the idea is extremely unpopular with EPA, states, industry and other environmentalists because **establishing a CO₂ NAAQS at 350 ppm** would mean the **entire country** would be in **violation of the standard**, requiring states to dramatically curb CO₂ emissions or risk losing federal funding.
- The **Center For Biological Diversity (CBD)** and the international climate activist group **350.org** filed a **December 2, 2009** petition with EPA saying that the agency has both the authority and a "clear legal duty" under the Clean Air Act to "take such action as is necessary to set the United States on a course toward reducing atmospheric carbon dioxide concentrations below dangerous levels."



CLIMATEGATE

- Hacked E-mails from University of East Anglia's Climate Research Unit suggests that data has been manipulated to enhance the warming conclusion
- Demonstrated efforts to discredit other scientists who did not agree with conclusions on global warming
- Demonstrated efforts to ensure that "peer review" was done by scientists who agreed with the premise of global warming



Endangerment Finding

On **December 7, 2009**, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** “The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)--in the atmosphere **threaten the public health and welfare of current and future generations**”.
- **Cause or Contribute Finding:** “The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare”.

These findings by the EPA Administrator do not themselves impose any requirements on industry or other entities. **“However, this action is a prerequisite to finalizing the EPA’s proposed greenhouse gas emission standards for light-duty vehicles, which were jointly proposed by EPA and the Department of Transportation’s National Highway Safety Administration on September 15, 2009”.**