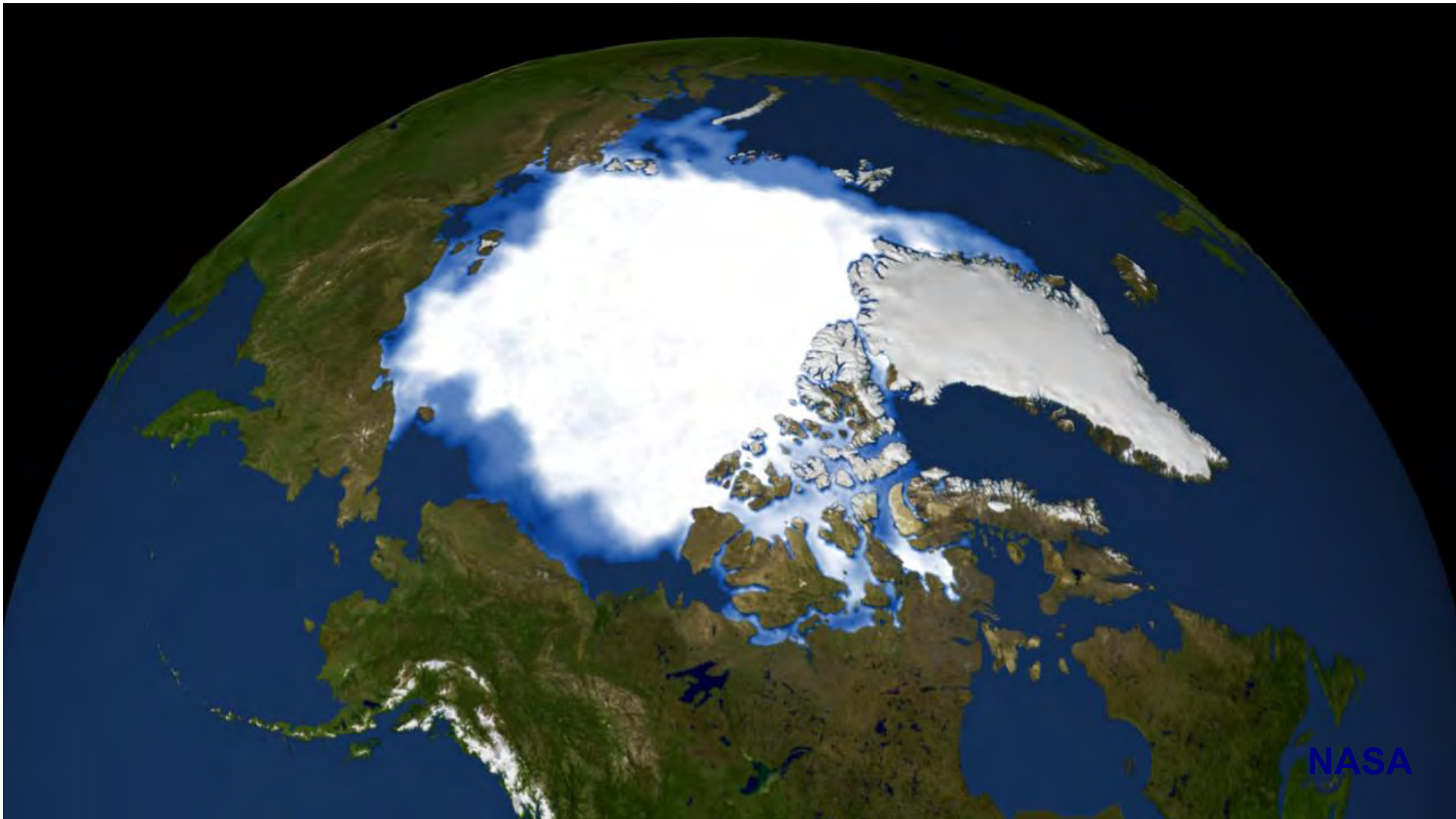
Energy, Economy and Environment: Federal Legislation to Stop Global Warming

