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First Step Into a New Land: EPA's GHG Reporting Rule

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BACKGROUND

- **Mandated by Dec. 2007 budget bill**
- **Limited guidance to EPA:**
 - **“All sectors of the economy”**
 - **Use existing CAA authority**
 - **Both “upstream” and “downstream”**

TIMING

- **Proposed rule: March 2009**
 - **74 Fed. Reg. 16,448 (4/10/09)**
- **Final rule: released 9/22/09**
 - **Effective 60 days after publication in the Federal Register (assuming no Congressional veto)**
 - Published 10/30/09
 - **Compliance period to start 1/1/10**

THE BASICS

- **WHAT:**
 - **The “Kyoto Six”***
 - *CO₂, CH₄, N₂O, SF₆, HFCs, PFCs
 - **Plus: various other fluorinated gases**
 - **Reporting only (for now ...)**

THE BASICS

- **WHO**

- **“Downstream” sources**

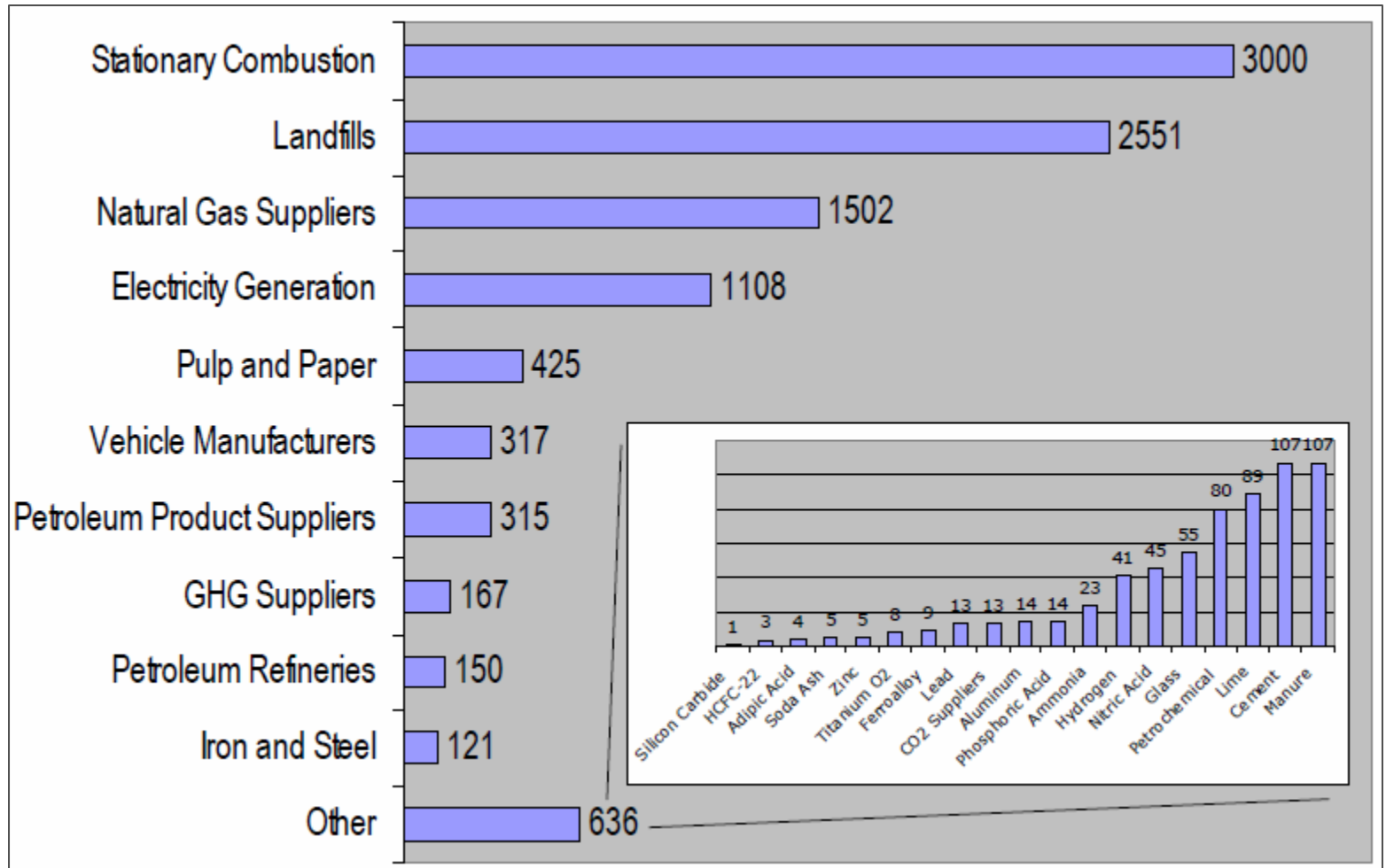
1. Certain source categories: “all in”
2. Certain source categories in, subject to emission thresholds
3. Stationary fuel combustion sources, subject to certain thresholds

