Federal Control of Greenhouse Gas Emissions

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Federal Control Efforts

• International
• New Domestic Legislation
• Using Existing Domestic Legislation
International Treaties

• Framework Convention of Climate Change (FCCC) 1992
  – No binding targets or timetables
  – 192 Countries ratified (inc. U.S.)
  – Modified through an annual Conference of the Parties (COP)
KYOTO (COP-3) 1997

• Entered into force in 2005 when Russia became the 127th nation to ratify the Protocol
• U.S. never ratified
• Reductions of GHGs required for 38 nations plus Europe that are developed economies
• Limited effectiveness
Kyoto to end in 2012

• Copenhagen (COP-15) 2009
  – No agreement
  – Most GHG emissions growth to come from developing nations
  – China and India key
  – Fundamental disagreement as to who pays and who cuts emissions
U.S. Domestic Legislative Proposals

• H.R. 2454 Clean Energy and Security Act of 2009 (Waxman-Markey)
  – Introduced May 21, 2009
  – House approved June 26, 2009
  – 2020 target of 17% GHG reduction
  – Comprehensive approach with cap-and-trade
H.R. 2454

• Reductions based on allowance that decrease over time
  – 70.4% to 82.5% given free
  – About 75% of all allowance are to fund non-GHG reductions
  – Massive income redistribution
Allowance Value

• An allowance allows holder to emit one metric ton of CO$_2$e of a GHG (CAA § 700(5))

• Value estimated by CBO to be $60 billion in 2012 increasing to $113 billion in 2025---average annual value $82.5 billion

• Ten year value $ 825 billion
Who Gets Allowances

• Electric utilities 32% ($264 billion) to go to consumers
• Energy intensive industries 15% ($124 billion)
• Clean energy and energy efficiency programs 13% ($107 billion)
• Natural gas industry 9% ($74 billion) to go to consumers
Allowances cont

- Electric utilities for CCS 2% ($16.5 billion)
- Oil refineries 2% ($16.5 billion)
- Consumers of home heating oil 1.6% ($13 billion)
- Domestic adaptation measures ≈1.5% ($12.3 billion)
- Clean energy and energy efficiency R & D 1.5% ($12.3 billion)
- Wildlife and natural resource mitigation ≈1.5% ($12.3 billion)
- Worker assistance and job training 0.5% (≈$6 billion)
Income Redistribution

• Those in the bottom 20% of incomes are allocated 15% ($124 billion) §321 (CAA § 781 (d))

• This is a tax credit although recipients are entitled to money without paying taxes. Benefits are limited to individuals with an income of $23,000 or less. Families with two or more children receive benefits if their income is $42,000 or less.
Allowances continued

• States to use for investment in renewable energy and energy efficiency programs 7.5% ($62 billion)
• Merchant coal producers and electricity produces with long-term contracts 5% ($41 billion)
• Programs to prevent deforestation in foreign countries 5% ($41 billion)
• Electric vehicle and other advanced automobile technology development 2% ($16.5 billion)
Senate Bills

• S. 1462 American Clean Energy Leadership Act of 2009 (Bingman)
  – Funds energy efficiency, clean energy technology, domestic oil & gas development, grid improvement, and requires 15% of electricity to be renewable energy by 2021.
  – It does not have cap-and-trade
S. 1733 (Kerry-Boxer)

- Clean Energy Jobs and American Power Act.
  - Reported out of Committee Nov. 5, 2009
  - On February 2, 2010 it was placed on the Senate Legislative Calendar
  - Similar to H.R. 2454
  - About 64% of allowances value to be used for income redistribution
GHG Control Using Existing Federal Law

  – Based on CAA §§ 114 & 208 authority
    • Compliance required for sources of 25,000 mt/yr, some motor vehicle manufacturers, and listed industries
    • First reports due March 31, 2011
GHGs and the CAA

• Massachusetts v. EPA 127 Sup. Ct. 1438 (2007) 5 to 4 decision
  – GHGs are air pollutants under § 302(g)
  – Three additional requirements to regulate motor vehicle
    • Endangers public health or welfare
    • Appropriate cost effective technology exists
    • Adequate time to comply is provided

• EPA made endangerment finding December 15, 2009
  – 16 lawsuits are challenging finding
Is CO$_2$ a Pollutant?

- HC + O$_2$ + N$_2$ $\rightarrow$ CO$_2$ + H$_2$O + N$_2$ + heat

This leaves two options

Don’t combust fossil fuels or
Sequester carbon
CO$_2$ as a Criteria Pollutant

- If NAAQS more stringent than ambient air
  - SIP revisions required, but no hope for attainment
  - LAER applies

  If NAAQS less stringent than ambient air
  PSD requirements apply including BACT
Construction and Operating Permits

- PSD/NSR Permits for New & Modified Major Sources
  - No technology meets BACT/LAER definitions
  - Alternatives analysis required
  - What is a major source -- 100 tpy?
Tailoring Rule

- EPA proposed a rule Oct. 27, 2009
  - New sources emitting 25,000 tpy of CO$_2$
    Existing sources of GHGs to be covered if between 10,000 and 25,000 tpy--the exact number is not yet selected

The rule will almost assuredly be litigated
Operating Permits

• At a 100 tpy threshold operating permits will be needed for
  – 1.2 million commercial buildings
    200,000 manufacturing facilities
    20,000 farms

Now there are about 150,000 Subchapter V operating permits
New Source Performance Standards

• NSPS are a likely tool to be used for GHG control
• Many NSPS are expected to have new emission standards established for GHGs.
Hazardous Air Pollutants

• CO₂ does not meet traditional definition of hazardous
• CO₂ can’t be both a criteria pollutant and a HAP
• There does not appear to be the technology to create a MACT standard
Interstate Transport

• CAIR Rule subject to remand by D.C. Circuit
• EPA may not have the legal authority to develop a cap-and-trade program
• CAA § 115 may be a useful approach
Mobile Sources

• EPA and NHTSA issued a proposed rule to reduce GHG from vehicles September 28, 2009 -- 95% is CO₂

• When finalized it will make CO₂ a regulated pollutant and trigger CAA applicability to PSD/NSR programs

• New fuel economy standards issued May 19, 2009 requiring 35.5 mpg by 2016.
Conclusion

• The CAA is a poor tool to control CO$_2$
• Improving the efficiency of energy use is the least costly way to reduce carbon emissions
• Alternative energy needs to be supported, but it will not solve the problem
• Nuclear energy needs to be revisited
• A carbon tax with all the money returned is the best of the economic approaches