



The Roadmap to Climate Change Regulation for the Next Administration: An Overview of EPA's Greenhouse Gas ANPR

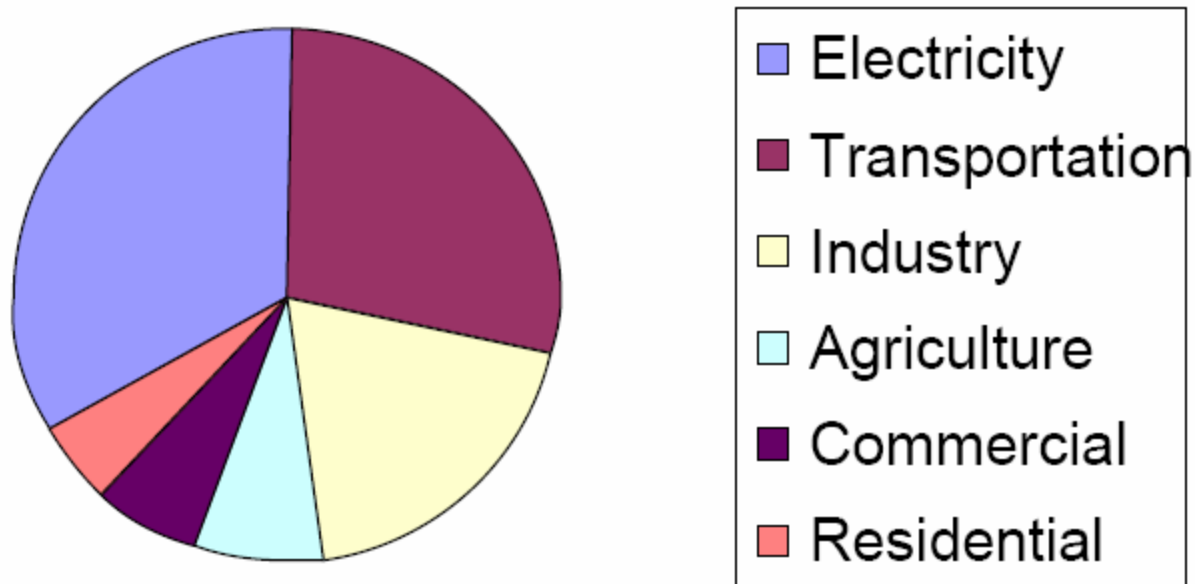
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Topics

- I. Why the ANPR matters
- II. EPA's ANPR: How We Got Here
- III. Five key themes
- IV. ANPR at a glance
- V. A view of endangerment
- VI. Title I/stationary source issues
- VII. Opportunities for other economic sectors
- VIII. Climate change decisions for the next Administration

Why the ANPR matters

Figure VI-1
U.S. GHG Emissions Allocated to
Economic Sectors (2006)



Why the ANPR matters

- EPA becomes a regulator not just of the environment, but of all sectors of the economy.
- Perhaps the most critical opportunity to express views to the McCain or Obama Administration, which likely will rely on the ANPR if it chooses to move forward on regulations.
- Will be consulted not only by EPA, but by Congress in enacting comprehensive legislation.
- Opportunity to identify as a stakeholder in further discussions before EPA, next Administration, and Congress.
- Opportunity to express unique impacts of climate change regulation on specific sectors and businesses, and present novel solutions and contributions toward addressing global climate change.

April 2, 2007 -- Mass v. EPA: Two Key Holdings

- Greenhouse gases are “air pollutants”
 - “Because greenhouse gases fit well within the Clean Air Act’s capacious definition of ‘air pollutant,’ we hold that EPA has the statutory authority to regulate the emission of such gases from new motor vehicles.”
- Agency must consider “endangerment”
 - On remand, the Agency must pursuant to CAA Section 202(a): (1) Make a positive endangerment finding; (2) Make a negative endangerment finding; or (3) offer a “reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do.”