MICHAEL GOO
CLIMATE LEGISLATIVE DIRECTOR
Natural Resources Defense Council

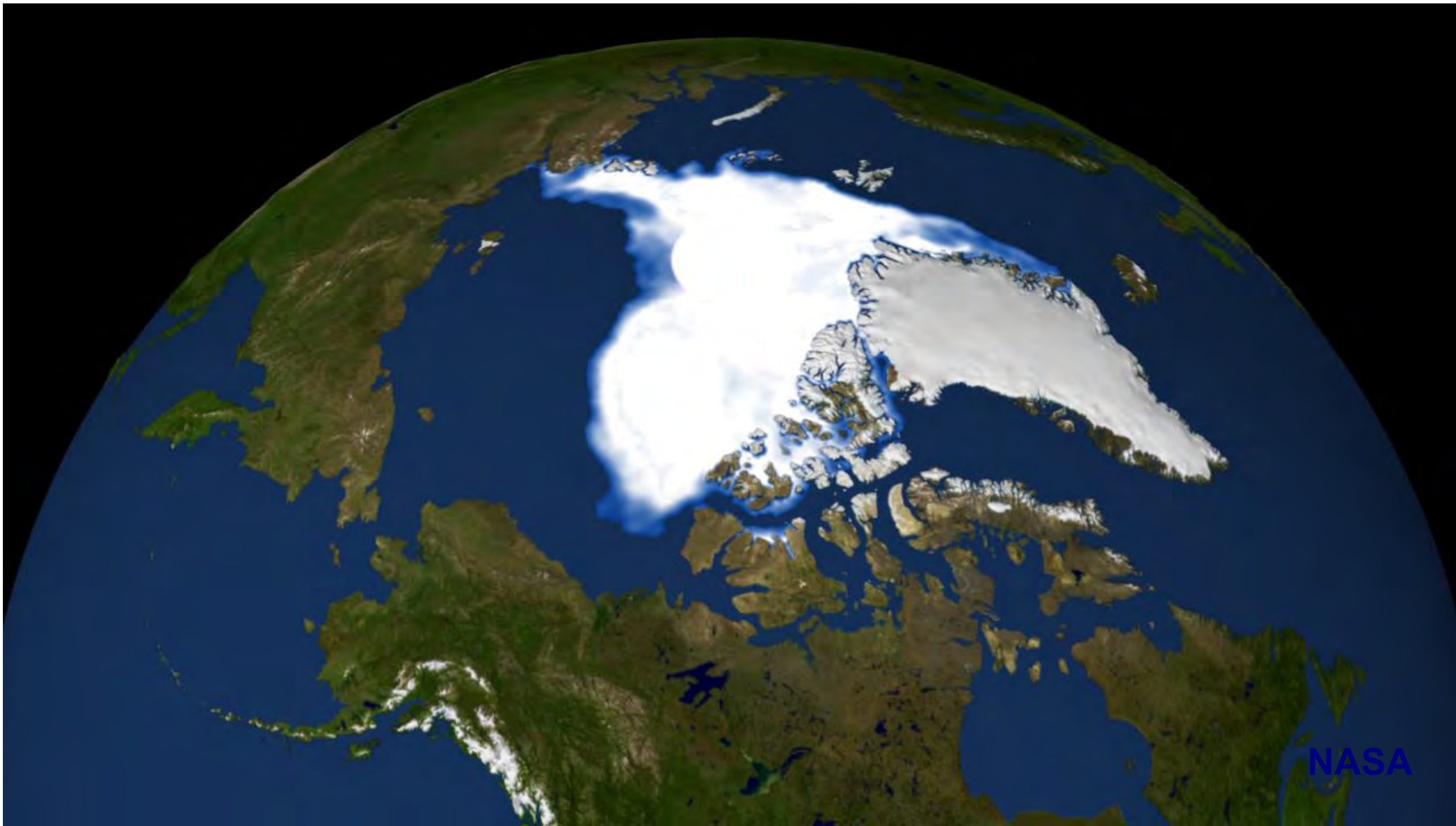
NRDC
THE EARTH'S BEST DEFENSE

Fiona’s Future?