- **“Upstream” producers**

4. Suppliers of fossil fuels and industrial GHGs
5. Manufacturers of mobile sources and engines

Per EPA, ~10,000 facilities and companies (85% of U.S. GHG emissions)

Who's covered (per EPA)



Source: USEPA, <http://www.epa.gov/climatechange/emissions/downloads/FinalMRROverview.pdf>.

THE BASICS

- **WHEN:**
 - **Annual reports; first due 3/31/11 (for 2010 data)**
 - **Exception: Motor vehicle/engine manufacturers start a year later**
- **HOW: New emissions accounting protocols, incorporating elements of various existing protocols**



WHO: “DOWNSTREAM” SOURCES

1. **“All in” source categories: Facilities with any of 17 source categories, regardless of GHG emissions level***

*** A few exceptions, with $\geq 25,000$ mtCO₂e/yr. thresholds**

– **Note that report scope is broader: GHG from all sources in any source category for which the rule provides calculation methodologies**



“All in” source categories

1. **Electricity generating units reporting CO₂ per the Acid Rain Program**
2. **Adipic acid production**
3. **Aluminum production**
4. **Ammonia manufacturing**
5. **Cement production**
6. **HCFC-22 production**
7. **HFC-23 destruction not collocated with HCFC-22 production and that destroy >2.14 mt/yr. of HFC-23**
8. **Lime manufacturing**
9. **Nitric acid production**
10. **Petrochemical production**
11. **Petroleum refineries**
12. **Phosphoric acid production**
13. **Silicon carbide production**
14. **Soda ash production**
15. **Titanium dioxide production**
16. **Municipal landfills that generate CH₄ at $\geq 25,000$ mtCO₂e/yr.**
17. **Manure management systems that emit CH₄ and N₂O at $\geq 25,000$ mtCO₂e/yr.**

40 CFR 98.2(a)(1)



WHO: “DOWNSTREAM” SOURCES

2. **“Aggregate threshold” source categories:**
**Facilities with any of 7 source categories,
and $\geq 25,000$ mtCO₂e/yr. combined from
any or all of:**
- The 7 source categories
 - Stationary fuel combustion
 - “Misc. use of carbonates”

**Again, report scope is broader: All sources in
any source category with a calculation
methodology**



“Aggregate threshold” source categories

- 1. Ferroalloy Production**
- 2. Glass Production**
- 3. Hydrogen Production**
- 4. Iron and Steel Production**
- 5. Lead Production**
- 6. Pulp and Paper Manufacturing**
- 7. Zinc Production**

40 CFR 98.2(a)(2)



WHO: “DOWNSTREAM” SOURCES

3. General stationary fuel combustion:

- **Aggregate max. rated heat input capacity of stationary fuel combustion units is ≥ 30 MMBTU/hr., and**
- **$\geq 25,000$ mtCO₂e/yr. from stationary fuel combustion**
 - Rules of thumb: 25,000 mtCO₂e emitted by combusting ...
 - ~2.5 MM gal. of #2 oil
 - ~460 MM cu.ft. of natural gas

WHO: “DOWNSTREAM” SOURCES

3. General stationary fuel combustion (cont'd)

– Excluded:

- “Portable equipment”

BUT: Tighter definition than Part 89

- “Emergency generator”

BUT:

- Tighter definition than in many state regs
- ≠ Peak shaver, engine used during scheduled facility maintenance, etc.



WHO: “DOWNSTREAM” SOURCES

3. General stationary fuel combustion (cont'd)

- **Report scope: Only emissions from stationary fuel combustion**

WHO'S NOT IN

- **Proposed, but not finalized (for now):**
 - **Electricity generation outside of ARP**
 - **Food processing**
 - **Oil and natural gas systems**
 - **Industrial landfills**
 - **Wastewater treatment**
 - **Others**
- **Exemption: R&D activities**

WHO: “UPSTREAM” PRODUCERS

4. Suppliers of fossil fuels and industrial GHGs

- Producers, importers, exporters
- Coal, petroleum products, natural gas, and related fuels
- GHG suppliers: $\geq 25,000$ mtCO₂e/yr.
- Must report volume of products placed into the economy and associated GHG emissions or potential emissions



WHO: “UPSTREAM” PRODUCERS

5. Manufacturers of mobile sources and engines

- Includes aircraft engines and other nonroad engines and equipment
- Must report volume of products placed into the economy and generally, the associated GHG emission rates