Massachusetts v. EPA Remand

Mass v. EPA:

Remanded ICTA
petition to regulate
GHGs from mobile
sources under CAA
202(a)

Clean Air Act Title II
(Motor Vehicles)

- 20 in 10 regulations/
Executive Order
- 202(a) motor vehicles
- 211(c) and (o) fuels

Massachusetts v. EPA: Arguments Raised

Mass v. EPA:

Remanded ICTA petition to regulate GHGs from mobile sources under CAA 202(a)

Clean Air Act Title II

(Motor Vehicles)

- 20 in 10 regulations/ Executive Order
- 202(a) motor vehicles
- 211(c) and (o) fuels
- 2007 Energy (EISA) Act
- California waiver petition

Clean Air Act Title II

(Other Mobile Sources)

- 213 marine shipping vessels
- 231 aircraft
- 213 nonroad

Clean Air Act Title I

(Stationary Sources)

- NSPS rulemakings
- Permits
- Authorities for potential regulation
 - 108 NAAQS?
 - 111 NSPS?
 - 112 HAP?
 - Others?
- PSD/NSR

Other Stationary Source Issues

- Mandatory reporting
- CO2 sequestration

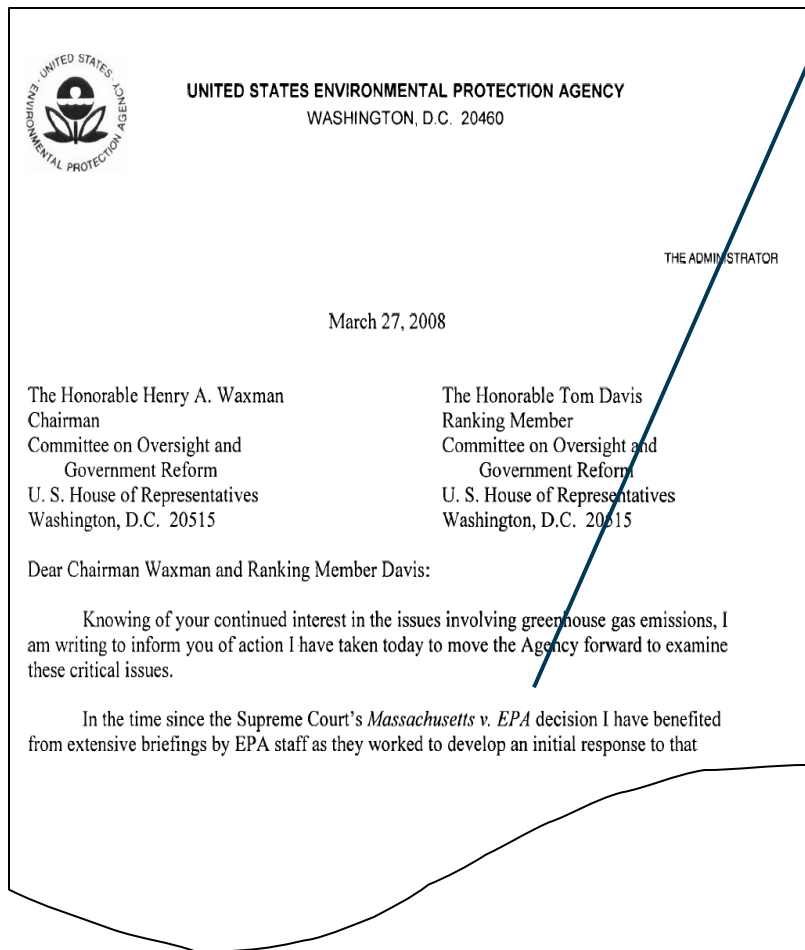
Natural Resource Issues

- NEPA
- Endangered Species Act
- EPA Water Strategy

Other issues

- Legislative initiatives/ EPA Review
- International discussions
- Enterprise sustainability

Clean Air Act: EPA's Advanced Notice of Proposed Rulemaking



"...Such an approach makes sense because, as the Act is structured, any regulation of greenhouse gases – even from mobile sources – could automatically result in other regulations applying to stationary sources and extend to small sources including many not previously regulated under the Clean Air Act. Consequently, any individual decision on whether and how sources and gases should be regulated may dictate future regulatory actions to address climate change. My approach will allow EPA to solicit public input and relevant information regarding these interconnections and their possible regulatory requirements.