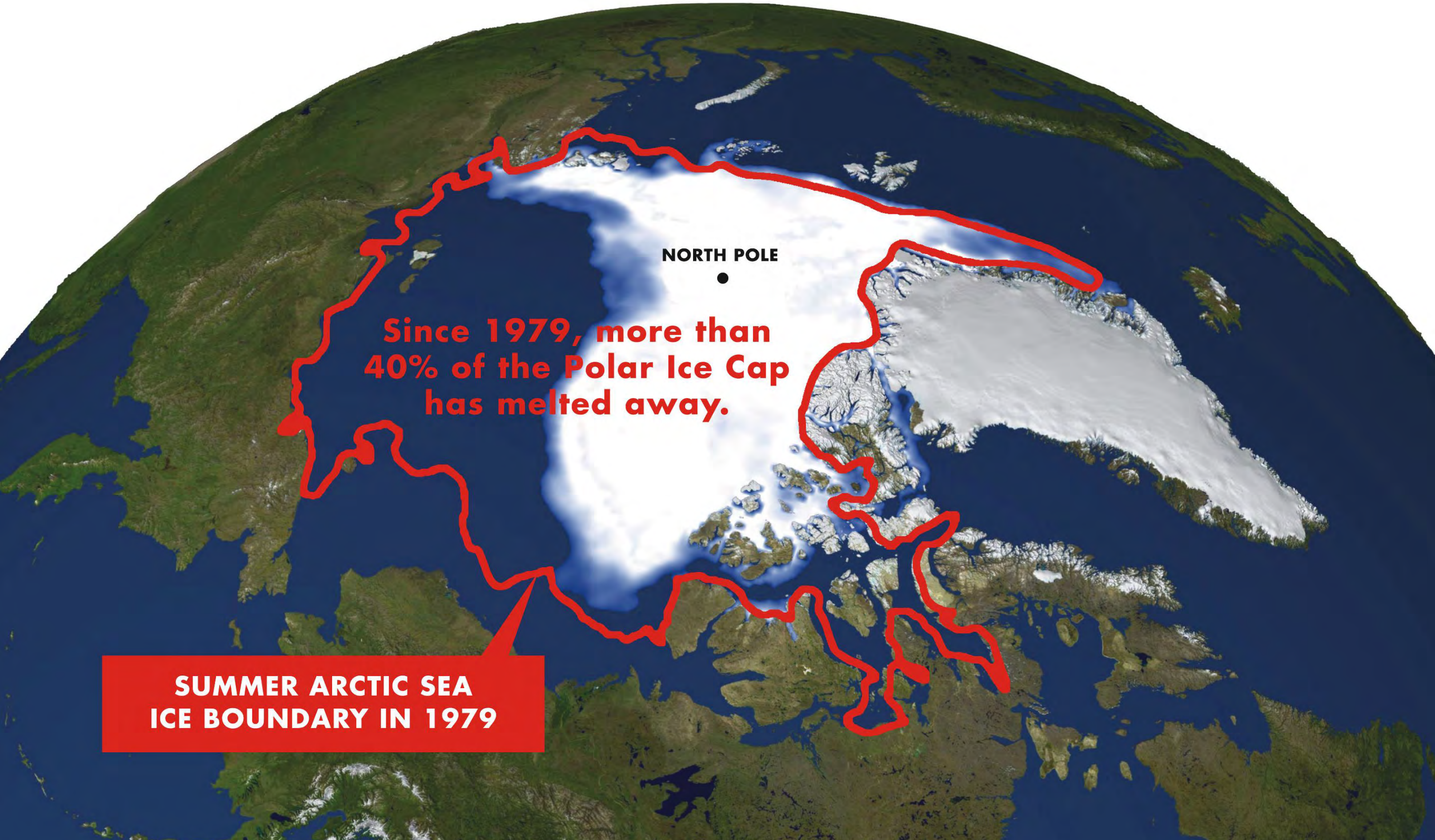
1979



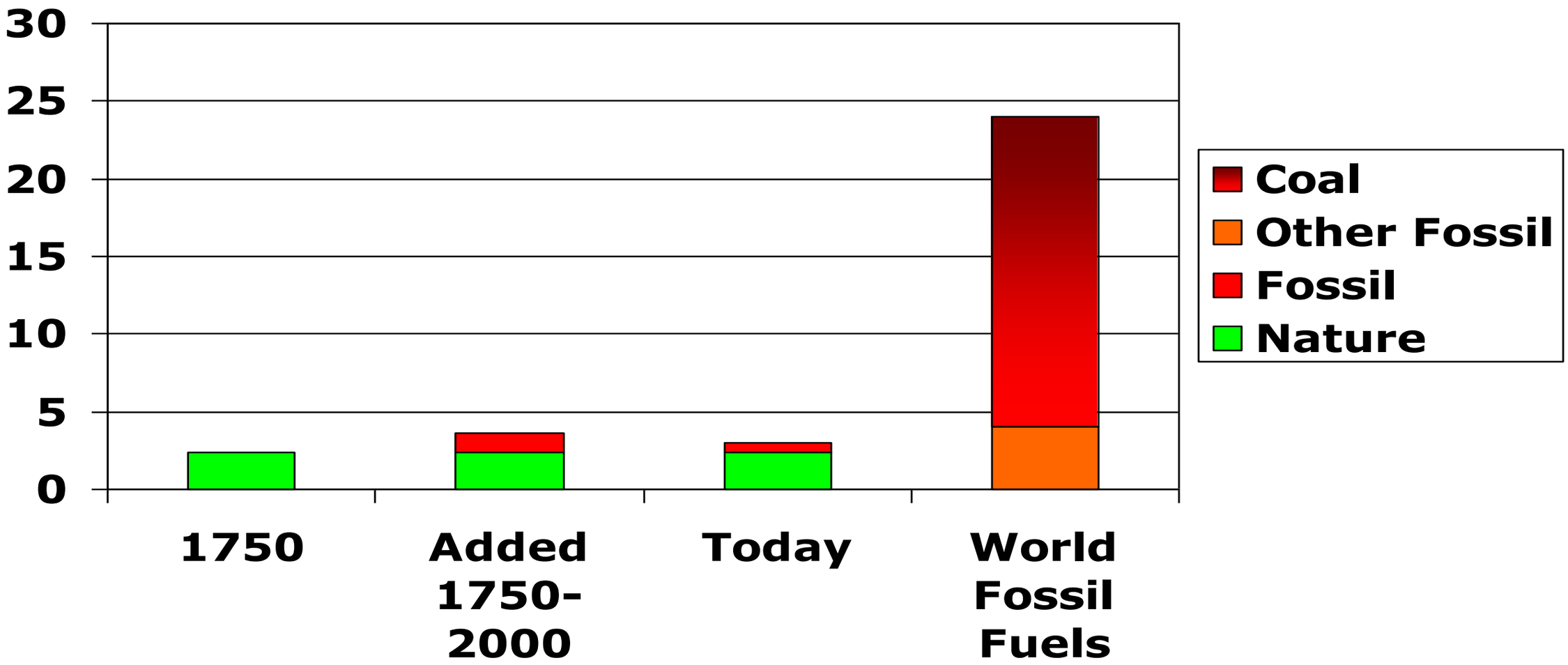
