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Recent Trends in US Climate Change Policy and Litigation

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Climate Change Litigation – The Statutory Claims

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Many Forms of Litigation

Climate Change Litigation has taken many forms

- Statutory claims, including Clean Air Act, Clean Water Act, Endangered Species Act, Energy Policy Act, National Environmental Policy Act.
- Common law claims, based primarily on the doctrine of public nuisance.

Statutory Claims – Three Primary Categories

- Force the government to regulate greenhouse gases (GHGs).
  - *Massachusetts v. EPA,* 127 S. Ct. 1438 (2007) (Clean Air Act)
- Force the government to regulate the effects of climate change.
  - *Center for Biological Diversity v. EPA* – Filed May 2009 (W.D. Wash.) (Clean Water Act)
- Force the government to evaluate the effects federal actions have on climate change.
  - *Center for Biological Diversity v. NHTSA,* 538 F.3d 1172 (9th Cir. 2008) (NEPA)

Impacts on Industry

- While cases are not brought directly against private parties, private parties are impacted by these decisions.
  - Directly – challenge to a permit issuance under Clean Air Act or challenge to government's NEPA decision relating to a private project needing federal permit or approval
  - Indirectly – seeking to compel EPA to regulate GHG emissions from motor vehicles under Clean Air Act (Massachusetts v. EPA)

Force Governmental Regulation of Greenhouse Gas Emissions (CAA)

- Massachusetts v. EPA, 127 S. Ct. 1438 (2007)
  - EPA's refusal to regulate GHG emissions from mobile sources under the Clean Air Act was arbitrary and capricious.
    - CO2 is a "pollutant" under the Clean Air Act.
    - USEPA has the power to regulate GHGs from tailpipe emissions under Clean Air Act.
    - EPA can avoid regulation only it if determines GHGs do not contribute to climate change or provides some reasonable explanation as to why it cannot regulate them.

Massachusetts v. EPA Aftermath

- Endangerment Finding (April 2009)
  - EPA proposed to find that GHGs endanger the public health and welfare and that emissions of GHGs from new motor vehicles are contributing to this problem.
- Proposed Rules (September 2009)
  - NHTSA and EPA signed a proposed rule establishing a national program to improve fuel economy and reduce GHGs from motor vehicles.
- Proliferation of climate change litigation, not only under the CAA but also pursuant to other statutes and the common law.

Proliferation of Litigation – Examples

- Lawsuits challenging new CAA permits because they do not regulate GHGs.
- These efforts have met with some success.
  - Georgia court invalidated PSD permit without CO2 controls, holding that under *Massachusetts v. EPA*, CO2 is a pollutant "subject to regulation," which triggers the PSD program. *Friends of Chattahoochee v. Couch* (on appeal).
  - *KDHE* refused to grant PSD permits for a two coal fired generating units based on state law because the CO2 emissions would endanger health and the environment. *Sunflower v. KDHE* (on appeal).
  - EAB remanded case to EPA to reconsider whether PSD permit must impose BACT limit for CO2. *In re: Deseret Power PSD Appeal No. 07-03* (on remand).

Takeaways

- CAA as a tool
  - CAA can be effective tool in forcing EPA to regulate GHGs.
- More permitting challenges
  - Major projects/plants emitting significant quantities of GHGs can expect their permits to be challenged, at least until Congress or EPA acts.
- Impact of Endangerment Finding
  - May set off a chain reaction -- other sections of the Clean Air Act have similar triggering mechanisms, such as NSPS and NAAQS.
  - EPA maintains finding alone will not set off chain reaction.

CWA Cases – Force Government to Act to Mitigate the Effect

- CWA has its limitations
  - Regulates discharges of pollutants to water (not air emissions).
- Focus is on mitigation of climate change effects on water, rather than directly regulating GHG emissions
  - Argue CO2 causes ocean acidification and have brought suits seeking to mitigate this impact.

CWA Cases – Cont.

- *Center for Biological Diversity v. EPA* – Filed May 2009 (W.D. Wash.)
  - Seeks to compel EPA to place on Washington's Section 303(d) list those waters impaired by ocean acidification.
  - Listing could lead to TMDLs requiring controls on point and nonpoint sources contributing to ocean acidification.
- Takeaway
  - Back door way to regulating climate change.
  - Regulatory mismatch. Sources of water pollution paying for problems they did not cause, but which they may exacerbate.
  - Some argue atmospheric deposition of CO2 is a nonpoint source that can be regulated via TMDLs.

NEPA Cases – Force Evaluation of the Effects Federal Actions Have on Climate Change

- Federal government must assess environmental impacts of any "major federal action" having a "significant effect on the human environment."
  - If government determines there is no significant impact, a FONSI is issued.
  - If it determines significant impact exists, it must prepare a more detailed assessment (EIS).
  - Certain NEPA decisions are subject to judicial review.

Climate Change and NEPA

- Many courts have ruled that agencies must consider GHG emissions and climate change in their NEPA evaluations.
- *Center for Biological Diversity v. NHTSA,* 538 F.3d 1172 (9th Cir. 2008)
  - Ninth Circuit held NHTSA's Environmental Assessment was inadequate in connection with its issuance of stricter fuel economy standards for light trucks.
  - The impact of GHG emissions on climate change "is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct."

Center for Biological Diversity cont.

- Failed to evaluate impacts on climate change
  - Cumulative impact analysis quantified the expected amount of CO2 emitted from trucks under the rule, but did not evaluate "the incremental impact these emissions will have on climate change" in light of other actions.
- Suggested evaluation consider tipping point argument (one small step leads to abrupt climate change)
  - "Petitioners presented evidence that continued increase in GHG emissions may change the climate in a sudden and non-linear way. Without some analysis, it would be impossible for NHTSA to know whether a change in GHG emissions of 0.2 % or 1% or 5 % or 10% will be a significant step toward averting the tipping point and irreversible adverse climate change."