This approach gives the appropriate care and attention this complex issue demands. It will also allow us to use existing work. Rather than rushing to judgment on a single issue, this approach allows us to examine all the potential effects of a decision with the benefit of the public's insight. In short, this process will best serve the American public..."

EPA Administrator Stephen L. Johnson

“One point is clear: the potential regulation of greenhouse gases under any portion of the Clean Air Act could result in an unprecedented expansion of EPA authority that would have a profound effect on virtually every sector of the economy and touch every household in the land.”

ANPR at 5.

The Reaction

THE WHITE HOUSE

WASHINGTON

July 11, 2008

POLICY MEMORANDUM

SUBJECT: Environmental Protection Agency Advance Notice of Proposed Rulemaking
Regarding Greenhouse Gas Emissions and the Clean Air Act



United States
Department of Agriculture



United States
Department of Commerce



United States
Department of Transportation



United States
Department of Energy

The Reaction

- CAMPAIGN 2008: McCain, Obama on same page with EPA climate regulations (07/15/2008)
- **Darren Samuelsohn, *Greenwire* senior reporter**
- Advisers to the two leading presidential candidates agreed today on the need for Congress to tackle global warming through comprehensive cap-and-trade legislation as opposed to using their own U.S. EPA to write the rules.
- Speaking at a Washington forum hosted by the *National Journal*, surrogates for Republican John McCain and Democrat Barack Obama each said their respective candidates would prefer to work with lawmakers in crafting the U.S. response to climate change.

• "We don't think the Clean Air Act is the right vehicle to deal with climate change," said Doug Holtz-Eakin, a senior domestic policy adviser to McCain. "That's one of the reasons he wants to do the cap-and-trade legislation. To give clear authority to the federal government and create the institutions that can carry it out."

- Elgie Holstein, a senior energy policy adviser to Obama, offered a similar perspective on the Supreme Court's decision in March 2007 that opened the door to federal agencies regulating for greenhouse gas emissions.

• "The authority affirmed by the courts to use the Clean Air Act to achieve climate obligations is certainly something that ought to be an encouragement to bring about a comprehensive framework," Holstein said. Of Congress moving legislation, he added, "Senator Obama believes that's the preferred course of action to take."

Five Key Themes

- (1) From locomotives to lawnmowers, virtually all sectors of the economy that emit GHGs are addressed
- (2) Overriding theme to reduce GHGs is by improving energy efficiency through two methods: (A) technology and engineering advancements (e.g. suggestions on reengineering railroad locomotives); and (B) operational and human element controls (e.g. suggestions on how to run the railroad)
- (3) Merger of policy and economics, with cap and trade as a prevalent theme (approximately 10 percent of discussion); suggests ANPR may also be speaking to Congress in addition to EPA
- (4) Recognition of PSD/Title V ramifications as unworkable administrative burden of using Clean Air Act; strong effort to outline several novel solutions while recognizing legal risk
- (5) Concludes evidence of endangerment is “compelling and robust”; incorporates IPCC generally

The ANPR at a Glance

Overlay issues

- II. Background (How we got here) 78
- III. Nature of Climate Change and GHGs 91
 - Advancing technology through regulation 104
 - Distinguishing GHGs and other pollutants 112
 - Outlining key policy and economic considerations (including cap and trade and carbon tax issues) 119
 - Challenges for economic analysis of regulation 140
- IV. Clean Air Authorities 152
 - Interconnections of CAA provisions 157
 - Ramifications of regulation 160
- V. Endangerment Analysis 169
 - What is the “air pollution” 177
 - Science summary 185
 - “Cause or contribute” 197

The ANPR at a Glance

Mobile sources/Title II (209)

- B. On-highway mobile sources 238
 - 1. Passenger cars and light duty trucks 238
 - 2. Heavy duty trucks 289
- C. Nonroad sectors 307
 - 2. Nonroad engines and vehicles 323
 - 1. Locomotives
 - 2. “Hundreds” of other machines, outdoor devices
 - 3. Marine vessels 342
 - 4. Aircraft 352
- D. Fuels 372