2007



Arctic meltdown

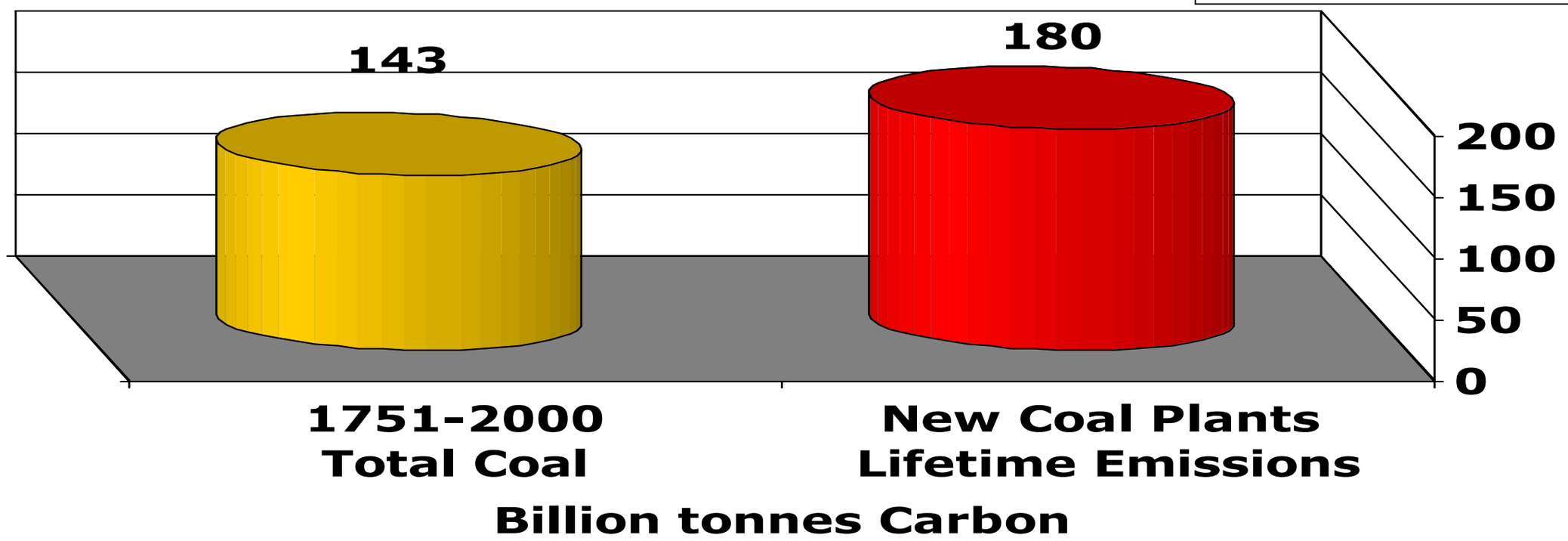


What Lies Ahead?