Takeaway

- More Detailed Evaluations of Climate Change Impacts
  - Any project that calls for an increase in energy may require an evaluation of the net negative effect of the project on climate change. Even actions that appear innocuous might require EIS.
- Tipping point/Need for new Regulations
  - How does one determine if a given increase in GHG emissions will cause an impact that crosses the tipping point?
- Expect More NEPA challenges based on Climate Change
  - Opponents to action likely will use this expansive view to challenge NEPA evaluations for private projects.

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Climate Change Litigation - Torts

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Overview

- Types of Climate Change Tort Suits
- Public Nuisance – Basics of the Claim
- Political Question Doctrine
- Standing
- Status of Pending Cases
- Climate Change Tort Cases – Predictions & Some Open Legal Issues

Types of Climate Change Tort Suits

- Public Nuisance Claims Seeking Injunctive Relief
- Public Nuisance Claims Seeking Damages
- Private Nuisance, Trespass & Negligence
- Fraudulent Misrepresentation, Unjust Enrichment, Civil Conspiracy and similar actions
  - Have been piled on to nuisance claims
- Products Liability Claims
  - None known to have been filed but academic literature has discussed

Public Nuisance Claims Seeking Injunctive Relief

- *Conn. v. AEP*(federal court – New York)
  - 8 States, City of New York & 3 land trust/conservancy groups seek injunction restricting GHG emissions from 5 major electric power producers
  - Trial court dismissed on political question grounds (Sept 2005)
  - Second Circuit reversed and remanded (Sept 2009)
- *Korsinsky v. EPA* (federal court – New York)
  - *Pro se* litigant sought injunction requiring EPA and New York environmental agency to regulate GHGs
  - Trial court dismissed for lack of standing (Sept 2005)
  - Second Circuit affirmed (Aug 2006)

Public Nuisance Claims Seeking Damages

- *Comer v. Murphy Oil* (federal court – Mississippi)
  - Class action seeking damages due to alleged increased strength of Hurricane Katrina caused by GHG emissions of electric power producers, oil refiners and chemical companies producing halocarbons, e.g. HCFCs
  - Trial court dismissed for lack of standing and on political question grounds (Aug 2007)
  - Fifth Circuit reversed and remanded public & private nuisance, trespass and negligence claims but affirmed the dismissal of fraudulent misrepresentation, civil conspiracy and unjust enrichment claims (Oct 2009)

Public Nuisance Claims Seeking Damages

- *Native Village of Kivalina v. ExxonMobil* (fed. ct. – Cal.)
  - Eskimo village seeks damages for need to relocate village due to erosion resulting from melting sea ice caused by climate change from oil, energy and electric power producers
  - Trial court dismissed for lack of standing and on political question grounds (Sept 2009)
- *California v. General Motors* (fed. ct. – Cal.)
  - State sought damages from 6 automakers for contributing to global warming
  - Trial court dismissed on political question grounds (Sept 2007)
  - California voluntarily dismissed appeal (June 2009)

Public Nuisance - Basics of the Claim

- Unreasonable interference with a right common to the public. *Restatement (Second) Torts, §*821B.
  - Significant interference with the public health, safety, peace, comfort or convenience
  - Conduct prohibited by statute or regulation
  - Conduct of a continuing nature or which has produced a permanent or long-lasting effect, which the actor knows or should know, has a significant effect upon a public right
- Must impact a <u>public</u> right
  - Pollution of river impacting use of riparian property – No
  - Pollution of river that impacts public beach or fishing – Yes

Public Nuisance - Basics of the Claim

- Unreasonable interference caused by conduct that is:
  - Intentional and unreasonable; or
  - Negligent, reckless or abnormally dangerous (unreasonableness implied in these concepts). *Restatement* §821B, comment e.
- Unreasonableness component implies a balancing of costs and benefits of action alleged to cause public nuisance
- For a private party to recover damages for a public nuisance, the party must have suffered damage of a kind different than the general public. *Restatement §*821C.

Public Nuisance - Basics of the Claim

- Federal vs. State Law
  - In interstate air and water pollution cases, the Supreme Court has applied federal common law when there is no controlling federal statute and when there may be a conflict between a federal interest and the application of state law. *Georgia v. Tenn. Copper* (S.Ct. 1907 & 1915); *Illinois v. City of Milwaukee* (S.Ct. 1972 & 1981).
  - When federal statute displaces federal common law, the federal statute may preserve some state nuisance claims, particularly those based on law of the state of the source of the alleged nuisance. *Int'l Paper Co. v. Oulette* (S.Ct. 1987); *North Carolina v. TVA* (W.D. N.C. 2008 & 2009).

Public Nuisance Applied in *Conn. v. AEP*

- Found that federal common law and *Restatement* applied to claims of the States based on long history of Supreme Court cases brought by States
  - Rejected argument that federal common law could apply only when necessary to decide a case within original jurisdiction of Supreme Court
  - Rejected argument that federal common law could apply only to "simple type" nuisances that are immediately noxious or harmful or are localized
- Also found that federal common law applied to claims of City of New York and private party land trusts because of inherently interstate nature of the alleged climate change public nuisance
  - Rejected argument that federal common law applies only when a State is a party
  - Found that City and land trusts had alleged injuries to public rights and that land trusts had alleged injuries of a character different than those suffered by the general public
- Rejected argument that Clean Air Act displaces federal common law applying an "actual conflict" rather than "field preemption" analysis

Political Question Doctrine

- Derived from separation of powers provisions of the US Constitution
- Not every case touching on issues of significant political debate involves a "political question" over which courts lack jurisdiction
- Since seminal case in 1962, the Supreme Court has rarely invoked the doctrine to deny hearing a case