APPLICABILITY

- **At facility level, not company level**
 - **Exceptions: Fossil fuel importers and exporters, vehicle and engine manufacturers**
- **All applicability triggers are as of 2010**
 - **Actuals, not potentials**
 - **Beware of current lower-than-usual emissions**
- **Exit ramps**



REPORTING METHODOLOGIES

- **Hybrid of direct measurement and facility-specific calculation**
 - **If already using CEMS for other CAA programs, must use for GHG reporting**
- **Limited break for 2010/1Q: “Best available monitoring methods”**
 - **Extension:**
 - ***Must request by 30 days after effective date of rule (c. 12/29/09 + 30 = c. 1/28/10)***
 - See criteria at 40 CFR 98.3(d)(2)
 - **No extensions beyond 12/31/10**



REPORTING METHODOLOGIES

- **Array of source category-specific methodologies**
 - **Sometimes subcategory-specific**
- **Include elements drawn from existing voluntary and state-level mandatory programs and protocols**
 - **Climate Registry, Climate Leaders, RGGI, CARB, WRI**



REPORTING METHODOLOGIES

- **Key differences from existing programs include:**
 - **Report both total GHG emissions (as mtCO₂e) and mass emissions per GHG**
 - **No third-party verification**
 - **No “indirect” emissions (e.g., from electricity purchases)**



ANNUAL REPORT

- **Electronic submission only**
- **Due March 31, 2011 and annually thereafter***

***Exceptions:**

- Vehicle manufacturers: First report in 2012 for model year 2011
 - Engine manufacturers: First report in 2011 for models in production
- **By “designated representative” (can be third party)**

ANNUAL REPORT

- **Downstream sources:**
 - **Total facility GHG emissions as mtCO_2e , aggregated for all source categories for which emission calculations methods are provided**
 - Must assume no capture of CO_2
 - **Annual mass emissions for each source category, by GHG**
 - **Activity data for individual units, processes, etc., as specified in the rule for the source category**

ANNUAL REPORT

- **Upstream fuel suppliers: Similar as for downstream sources**
 - Aggregate total GHG emissions as mtCO_2e
 - Annual mass emissions for each supply category, by GHG
- **Upstream vehicle/engine manufacturers: Report emission rates**



ABBREVIATED REPORT OPTION FOR 2010

(Stationary Fuel Combustion sources only)

- **For 2010 data (due 3/31/11), facilities required to report only stationary fuel combustion emissions may submit only:**
 - **Total facility GHG emissions for all stationary fuel combustion units**
 - **Operating data or process calculations used for the GHG emission calculations**

40 CFR 98.3(d)(3)



RECORDKEEPING

Requirements include:

- **Sources, emissions, calculations, etc.**
- **Documentation of the data collection process**
- **Names and documentation of key facility personnel involved in calculating and reporting**

RECORDKEEPING

- **Log book: Document procedural changes to accounting methods and critical instrumentation**
- **Missing data computations**
- **QAPP: Must address at least:**
 - **Maintenance and repair of all continuous monitoring systems, flow meters, and other instrumentation used to provide data**
 - **Calibrations and other QA tests**



COMPLIANCE AND ENFORCEMENT

- **No delegation to states**
- **EPA plans extensive compliance assistance**
- **Violations treated as CAA violations**
 - **\$37,500/day/violation**



WHAT TO DO NOW?

- **Read the rule (and preamble)**
- **Compliance program:**
 - **Assess existing data collection and documentation**
 - **Identify and plug gaps**
 - **Pre-compliance test runs**
 - **Anticipate 1/1/10 compliance onset**



SELECT DEADLINES

- **c. 1/28/10: Submit request for extension for “best available monitoring methods” use**
- **1/1/10:**
 - **Have written monitoring plan in place**
 - **Begin monitoring/recordkeeping**
- **4/1/10:**
 - **Stop using “best available monitoring methods” (unless extension)**
 - **Calibrate all flow meters, other measurement devices**
- **1/29/11: Submit certification of designated representative**
- **3/31/11: Submit first report**



AND BEYOND THE RULE ...

- **P.R.: “TRI effect”?**
- **Potential tort exposure**
- **Internal resource planning**
- **Potential collateral effects on other emission calculations**

WHAT'S NEXT?

- **First big step into federal GHG regulation**
- **Many other balls in play**
 - **GHG endangerment finding → GHG rules for cars/trucks → PSD?**
 - **NGO multi-prong pressure on EPA**
 - **Congress**
 - **Tort lawsuits**



QUESTIONS?

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DISCLAIMER

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