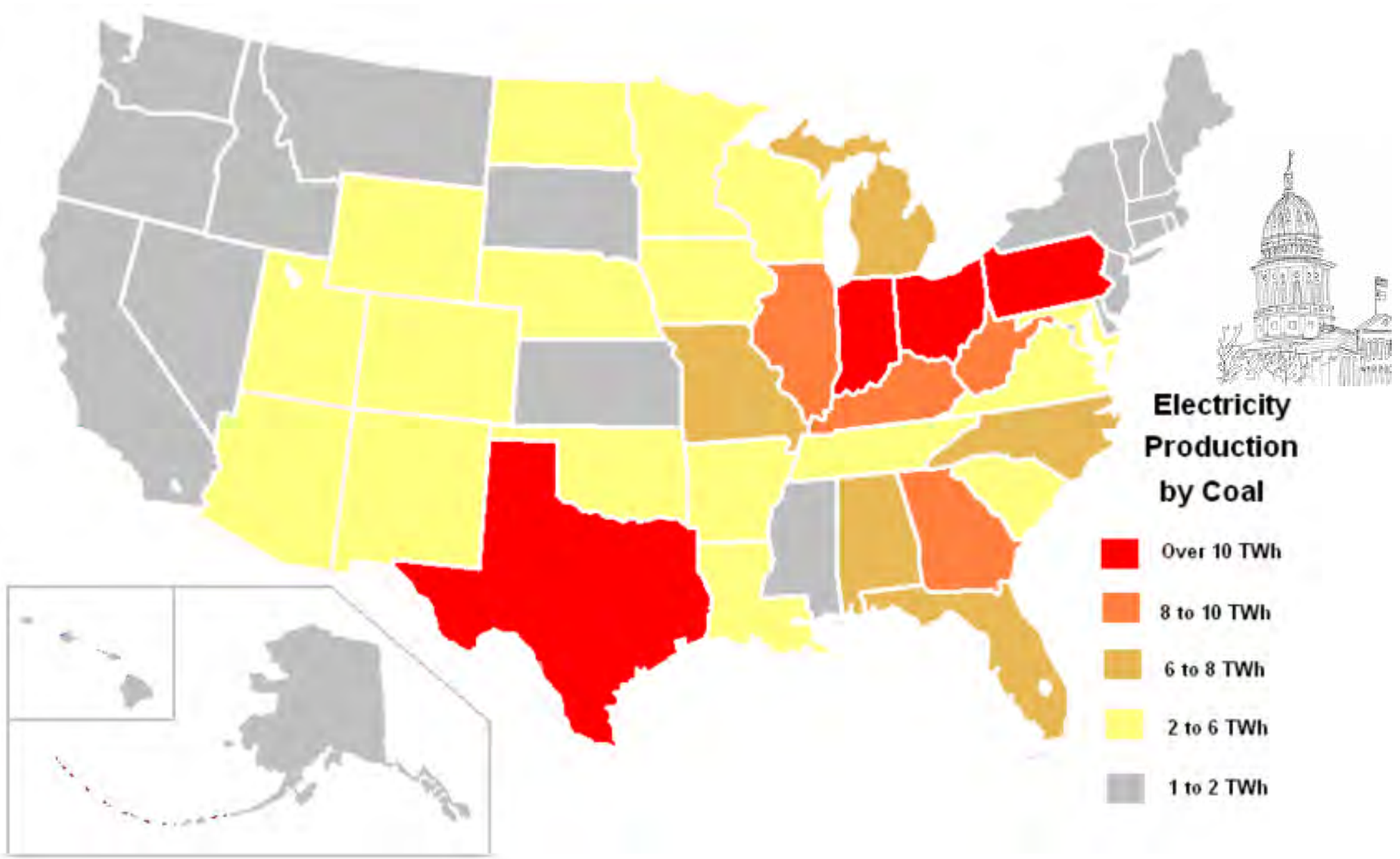


New Coal Plant Emissions 26% Greater than All Historic Coal CO_2

34% of remaining budget for 450 ppm



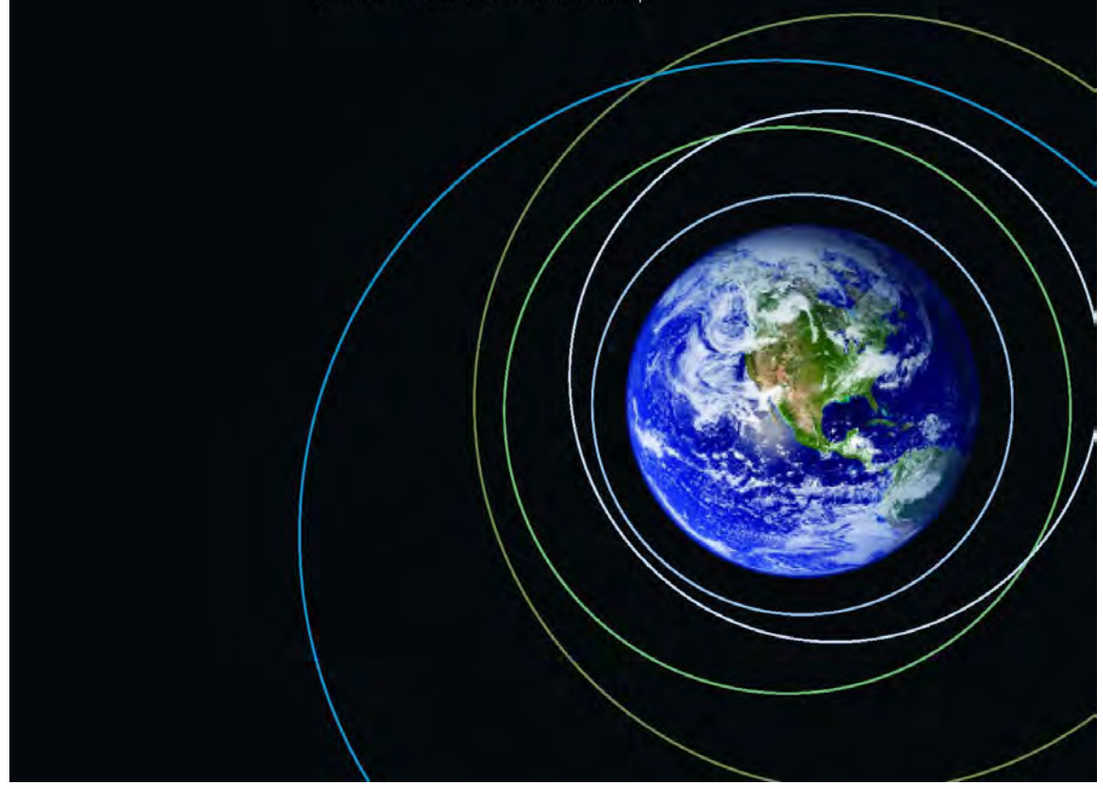
The Politics of Coal



USCAP
United States
Climate Action
Partnership

A CALL FOR ACTION

Consensus Principles and Recommendations
from the **U.S. Climate Action Partnership**:
A Business and NGO Partnership