Political Question Doctrine

- Six Formulations (from *Baker v. Carr* (S.Ct. 1962))
  1. Constitutional text commits issue to Congress or Executive
  2. Lack of judicially discoverable or manageable standards to resolve case
  3. Impossible to decide case without an initial policy judgment of a non-judicial nature
  4. Judicial resolution will inevitably express lack of respect for Congress or Executive
  5. Unusual need to adhere to a political decision already made
  6. Potential for inconsistent decisions
- The formulations are distinct bases, but often overlap

Political Question Doctrine Applied in Climate Change Cases

- The trial courts in *AEP*, *GM*, *Comer*, and *Kivalina* all dismissed on political question grounds
- Summary of *Conn. v. AEP* (2d Cir.) and *Comer* (5th Cir.)
  - No textual commitment of climate change issues generally or damage claims in particular to Congress or the President in the Constitution
  - Imposing GHG emissions reductions on the *AEP* defendants would not interfere with conduct of foreign relations
  - *Restatement* or Mississippi tort law provided judicially enforceable standards for public nuisance claims that did not require any non-judicial initial policy determination
  - A decision would not interfere with other branches because there is no unified policy on climate change

Standing

- *Lujan v. Defenders of Wildlife* (S.Ct. 1992)
  - "Injury in fact"
    - Must be concrete and particularized
    - Must be actual or imminent
  - Injury must be "fairly traceable" to defendant's conduct
  - Must be likely, not speculative, that favorable decision will "redress" the injury
- Prudential Standing
  - Plaintiff cannot raise another person's rights
  - No adjudication of generalized grievances
  - Plaintiff must fall within the "zone of interests" sought to be protected by the legal basis for the suit

Standing

- *ParensPatriae*Standing
  - Applies when a State sues on behalf of its citizens. *Alfred L. Snapp & Son, Inc. v. Puerto Rico* (S.Ct. 1982).
  - The State's interest must be quasi-sovereign, e.g., to remedy injuries impacting the well-being of its citizens
    - not sovereign (right to legislate or enforce laws), proprietary (as owner of property) or private (State cannot be front for private interests)
  - Injuries must be to a sufficiently broad segment of the State's population and be concrete enoughto create an actual controversy
  - Not entirely clear if *Lujan* standards must also be satisfied; remains controversial as demonstrated by 5-4 ruling in *Mass. v. EPA* (S.Ct. 2007)

Standing Applied in Climate Change Cases

- *Comer* (5th Cir.) (Split decision-reversed trial court in part)
  - Nuisance, Negligence & Trespass Claims
    - Defendants challenged only "fairly traceable" component of standing
    - Court found:
      - At pleading stage, enough for plaintiff to allege that defendant discharges a pollutant that causes or contributes to the injury in fact
      - Standing decision in *Mass. v. EPA* (S.Ct. 2007) largely controlled
    - Court glossed over distinction that this is a private party damage case whereas *Mass v. EPA* involved a State seeking an injunction and also did not apply *Ashcroft v. Iqbal* (S.Ct. 2009), which requires the complaint to include factual allegations showing defendants' liability is "plausible"
  - Unjust Enrichment, Misrepresentation, & Conspiracy Claims
    - Failed to satisfy prudential standing; court found allegations that defendants made false public statements about climate change issues causing government to under-regulate GHGs was a generalized grievance

Standing Applied in Climate Change Cases

- *Conn. v. AEP* (2d Cir.) (reversed trial court)
  - States have standing as *parenspatriae* to assert injuries to their general populations
  - Both the States and the land trusts plead current and future injuries to lands they owned from sea level rise, etc.
  - "Fairly traceable" element of standing satisfied for essentially same reasons as *Comer*
  - Rejected defendants' argument that capping their emissions would not remedy plaintiffs' damages because of other sources of GHGs contributing to global warming
  - Found plaintiffs had sufficiently alleged that reducing defendants emissions of GHGs would slow or reduce global warming, which was enough under *Mass. v. EPA* (S.Ct. 2007)

Status of Pending Cases

- *Conn. v AEP*
  - Request to Second Circuit for rehearing *en banc* filed Nov 5, 2009
- *Comer*
  - Request to Fifth Circuit for rehearing *en banc* filed Nov 30, 2009
- *Native Village of Kivalina*
  - Notice of appeal to Ninth Circuit filed Nov 6, 2009
- These appeals raise significant Constitutional issues that may draw Supreme Court review -- particularly in *Comer* and *Kivalina* because they are private party cases.

Climate Change Tort Cases – Predictions

- If the Second and Fifth Circuit decisions are reversed, climate change tort litigation will suffer a severe setback
- If the Second and Fifth Circuit decisions stand:
  - These cases will go back to trial courts for further motion practice and discovery
  - Other possible climate change plaintiffs may see suits as more attractive
  - BUT, these cases are far from over – the plaintiffs still have significant proof problems and defendants have substantial other defenses

Climate Change Tort Cases – Some Open Legal Issues

- Can private party plaintiffs rely on federal common law?
  - *Conn. v. AEP* (2d Cir.) said yes, but that seems inconsistent with Supreme Court decisions basing creation of federal common law on original jurisdiction over cases involving States.
- Does the Clean Air Act or any new Congressional or Presidential or EPA action on GHGs displace federal common law or preempt state law?
  - Is displacement based on "field" or "actual conflict" preemption style analysis?
  - The Clean Air Act has strong express preemption language for mobile sources and related fuels and also regulates emissions of halocarbons.

