

Greenhouse Gas Regulations: The Supreme Court Ruling and Beyond

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Overview

- Brief History and Background of GHG Regulations
- Current Federal and State GHG Regulations and Implications of the Supreme Court Decision
- GHG Regulation and Policy: What's Next?

April 2007: Massachusetts v. EPA Decision

- US Supreme Court rules that current provisions of CAA provide EPA ample authority to regulate GHGs (Mass. v EPA)
 - Bush-era EPA argued that it lacked authority to regulate GHG under Section 202(a)
 - Broad definition of “air pollutant” in Sec. 302 encompasses GHG

December 2009: Endangerment Finding

- Section 202 requires determination that emissions “cause or contribute” to pollutant that “endanger” public
- Obama-era EPA issued findings that GHG in atmosphere may reasonable be anticipated to endanger public health and welfare
- Lists a mix of six key GHG meeting the definition of air pollution, four of which from motor vehicles (CO₂, CH₄, N₂O, HFC)

May 2010: Motor Vehicle GHG Standards

- Model years 2012 through 2016
- Footprint-based standards (vehicle size)
- Corporate average fuel economy (CAFE) targets unique to fleet
- Nov. 3, 2014: Hyundai/Kia \$100 million civil penalty, largest in CAA history

April 2010: PSD Subject to Regulation Interpretation

- EPA interprets that a pollutant is subject to regulation under PSD when a CAA provision or an EPA regulation requires actual control of the pollutant
- January 2, 2011 effective date due to 2012 model year
- EPA issues same interpretation for Title V operating permit.

June 2010: GHG Tailoring Rule

- CAA Section 169: major source threshold of 100 tpy for listed source categories and 250 tpy for other sources
- 52.21(b)(23): major modification threshold is any increase for pollutants not specifically listed
- Unless higher applicability thresholds established, EPA estimates PSD permits increase from 300/year to 41,000/year

EPA Installs “Subject to Regulation” GHG Thresholds

- Major source: 100,000 tpy CO₂e subject to regulation threshold, then 100/250 tpy on mass basis of a GHG
- Major modification: 75,000 tpy CO₂e subject to regulation threshold, then > 0 tpy on mass basis of a GHG
- Applicability thresholds are upheld in June 12, 2012 rule

June 2012 CORE v. EPA, DC Circuit Court Decision

- Petitioners argued that “any air pollutant” was capable of far narrower meaning than the agency interpreted to the PSD program
- DC Circuit agrees with EPA that “any air pollutant” in the definition of “major emitting facility” unambiguously means any “any air pollutant regulated under the CAA” which would include Title II for mobile sources

Until the June 2014 Supreme Court Decision,
GHG PSD and Title V permitting goes forward

PTE of 150 MMBtu/hr of ultra-low NOx gas
combustion at an existing major source

Pollutant EF	TPY	PSD Significant Rate
GHG: 117 lb/MMBtu	77,000	75,000
PM2.5: 0.0075 lb/MMBtu	5	10
NOx: 0.03 lb/MMBtu	20	40
CO: 0.04 lb/MMBtu	26	100

GHG Permits Since 2011

- In the US, over 300 applications and over 200 issued PSD permits including GHG BACT elements as of mid-2014
- In MN, only a few GHG PSD permits (see 2013 COE presentation) and at least one currently being processed with MPCA
- Title V Permits and synthetic minor permits (i.e., capped, registration) due solely to GHG

What is BACT for GHGs?

- Moving target since its inception 3.5 years ago but not necessarily due to advancements in technology
- More detailed CCS studies that have been conducted support initial assertions of cost ineffectiveness
- Permitting emphasis on energy efficiency design and maintenance measures, but highest energy efficiency option not necessarily required
- Use of solar/wind/geothermal power not required

In Addition to BACT, Other PSD Considerations Specific to Delegated Programs like Minnesota

- Endangered Species Act – Biological Evaluation
- National Historic Preservation Act – Cultural Resources Assessment
- Coastal Zone Management Act
- Magnuson-Stevens Fishery Conservation and Management Act

June 2014: Supreme Court Decision

We hold that EPA exceeded its statutory authority when it interpreted the Clean Air Act to require PSD and Title V permitting for stationary sources based on their greenhouse-gas emissions. Specifically, the Agency may not treat greenhouse gases as a pollutant for purposes of defining a “major emitting facility” (or a “modification” thereof) in the PSD context or a “major source” in the Title V context. To the extent its regulations purport to do so, they are invalid. EPA may, however, continue to treat greenhouse gases as a “pollutant subject to regulation under this chapter” for purposes of requiring BACT for “anyway” sources.

How Did the Supreme Court Come to This Conclusion?

- Since 1978, EPA interpreted PSD requirements apply only to “regulated air pollutants”, rather than any substance meeting broad definition of air pollutant in Section 302
- Similar situations in CAA where EPA specifies pollutants: NSPS, NA NSR, CAM, Regional Haze
- Massachusetts v. EPA decision did not require EPA to use “air pollutant” to “denote every conceivable airborne substance, but only those that may sensibly be encompassed within the particular regulatory program.”

So Why is GHG BACT Still in Play?