The ANPR at a Glance

Stationary sources/Title I (383)

- A. 108/109: National Ambient Air Quality Standards (NAAQS)
- B. 111: New Source Performance Standards (NSPS) 422
- C. 112: Hazardous Air Pollutants (HAPs) 452
- D. 129: Solid Waste Combustion Standards 463
- E. New Source Review/PSD Preconstruction Permits 471
- F. Title V Operational Permits 524
- G. Alternative Designs for Market-Oriented Regulatory Mechanisms for Stationary Sources 541
 - 1. Emissions Cap-and-Trade 543
 - 2. Rate-Based Emissions Program 546
 - 3. Emissions Fee 548
 - 4. Hybrid Market Based Approach 549

What else?

Technical Support Document – Benefits

Document ID: EPA-HQ-OAR-2008-0318-0078

Technical Support Document – Stationary Source

Document ID EPA-HQ-OAR-2008-0318-0081

Draft Technical Support Document - Endangerment Analysis for Greenhouse Gas Emissions under the Clean Air Act

Document ID: EPA-HQ-OAR-2008-0318-0082

Technical Support Document - Section 202 Greenhouse Gas Emissions

Document ID: EPA-HQ-OAR-2008-0318-0083

Vehicle Technical Support Document - Mobile Source

Document ID: EPA-HQ-OAR-2008-0318-0084

Plus, other support documents addressing specific sectors (such as heavy-duty trucks) in docket

(All documents available at www.regulations.gov)

A view of endangerment

The screenshot displays the IPCC website's 'About IPCC' page. The header features the IPCC logo, WMO and UNEP logos, and the text 'INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE'. A navigation menu on the left includes links for Home, About IPCC (selected), How the IPCC is organized, IPCC Bureau and TFB, IPCC Secretariat, Working Group I, Working Group II, Working Group III, Task Force on National Greenhouse Gas Inventories, Other IPCC activities, Meetings and Documentation, IPCC Reports, Graphics Presentations & Speeches, Information for the press, IPCC Glossary, and Links. The main content area is titled 'About IPCC' and contains three sections: 'MANDATE', 'WHO WE ARE', and 'WHY THE IPCC WAS CREATED'. The 'MANDATE' section explains the IPCC's role in assessing climate change risks. The 'WHO WE ARE' section lists the IPCC's constituents: governments, scientists, and the public. The 'WHY THE IPCC WAS CREATED' section discusses the complexity of climate change and the need for an objective information source.

IPCC

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

WMO UNEP

Languages IPCC web sites

About IPCC

MANDATE

The IPCC was established to provide the decision-makers and others interested in climate change with an objective source of information about climate change. The IPCC does not conduct any research nor does it monitor climate related data or parameters. Its role is to assess on a comprehensive, objective, open and transparent basis the latest scientific, technical and socio-economic literature produced worldwide relevant to the understanding of the risk of human-induced climate change, its observed and projected impacts and options for adaptation and mitigation. IPCC reports should be neutral with respect to policy, although they need to deal objectively with policy relevant scientific, technical and socio economic factors. They should be of high scientific and technical standards, and aim to reflect a range of views, expertise and wide geographical coverage.