Climate Change Tort Cases – Some Open Legal Issues

- If no displacement or preemption, what law applies?
  - Supreme Court decisions suggest that federal common law, rather than state law, should apply in interstate pollution cases.
  - If federal law displaced, does law of state of plaintiff or law of state of defendant sources apply?
- Is there an interference with a public right?
  - Particularly an issue in private property damage cases
  - Is there a public right to a static climate?
- What is the legal standard for liability? Must the interference be unreasonable in a cost-benefit balancing sense, or, is there a form of strict liability for any "significant" harm to public right?

Climate Change Tort Cases – Some Open Legal Issues

- Can plaintiffs prove proximate causation?
  - Is there sufficient scientific evidence to show that defendants significantly contributed to global warming?
  - *Palsgraf* foreseeability: Decisions in some of the gun manufacturer and lead based paint cases suggest the causal chain between GHG emitters and global warming may be too remote to impose liability.
- Can defendants be held liable for emissions of GHGs from the use of their products by third parties?

Climate Change Tort Cases – Some Open Legal Issues

- Should liability be apportioned according to common law standards?
  - Defendants should be able to obtain apportionment if they can show a "reasonable basis" for it. *BN&SFRwy v. U.S.* (S.Ct. 2009)
  - Who will bear the share of global warming impact due to natural events, household emissions and parties not before the court?
- Who will the primary defendants add as third party defendants?
  - Will courts implement some *de minimis* threshold for liability?

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An Update on USEPA's Climate Regulations

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Mobile Sources

- Background
  - In 1999, 19 private organizations asked EPA to regulate greenhouse gas (GHG) emissions from new cars.
  - That eventually led to the Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), which held that GHGs are air pollutants under the Clean Air Act (CAA) and that EPA had to determine, in accordance with the CAA, whether GHGs from new light-duty motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare.

Mobile Sources

- Endangerment Findings
  - In response, EPA has proposed making two separate findings under the CAA, 74 Fed. Reg. 18,886 (April 24, 2009).
  - First, based on its assessment of the existing scientific literature, EPA would conclude that the mix of the six Kyoto Protocol GHGs—carbon dioxide, methane, nitrous oxide, perfluorocarbons, hydrofluorocarbons and sulfur hexafluoride—constitutes "air pollution" which endangers public health and welfare.

Mobile Sources

- Endangerment (cont'd)
  - Second, the Agency would find that combined emissions from new motor vehicles and new motor vehicle engines of carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons contribute to that air pollution.
  - In this regard, EPA emphasized that all on–road vehicles in the United States account for 24% of national GHG emissions and greater than 4% of worldwide emissions.
  - The comment period ended on June 23, 2009.

Mobile Sources

- The Light-Duty Vehicle GHG Proposed Rule
  - EPA and NHTSA jointly have issued a proposed rule to reduce GHGs from light–duty vehicles and improve their fuel economy. 74 Fed. Reg. 49,454 (Sept. 28, 2009).
  - Specifically, EPA would set tailpipe standards for carbon dioxide, nitrous oxide, and methane as a complement to NHTSA fuel economy standards for the model years 2012-2016.
  - The comment deadline was November 27, 2009, and the rule is to be effective by March 2010.

Tailoring Rule

- Background
  - Because EPA expects to regulate GHG emissions from light-duty vehicles, it also is proposing new GHG "applicability thresholds" for stationary sources under the CAA's Prevention of Significant Deterioration (PSD) and Title V Operating Permit Programs.

Tailoring Rule

- PSD
  - Applies in areas that either meet national ambient air quality standards or that are "unclassifiable"
  - Requires preconstruction review and permitting for "new major stationary sources" and "major modifications"
  - The CAA specifies that a major emitting facility is a stationary source which either (i) is on a list of 28 categories and has the potential to emit 100 tons per year of any air pollutant, or (ii) has the potential to emit greater than 250 tons per year of any air pollutant.

Tailoring Rule

- PSD (cont'd)
  - A "major modification" is determined in part by whether a change results in a "significant" increase. Any emissions increase is significant unless EPA establishes a specific "significance level."
  - Long-standing EPA regulations interpreted the PSD requirements as covering "regulated" air pollutants.
  - EPA is considering what it means for a pollutant to be subject to regulation under the CAA. See 74 Fed. Reg. 51,535 (Oct. 7, 2009) (comment period ends December 7, 2009).
  - Emissions limitations for pollutants subject to PSD are to be based on BACT – the best available control technology.

Tailoring Rule

- Title V
  - Requires “major "sources to obtain an operating permit.
  - While lower thresholds may apply, the CAA specifies that a facility which emits or has the potential to emit 100 tons per year of any air pollutant is major for purposes of Title V.

Tailoring Rule

- The Issue
  - Once EPA finalizes its endangerment findings, and issues CAA regulations controlling GHG emissions from light-duty motor vehicles, GHGs will be "subject to regulation under the CAA" and automatically covered by PSD and Title V requirements.
  - EPA believes that if GHG emitters were subject to the existing PSD and Title V thresholds, permitting authorities would be paralyzed by the increase in applications.

Tailoring Rule

- The Agency's Proposal
  - Under the doctrines of "absurd results" and "administrative necessity," the literal statutory thresholds would not be applied.
  - The major source threshold for both the PSD and Title V programs would be set at 25,000 tpy of carbon dioxide equivalent (CO2e) GHG.
  - A "significance" level between 10,000 and 25,000 tpy CO2e for the PSD program would be selected.
  - EPA has asked for comments on permit streamlining.

Tailoring Rule

- The Agency's Proposal (cont'd)
  - Prior approvals of state programs would be limited.
  - EPA would conduct a study to assess "administrability," would evaluate lower thresholds, and would begin another rulemaking to be completed in six years.
  - Comments are due by December 28, 2009.
  - But what is BACT for GHGs?