- CAA Section 165(a)(4): “... subject to BACT for each pollutant subject to regulation under this chapter...”
- Different than “any air pollutant” interpretation for PSD applicability
- Thus, Congress determined that BACT should apply to all pollutants regulated under the CAA if facility requires a PSD permit
- “Anyway” sources require GHG PSD if emissions greater than tailoring thresholds (July 2014 EPA)

Treatment of GHG under NSR and Title V

- Sources are no longer required to meet PSD or Title V permitting requirements if thresholds are not exceeded for “conventional pollutants”
- “Anyway” sources will still need to comply with GHG BACT requirements if emissions greater than tailoring thresholds
- EPA leaves open possibility to reduce GHG thresholds
- States may have more stringent PSD requirements than what is required by CAA, but MN follows 52.21
- MN operating permit regulations that require permits based on GHG emissions are still in place

Minnesota Permitting Rules for GHG at Chapter 7007

- Title V operating permit and state operating permit programs – facility-wide thresholds
 - 100,000 tpy CO₂e threshold for major source
 - Lower thresholds in permits-by-rule: Registration Option D, Capped Emission Permit
 - Insignificant activity thresholds for GHG
- No GHG modification thresholds
- MPCA has decided to wait on lower court ruling to EPA before unraveling these rules. Some states have already proceeded to remove the provisions.
- Until then, MPCA is using “enforcement discretion”

Biogenic CO₂ Emissions

- July 2013 DC Circuit overturned EPA regulation that deferred application of the permitting programs to biogenic CO₂
- Three-year deferral expired anyway on July 21, 2014
- Supreme Court decision did not directly address
- Include biogenic CO₂ from any PSD project (triggered for another pollutant) to determine if GHG emissions greater than tailoring thresholds, but consult with agencies on case-by-case application

PSD Applicability After the Supreme Court Decision

PTE of 300 MMBtu/hr of ultra-low NOx gas combustion at an existing major source

Pollutant EF	TPY	PSD Significant Rate
GHG: 117 lb/MMBtu	154,000	75,000 if another pollutant triggered
PM2.5: 0.0075 lb/MMBtu	9.9	10
NOx: 0.03 lb/MMBtu	39.4	40
CO: 0.02 lb/MMBtu	26	100

Supreme Court Decision & Utility GHG NSPS/ESPS

- May impact EPA authority under proposed existing source emission guidelines
- Terms specifically limit PSD/Title V authority
 - Suggests EPA's ability to address existing sources under section 111 is intact
 - Warns against
 - Broadly regulating economic sectors
 - Reading more into vague language around regulatory authority than is appropriate
 - Requiring non-traditional emission control methods
 - Proposed guidelines tempt all three warnings

Other EPA GHG Regulations

- Part 98 GHG Mandatory Reporting Rule still in effect and being updated (e.g. CH₄ from O&G)
- Medium and Heavy-duty Vehicles – to be proposed March 2015
- Aircraft GHG Endangerment Finding and Standards (CAA Section 231) – to be proposed May 2015
- Decided not to pursue petroleum refinery GHG NSPS/ESPS at this time due to recently proposed refinery MACT rules that should reduce GHG

Current GHG Impacts: Social Cost of Carbon (SCC)

- What is it?
 - SCC is an estimate used by EPA and other federal agencies as regulatory justification
 - Meant to be an all inclusive estimate of climate change damages
- What could future impacts include?
 - Future use may be aimed more directly at fossil fuel emitters
 - Fodder for activists disputing permitting actions

Most Recent SCC Estimates (2013)

Social Cost of CO₂, 2015–2050^a (in 2011 Dollars)

Year	Discount Rate and Statistic			
	5% Average	3% Average	2.5% Average	3% 95 th percentile
2015	\$12	\$39	\$61	\$116
2020	\$13	\$46	\$68	\$137
2025	\$15	\$50	\$74	\$153
2030	\$17	\$55	\$80	\$170
2035	\$20	\$60	\$85	\$187
2040	\$22	\$65	\$92	\$204
2045	\$26	\$70	\$98	\$220
2050	\$28	\$76	\$104	\$235

^a The SCC values are dollar–year and emissions–year specific.

<http://www.epa.gov/climatechange/EPAactivities/economics/scc.html>

SCC and MN's "Value of Solar" Policy

- Approach is the opposite of taxing CO₂
- Gives credit for "avoided environmental damages"
 - Avoiding the purchase of energy from other, polluting sources
 - Avoiding the need to build additional power plant capacity to meet peak energy needs
- Utilities must give credit to users who employ solar panels

EPA Energy Initiatives – Combined Heat and Power Partnership

- Voluntary program to reduce environmental impacts of power generation
- Promote economic benefit of CHP projects
- Stakeholders include
 - Energy users
 - CHP industry
 - State and local governments
 - Other clean energy stakeholders

EPA Energy Initiatives – Other Programs

- Green Power Partnership - assists organizations with obtaining electricity generated from renewable resources
- ENERGY STAR® - helps businesses and individuals save money and reduce climate impacts through energy efficiency
- Center for Corporate Climate Leadership - resources for measurement and management of GHGs
- Natural Gas STAR International – reduce methane emissions from O&G operations

Parting Thoughts

- GHG PSD required only if another pollutant is triggered and GHG increase greater than tailoring thresholds (i.e., 75K tpy on CO₂e basis, 0 on mass basis)
- MPCA using enforcement discretion and not removing operating permit GHG rules at this time
- EPA and other agencies using social cost of carbon to justify host of new GHG regulations

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