WHO WE ARE

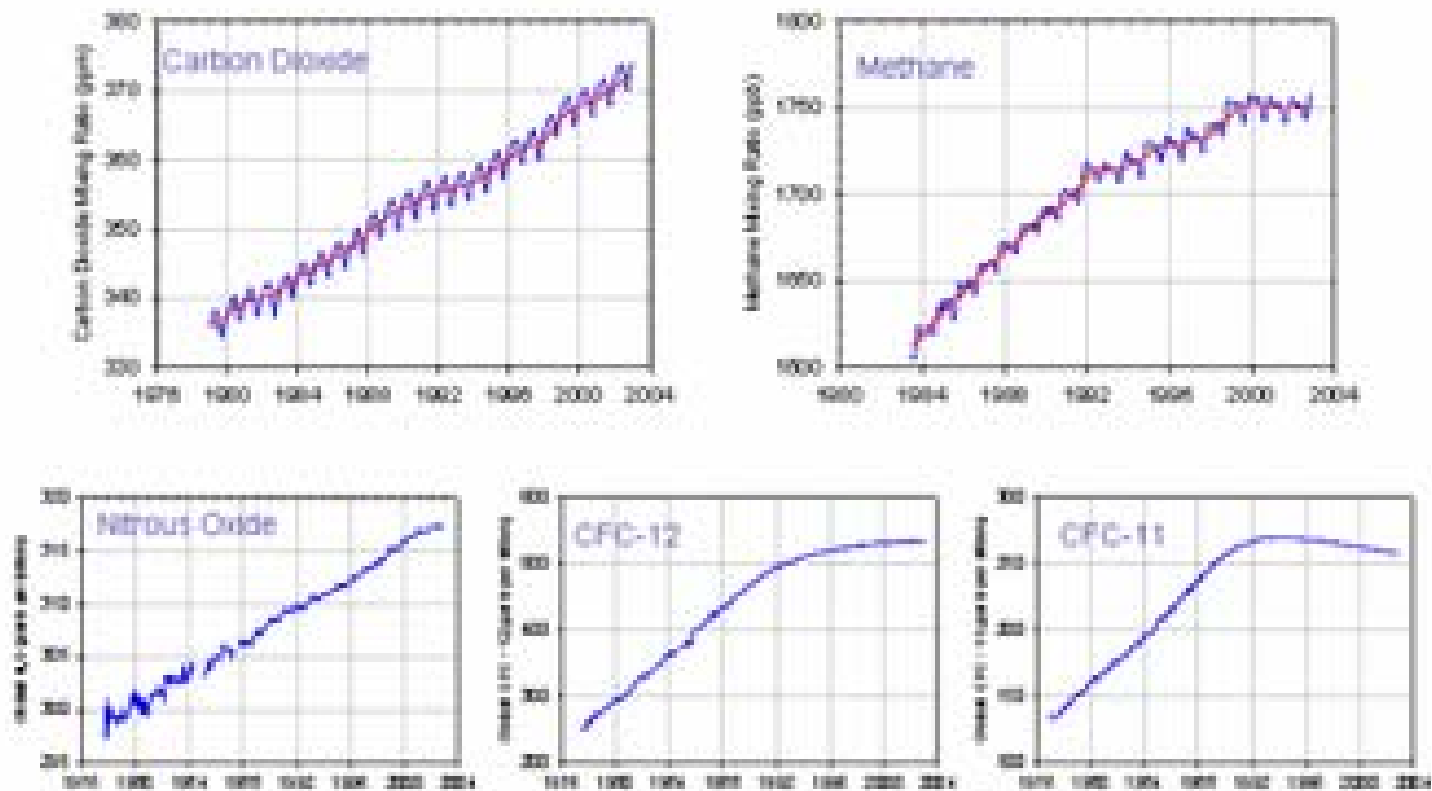
The IPCC is a scientific intergovernmental body set up by the World Meteorological Organization (WMO) and by the United Nations Environment Programme (UNEP). Its constituency is made of:

- The governments: the IPCC is open to all member countries of WMO and UNEP. Governments of participate in plenary Sessions of the IPCC where main decisions about the IPCC workprogramme are taken and reports are accepted, adopted and approved. They also participate the review of IPCC Reports.
- The scientists: hundreds of scientists all over the world contribute to the work of the IPCC as authors, contributors and reviewers.
- The people: as United Nations body, the IPCC work aims at the promotion of the United Nations human development goals