Greenhouse Gas Reporting

- Background
  - The FY08 Omnibus Appropriations Act, signed in December 2007, directed EPA to issue within 18 months a final rule requiring mandatory GHG reporting "in all sectors of the economy."
  - According to an accompanying explanatory statement, the Agency was to include, as appropriate, upstream production, downstream sources, and thresholds.
  - EPA Administrator Lisa Jackson signed a 1400+ page proposed rule on March 10, 2009.

Greenhouse Gas Reporting

- Background (cont'd)
  - The Agency's final rule appears at 74 Fed. Reg. 56,260 (Oct. 30, 2009).
  - As the legal authority for the rule, EPA relied solely on sections 114 and 208 of the Clean Air Act.

Greenhouse Gas Reporting

- What gases are covered?
  - Carbon dioxide (CO2)
  - Methane (CH4)
  - Nitrous oxide (N2O)
  - Hydrofluorocarbons (HFCs)
  - Perfluorocarbons (PFCs)
  - Sulfur hexafluoride (SF6)
  - “Other fluorinated greenhouse gases” (e.g., Nitrogen trifluoride and Hydrofluorinated ethers)

Greenhouse Gas Reporting

- Who Reports?
  - Suppliers of fossil fuels or industrial greenhouse gases
  - Manufacturers of heavy-duty vehicles and engines
  - Facilities that emit 25,000 metric tons or more of CO2e per year

Greenhouse Gas Reporting

- "All In" Direct Sources
  - A facility containing any of the source categories listed below must report emissions from all source categories at the facility for which calculation methodologies are provided in any subpart of the rule.

Adipic Acid Production

Aluminum Production

Ammonia Manufacturing

Cement Production

Electricity–Generating facilities that report CO_2 emissions year-round pursuant to 40 CFR Part 75

HCFC-22 Production

HFC-23 Destruction Processes that are not co-located at an HCFC-22 production facility and that destroy more than 2.14 metric tons of HFC-23 per year

Lime Manufacturing

Manure Management Systems with combined CH4 and N2O in amounts equal to or greater than 25,000 metric tons of CO2e per year, *except that Congress* is *prohibiting the expenditure of funds to implement these requirements*

Municipal Solid Waste Landfills – *that generate* CH4 in amounts equivalent to 25,000 metric tons of CO2e per year or more

Nitric Acid Production

Petrochemical Production

Petroleum Refineries

Phosphoric Acid Production

Silicon Carbide Production

Soda Ash Production

Titanium Dioxide Production

*Source:ww.epa.gov/climatechange/emissions/downloads/GeneralProvisions.pdf

Greenhouse Gas Reporting

- Emissions Threshold Sources
  - If a facility does not contain any of the "all-in" source categories, then the facility must determine whether it emits greater than or equal to 25,000 metric tons of CO2e in combined emissions from stationary fuel combustion, miscellaneous carbonate use, and the source categories below in any calendar year starting in 2010.
  - If so, the facility must report emissions from all source categories at the facility for which calculation methodologies are provided in any subpart of the rule.

Ferroalloy Production

Glass Production

Hydrogen Production

Iron and Steel Production

Lead Production

Pulp and Paper Manufacturing

Zinc Production

Greenhouse Gas Reporting

- Combustion Sources
  - If a facility does not contain any of the source categories in the prior 2 slides, then it must determine whether it emits greater than or equal to 25,000 metric tons of CO2e from stationary combustion in any calendar year. If so, the facility must report only its emissions from stationary fuel combustion devices, including:
    - Boilers
    - Stationary Internal Combustion Engines
    - Process heaters
    - Combustion turbines
    - Other, but excluding portable equipment, emergency generators, emergency equipment, agricultural irrigation pumps, flares, and hazardous waste combustors (except for co-fired fossil fuels)

Greenhouse Gas Reporting

- Combustion Sources (cont'd)
  - If the combined maximum rated heat input capacity for all stationary fuel combustion equipment is less than 30 million British thermal units (Btu)/hour, then the facility is presumed to emit less than 25,000 metric tons of CO2e and does not have to calculate or report emissions.

Greenhouse Gas Reporting

- How Would You Report?
  - Corporate reporting is required only for a few sources, including heavy-duty vehicle and engine manufacturers, fossil fuel importers and exporters, and local gas distribution companies.
  - Data primarily is to be reported at the facility level.
  - Depending on the source, the report must contain a variety of facility, unit, process, and production data.
  - The rule relies on direct measurement data plus facility-specific calculation methods.

Greenhouse Gas Reporting

- How Would You Report? (cont'd)
  - From January 1, 2010 until March 31, 2010, sources may use best available monitoring methods for any parameter (such as fuel use or daily carbon content of feedstock) that cannot reasonably be measured in accordance with the prescribed methodologies.
  - The final rule includes a procedure for extending use of best available methods through the end of 2010. A facility owner or operator must make such a request by January 28, 2010.
  - EPA did not delegate administration to the States and did not preempt State programs.

Greenhouse Gas Reporting

- Example of Data To Be Collected

Ammonia Manufacturing Monitoring Checklist

Source: www.epa.gov/climatechange/emissions/downloads/checklists/ammoniamanufacturing.pdf

If NOT using a CEMS, measure these parameters on a monthly basis…

- ❑ Volume of gaseous feedstock (standard cubic feet [scf]) (with flow meter).
- ❑ Carbon content of gaseous feedstock (kilogram [kg] C per kg of feedstock).
- ❑ Molecular weight of the gaseous feedstock (kg/kg-mole).
- ❑ Volume of liquid feedstock (gallons) (with flow meter).
- ❑ Carbon content of solid feedstock (kg C per kg of feedstock).
- ❑ Volume of waste recycle stream, if applicable (scf).
- ❑ Carbon content of waste recycle stream, if applicable (kg C per kg of waste recycle stream).
- ❑ Molecular weight of the waste recycle stream, if applicable (kg/kg-more).

Greenhouse Gas Reporting

Ammonia Checklist (cont'd)

If NOT using a CEMS, measure these parameters on a monthly basis…

- Carbon content of liquid feedstock (kg C per gallon of feedstock.
- Mass of solid feedstock (kg) (from company records and aggregated on monthly basis).
- Annual urea production, if applicable (metric tons).
- Total pounds of synthetic fertilizer produced and total nitrogen contained in that fertilizer.

Ammonia Checklist (cont'd)

If using a CEMS: In addition to the monitoring requirements under 40 CFR subpart C for the Tier 4 Calculation Methodology, measure these parameters…

- Annual quantity of each type of feedstock consumed for ammonia manufacturing (scf of gaseous feedstock, gallons of liquid feedstock, and kg of solid feedstock)

Greenhouse Gas Reporting

- Timing
  - Data collection for facilities and suppliers must start in January 2010.
  - Annual reports will first be due in March 2011.
  - Reporters will self-certify.
  - Must correct errors.
  - Must retain records (including a GHG monitoring plan) for three years.

Greenhouse Gas Reporting

- Next Steps
  - Look for EPA to develop supplemental rules requiring additional sectors to report GHG emissions.
  - Ethanol production?
  - Industrial landfills?
  - Wastewater treatment?
  - Coal suppliers?
  - Underground coal mines?
  - Food Processing?
  - Electronics manufacturing?
  - Fluorinated GHG production?
  - Magnesium production?
  - Oil and gas systems?
  - SF6 from electrical equipment?

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Climate Change Developments in the U.S. Congress, and in International Treaty Negotiations

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Climate Change Legislation

- US House of Representatives
  - Energy-Climate Legislation
    - House Bill 2454 (H.R. 2454) – "American Clean Energy and Security Act of 2009" (ACESA), also referred to as "Waxman-Markey" bill.
      - House narrowly passed and sent to Senate over 1,400-page ACESA on June 25, 2009 by vote of 219-212 with 44 Democrats voting "no" and 8 Republicans voting "yes".
      - ACESA is a combined energy and climate bill.
        - Third major energy bill to pass House in second half of this decade (previous in 2005 and 2007); aims to-shift US economy away from reliance on fossil fuels, particularly coal and imported oil, toward renewable energy at an accelerated pace.

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- First time either House of Congress voted on and passed bill mandating reduction by large US sources of such greenhouse gases (GHGs) as carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, and hydrofluorocarbons.

– Summary of Energy Provisions

- Amends Public Utility Regulatory Policies Act (PURPA) to set 20% mandatory combined efficiency/Renewable electricity standard by 2020 applicable to electricity suppliers in US that sell more than 4 million megawatt-hours (MWh) of electricity annually at retail.
- Requires Federal Energy Regulatory Commission (FERC) to develop grid planning principles to achieve national policy goals, including facilitating deployment of renewable energy, ensuring reliability, reducing congestion, ensuring cyber-security, and serving planning needs of load-serving entities under Federal Power Act.

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- Other energy-related authorities provided in ACESA are: addressing electric vehicle infrastructure needs for plug-in hybrid electric vehicles (PHEVs), assessment of smart grid cost-effectiveness in products, nuclear and advanced technologies, new energy efficiency lighting standards, industrial energy efficiency programs, building energy efficiency programs, and establishment of a carbon capture and sequestration demonstration and early deployment program.

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- Summary of Climate Provisions
  - ACESA amends Clean Air Act (CAA) to, among other things:
    - establish federal GHG registry at EPA for “covered entities” and vehicle fleets emitting more than 25,000 tons of carbon dioxide equivalent annually .
    - create a multi-economic sector, market-based “cap-and-trade” system capping GHG emissions from large downstream stationary sources and from upstream fossil fuel suppliers.

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- Cap-and-Trade Program Provides For:
  - "Economy-wide" reduction "goals" starting at 3% in 2012, 17% in 2020, 42% in 2030, and ultimately by at least 83% below 2005 GHG emission levels in 2050. Also, requires that Environmental Protection Agency (EPA) regulations for cap and trade "shall cap and reduce annually" GHGs by the above years and percentages from "capped sources", which appears to convert the goals into mandated targets.
  - Establishment of a quantity of emission allowances (i.e. essentially a permit to emit) for each calendar year 2012-2050 and compliance obligations for covered entities from various economic sectors, such as electricity sources, fuel producers and importers, industrial stationary sources, geological sequestration sites, fossil fuel-fired combustion devices, and natural gas distribution companies.

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- Creation of a "Strategic Reserve" of allowances to be offered at a floor price starting at $28.00 in 2009 dollars for 2012, but price would increase annually by 5%, plus inflation, for 2013-2014 and, in 2015, set at 60% above a rolling 36-month average.
- Issuance of credits from 2 billion tons of domestic and international offsets on a 1:1 basis domestically and through 2017 internationally, but after that a covered entity must hold 1.25 international credits in lieu of an allowance.
- Provides in the early years of the program for a percentage of free allowances to be allocated to electricity consumers, small electricity local distribution companies, natural gas consumers, trade vulnerable industries, low income consumers, deployment of carbon capture and storage, and for investment in state renewable energy and energy efficiency programs.
- Also provides for auctions of allowances to be purchased by covered entities.

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- Also, ACESA-
  - gives Federal Energy Regulatory Commission (FERC) broad authority to regulate allowances, offsets, and renewable energy credit trading and modifies Commodities Exchange Act to assign Commodities Futures Trading Commission (CFTC) oversight over derivatives markets for allowances, offsets, and renewable credits.
  - Addresses international competition issues regarding major GHG emitting foreign countries.
  - Addresses green jobs and worker transition and provides domestic and international adaptation programs.
- Next step: awaits Senate action on energy and climate bills.