WHY THE IPCC WAS CREATED

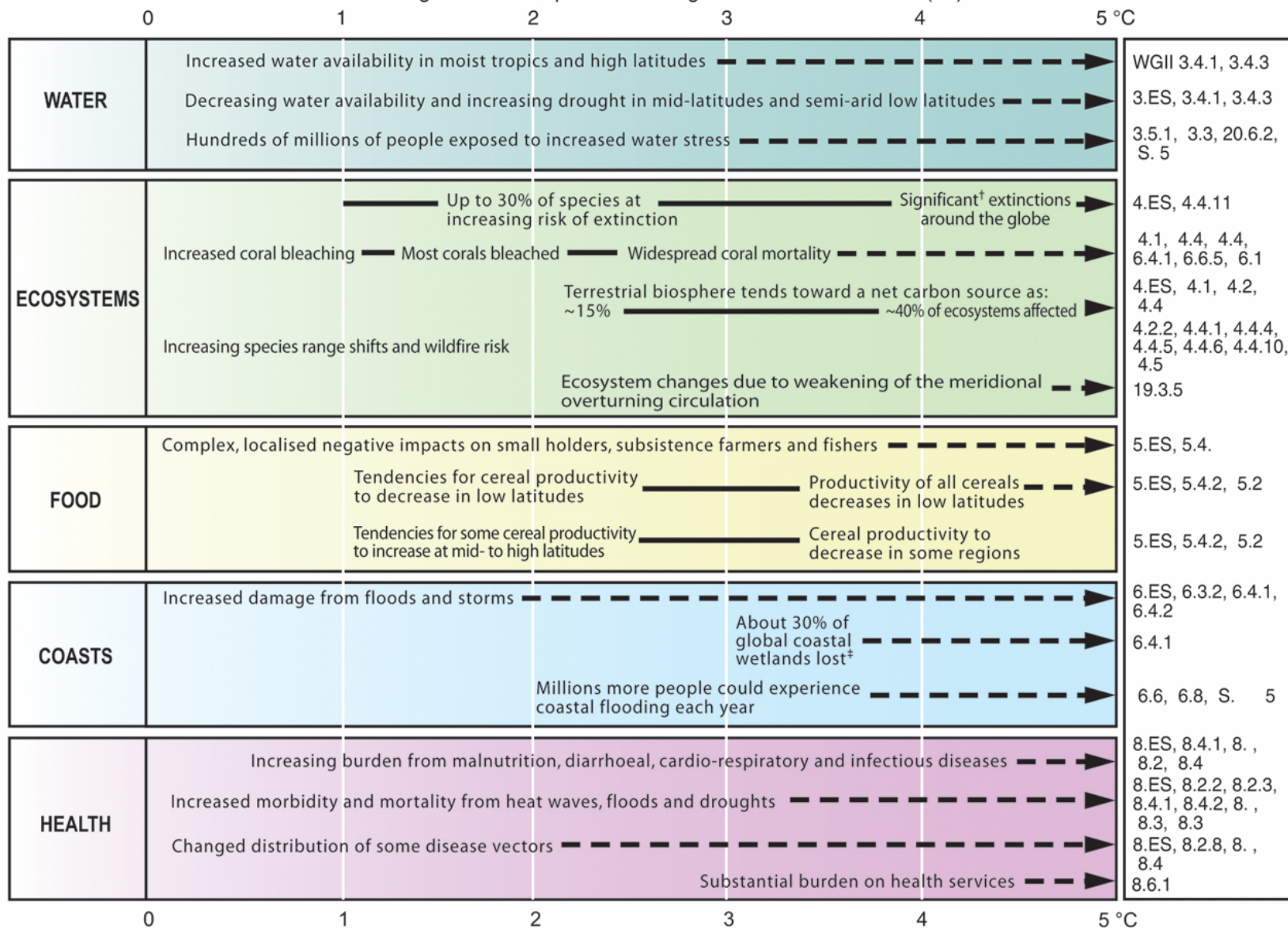
Climate change is a very complex issue: policymakers need an objective source of information about the causes of climate change, its potential environmental and socio-economic consequences and the adaptation and mitigation

Global Trends in Major Greenhouse Gases to 1/2003



Global trends in major long-lived greenhouse gases through the year 2002. These five gases account for about 97% of the direct climate forcing by long-lived greenhouse gas increases since 1750. The remaining 3% is contributed by an assortment of 10 minor halogen gases, mainly HCFC-22, CFC-113 and CCl_4 .

Global average annual temperature change relative to 1980-1999 (°C)



† Significant is defined here as more than 40%. ‡ Based on average rate of sea level rise of 4.2mm/year from 2000 to 2080.

Impacts of climate change

- IPCC:

- 550 ppm CO2 equivalent > 2 degrees Celsius

- 450 ppm CO2 equivalent 50 percent likelihood < 2 degrees

- 400 ppm CO2 equivalent “reasonable certainty” < 2 degrees

- The ANPR references 440 ppm as a “stabilization scenario”

Stationary Source Pathways

| Provision | Summary | Preclusive effect | Comments |
|--------------------------------------|---|--|--|
| 108/109 NAAQS | Would set ambient GHG standards for nation, thus entire nation would be in or out of attainment; primary standard goes to health concerns, secondary standard goes to welfare; costs cannot be considered in setting standard | Precludes listing under 112 and 111 for existing sources (but not new and modified sources) | ANPR proposes four NAAQS scenarios; likely would take 10 years before any regulatory effect; 10 year horizon to achieve NAAQS "ill suited to GHGs" |
| 111 New Source Performance Standards | Sets performance standards for certain listed "source categories"; provides for consideration of costs and discretion in type and size of facilities regulated; standard is BDT (Best Demonstrated Technology) | Would trigger PSD and Title V permitting | Stationary source TSD addresses specifics for industrial and utility boilers, petroleum refineries, and portland cement facilities; arguably strongest authority for trading programs; likely would combine efficiency and workplace standards |
| 112 Hazardous Air Pollutants | Provides little discretion to distinguish between sizes and categories; costs largely irrelevant; standard is MACT (Maximum Achievable Control Technology) | GHGs would be exempt from PSD program; would preclude 111 standards for existing sources (but not new or modified sources) | 10/25 ton threshold for regulation (includes large single family home) |

PSD/NSR and Title V

PSD/NSR permits are pre-construction permits

Title V permits are operating permits.

| PSD | Title V |
|---|--|
| Threshold is 100 or 250 tons per year | Threshold is 100 tons per year |
| Standard is BACT (Best Available Control Technology) (can consider costs); ANPR suggests could require carbon capture and sequestration (486) | Requires a permit contain "all applicable requirements" under the Clean Air Act; EPA anticipates improved energy efficiency and operational changes |
| Would encompass small industrial sources, "large office and residential buildings, hotels, large retail establishments, and similar facilities" | EPA estimates 550,000 additional sources (compared to 15,000-16,000 current Title V sources) |
| Would be effective immediately at time GHGs are regulated pollutants | Must apply for permit within 1 year of being subjected to Title V |
| EPA outlines several suggestions include Congressional fix, "tailoring approaches," legal arguments to craft relief from strict language; streamlined regulatory approaches; general permits; higher thresholds; EnergyStar as "presumptive BACT" | EPA outlines several suggestions including legal arguments to craft relief; higher GHG cutoffs; deferral approach; general permits; adjusted fee structure |

Alternative Designs for Market-Oriented Regulatory Mechanisms

- (1) Cap and trade
- (2) Rate-based emission credit program (tradable performance standard)
- (3) Emissions fee
- (4) Hybrid option

The ANPR

Opportunities for other sectors

- Discuss need to consider downstream impacts beyond GHG emitters and unique impacts to other business models.
- Address need for solutions to New Source Review, which if left unchanged would require permits for modifications to most commercial buildings.
- Emphasize perspectives on solutions to climate change and corporate sustainability initiatives that reduce greenhouse gases while preserving economic competitiveness.
- Identify interests as a stakeholder in the climate change dialogue that should be consulted in the process moving forward.
- Identify perspectives on the intersection of policy and economics regarding climate change.

The Roadmap to GHG Controls

- Five Questions for the Next Administration:
 - (1) Do GHGs endanger public health and/or welfare?
 - (2) Should EPA motor vehicle standards conform to or be more stringent than DOT standards?
 - (3) Which pathway should be used to regulate GHGs from stationary sources?
 - (4) What control technologies are available to address GHGs from stationary sources?
 - (5) How to overcome an unintended consequence of New Source Review and Title V that would subject tens of thousands of buildings as small as department stores, apartment buildings and schools to expensive and costly review for any modification that releases greenhouse gases?

Thank you.
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