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- US Senate
  - Energy Legislation
    - Senate bill 1462 (S.1462), introduced by Senator Bingaman, referred to the Committee on Energy and Natural Resources (ENR).
    - On July 16, 2009, ENR Committee adopted S.1462, the "American Clean Energy Leadership Act of 2009", by a bipartisan vote of 15-8 with 4 Republicans "yes" and 2 Democrats "no".
    - Like ACESA, S.1462 covers appliances, energy efficiency, building energy codes, reliability of US electricity transmission grid, renewable electricity standards, carbon capture and storage, energy market manipulation, and aid for deploying clean energy technologies.

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- Unlike Waxman-Markey bill, Senate energy bill does not address climate issues, but goes beyond H.R.2454 on energy issues, such as promoting new oil and gas sources.

Next steps:

On July 17, 2009 S.1462 was added to Senate Calendar where it awaits floor consideration, probably in conjunction with Senate climate bill, although some in Senate have suggested its consideration separately from climate legislation.

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- Climate Legislation
  - Senate bill 1733 (S.1733) introduced September 30, 2009 by Senators Kerry and Boxer and referred to Committee on Environment and Public Works (EPW).
  - On November 5, 2009, EPW Committee adopted a substitute version of S.1733 known as the "Clean Energy and American Power Act" (also referred to as the "Kerry-Boxer" bill) by a vote of 11-1 with only Democrats present and voting. No amendments were offered because Republicans boycotted EPW meetings so as to prevent a quorum to offer 80 pending amendments. They contended that an October 23, 2009 "Economic Impacts" report on the bill by EPA was inadequate and incomplete and wanted a new, comprehensive one. The one "no" vote was by Senator Baucus, who authored 19 of the 80 amendments that were not considered, and who is Chairman of Finance Committee that will consider S.1733, probably in early 2010.

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- The 959-page S.1733 is primarily focused on climate and the reduction of GHGs, not energy, although it includes some provisions on energy efficiency, renewable energy, and nuclear policy, as well as other measures on water, transportation, and adaptation.
- Like Waxman-Markey, S.1733 broadens CAA to add a mandatory "cap-and-trade program" for a declining reduction of GHG emissions from a variety of large US economic sectors, although neither bill is economy-wide.
- While the ultimate goal of both bills is a reduction in GHGs of 83% in 2050 and both start at a reduction of GHGs at 3% in 2012, the 2020 to 2030 target of S.1733 is a more stringent 20% reduction from 2005 emission levels than the 17% required by H.R.2454. Also, unlike the House bill, these percentages are "goals "only.

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- The stringency of these percentages for the early years in both bills is a concern for various entities because current technologies are not purported to be adequate to achieve them between 2012 and 2025 and later.
- Also, in early November 14 Democratic Senators from the Midwest and West signaled dissatisfaction with the allowance allocation formula in S. 1733 for coal-dependent utilities.
- Like Waxman-Markey, Kerry-Boxer makes available to covered entities free emission allowances, but S. 1733 sets aside about 16% of the annual allowance pool for Federal deficit reduction and other purposes, causing these entities under the Senate bill to have to buy at auction more allowances, and lessening the free allowance pool.

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- S.1733 also provides a reserve with a floor price of $28.00 at 2005 dollars, which is to grow from 2013 to 2017 at 5%, plus inflation, and at 7% for 2018 and later.
- In the case of offsets, Kerry-Boxer would allow use of three-fourths domestic and one-fourth international, but with same 2 billion tons limit annually as in H.R.2454.
- Both House and Senate climate bills provide some amendments to other existing CAA regulatory authorities, including a short time-limited preemption of state authority to run their own cap-and-trade programs, but neither directly limits GHG regulation to the EPA run cap-and-trade program exclusively with the result that the term “air pollutant,” as defined in the CAA and interpreted in 2007 by the Supreme Court to include GHGs, remains applicable to various CAA provisions, albeit with some specific exceptions added by both bills.

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- Both bills require EPA to promulgate numerous regulations implementing the CAA amendments, affording EPA wide discretion in fashioning the regulations making the start date of 2012 very tight.

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- Next steps: Before climate bill is debated in full Senate, other Committees are expected to consider it, such as Committees on Agriculture, Commerce, Finance, Foreign Relations, and Labor. No firm schedule has been established for the Committees to act. Senate Majority Leader has indicated that Senate floor debate will not occur until "spring of 2010." Three Senators Kerry, Graham and Lieberman reported to be trying (with support of the Leader) to fashion a "framework" consensus that will involve nuclear power and offshore drilling for oil and gas, which will likely have to be considered in committees. There is no definite timetable. Other Senate legislation (e.g., health care, financial reform, and jobs) is reported to be ahead of climate legislation for Senate floor action.

Copenhagen and International Climate Change

- Background
  - Kyoto Protocol (KP) adopted under the U.N. Framework Convention on Climate Change (FCCC).
    - The KP entered into force in 2005 and does not expire at the end of this first commitment period. Rather, its Article 3.9 directs that the KP's Conference of the Parties (COP-MOP) initiate negotiations 7 years before end of the Protocol's first commitment period of 2008-2012 to establish amendments to the Protocol for post-2012 commitments.
    - That process began in 2005 and is still underway through meetings by a FCCC Subsidiary Body called the "Ad Hoc Working Group on Further Commitments for Annex I Parties Under the Kyoto Protocol" (AWG-KP). The US is not a KP Party; as an FCCC Party US participates in KP negotiations as an observer country only.

Copenhagen and International Climate Change

- At the 13th meeting of the FCCC's Conference of the Parties (COP-13) in 2007 at Bali Indonesia, Parties agreed to continue the AWG-KP "track" regarding Kyoto Protocol negotiation of commitments and at same time create a separate "track" under the FCCC, called the "Ad Hoc Working Group on Long-Term Cooperative Action" (AWG-LCA). As a Party to the FCCC, US participates. This track is to address what was described as the Bali "building blocks: shared vision, mitigation, adaptation, finance, technology, and capacity building" to "reach an agreed outcome" at Copenhagen in December 2009 when the term of the AWG-LCA ends.

Copenhagen and International Climate Change

U.N. Framework Convention on Climate Change

Kyoto Protocol
First Commitment Period: 2008-2012 for Annex I Parties
(Annex I Parties (Developed Countries) Have Commitments/targets)
(Non-Annex I Parties (Developing Countries) No Commitments/Targets)

Bali Action Plan for Post-2012 Outcome by 2009 Copenhagen
Creates 2 Negotiation Tracks

Track 1	Track 2
AWG-KP	AWG-LCA
2nd Commitment: 2013-20XX	Post 2012 Agreement
New Annex I Targets	Nature of Agreement - Uncertain

Copenhagen and International Climate Change

- Two-Track Negotiations: 2008 through November 2009
  - After Bali, more intensive and frequent negotiations by the two groups (AWG-KP and AWG-LCA) began in earnest, but always on separate "tracks."
  - While developed country Parties have sought merger of the two tracks, the developing country Parties have objected, with many of them insisting that the Kyoto Protocol (and its advantages for them of no new commitments, "common but differentiated responsibilities," and technology transfer commitments) must not disappear, even though they understand that there is little likelihood of US agreeing to new commitments that are part of KP because of longstanding opposition to KP in Senate. Nevertheless, it is still an open issue for developed countries.

Copenhagen and International Climate Change

- Two versions of the AWG-LCA negotiating texts were developed in May and June of 2009; both are very lengthy, often repetitive, and all of the provisions are bracketed. More recently, the June text has been shortened by specific issue papers called "non-papers." However, they too are heavily bracketed.
- AWG-KP also has negotiation text with brackets.
- Both sets of texts/non-papers will be further negotiated by AWGs at Copenhagen.

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- Last June, the State Department submitted for the AWG-LCA negotiations a draft outline of a "proposed implementing agreement" in the form of another Protocol to the FCCC. The Ranking Minority Member of the House Select Committee on Energy Independence and Global Warming asked the Department several questions about the submittal. The September 10, 2009 reply was:
  - That many of its provisions were intended to be "legally binding", particularly "mitigation actions" and that State's "expectation is that such an agreement would be sent to the Senate for advice and consent" to ratification by the President;

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- That, as to the rationale for proposing it in the form of a protocol to Article 17.2 of the FCCC, rather than as a decision or an amendment under Article 15 of the FCCC, the "idea of an implementing agreement" was intended as a "middle ground" to discussions at Bali. There the Parties differed as to whether there should be "an entirely new legal instrument, at one extreme, or a non-legally binding COP decision, at the other". An amendment to the FCCC was not considered by State as a "viable option, given that, per Article 15 of the FCCC, the entry into force requirements for an amendment do not ensure that the key countries would have ratified" and that "provisions can be made legally binding (unlike in the case of a COP decision, generally speaking)."

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- Next Steps: Copenhagen: COP-15 and COP-MOP-5
  - The Copenhagen meeting of the COP and COP-MOP is scheduled for December 7 through 18, 2009. Expected attendance of over 15,000 during the 2 weeks, including over 190 country delegations (with expected US delegation of 300 from State Department, EPA, and other agencies (including at least five cabinet heads, and Congressional), the Convention Secretariat staff, representatives of U.N. agencies, accredited non-governmental organizations (NGOs) from business, enviros, labor, and others, as well as media. Also, will include heads of State from France, Germany, Australia, Great Britain, and possibly others.
  - President Obama, who on December 10 is to be in Norway for Nobel Peace Prize Award, has agreed to attend on December 9, which is in the first week of the 2-week process.

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- COP and COP-MOP will meet at alternative times with separate meetings of subsidiary bodies, including AWGs, plus a 3-day meeting of Ministers. The president of the COP will be the Minister from the host country, Denmark.

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- Potential Results at Copenhagen
  - Only the COP and COP-MOP can adopt decisions, which are generally not binding, and each does so by consensus of the Parties, e.g. the Kyoto Protocol was adopted in 1997 by decision, but it was not binding until it was ratified eight years later by the required number of Parties.
  - On November 17, 2009, the Danish Prime Minister at Pre-COP Consultations appeared to acknowledge that "Copenhagen is not likely to conclude all aspects of a new legal deal;" he nevertheless added that there must be delivery on "substance" and "we must . . . focus on what is possible, and not let ourselves be distracted by what is not possible," should result in the "Copenhagen Agreement," which he called "a politically

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binding agreement," that "should capture progress already achieved in the negotiations" and provide for "immediate action" next year which should be "concrete and binding on countries committing to reach targets, to undertake actions, and to provide finance" with developed countries "delivering substantial reductions and finance" commitments.

- The Minister also said the agreement will not be a "political declaration with niceties," which is a mechanism often used by ministers when the COP cannot decide, "but a decision among all Parties that includes precise language on all aspects of the Bali Mandates: Commitment of developed countries to reductions and of developing countries to actions. Strong provisions on adaptation, finance, technology and capacity

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building, including up-front finance for early action" and a commitment to achieve a legally binding instrument for ratification in 2010.

- The Minister also said the "American President endorsed our approach," and on November 25, the US indicated that it would propose a provisional GHG percentage reduction goal "in the range of 17 percent below 2005 levels."
- It is unclear what will be the response of the developing countries that are large GHG emitters such as China, Indonesia and India.

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- A challenge for Copenhagen and beyond is how to address the issue of one document.
- Probably will need to extend term of AWG-LCA through 2010 and decide schedule of negotiations for 2010.
- Stay tuned.

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