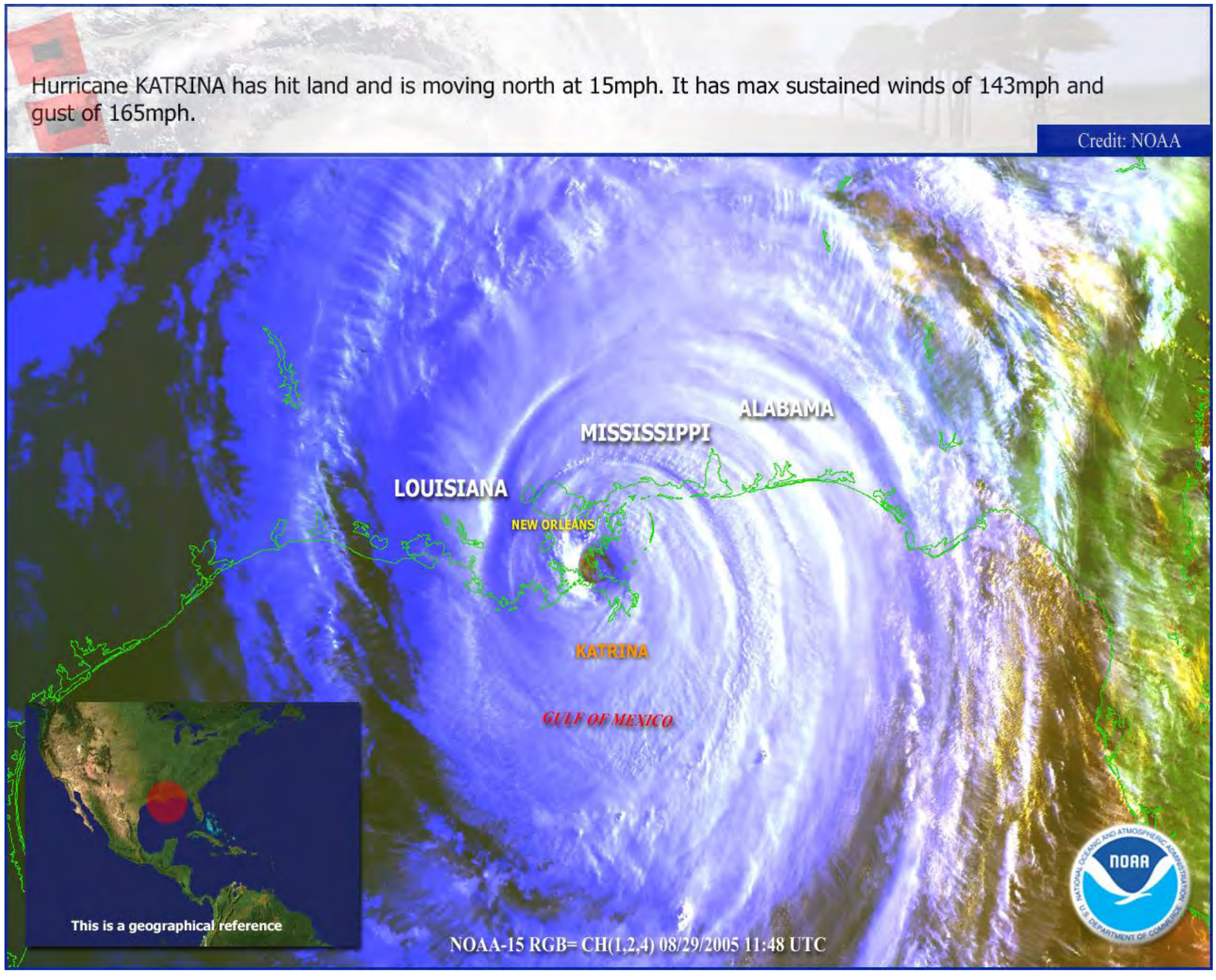
APPENDIX

U.S. Climate Action Partnership Members

- Alcan Inc.
- Alcoa
- American International Group, Inc. (AIG)
- Boston Scientific Corporation
- BP America Inc.
- Caterpillar Inc.
- ConocoPhillips
- The Chrysler Group
- Deere & Company
- The Dow Chemical Company
- Duke Energy
- DuPont
- Environmental Defense
- Exelon Corporation
- Ford Motor Company
- FPL Group, Inc.
- General Electric
- General Motors Corp.
- Johnson & Johnson
- Marsh, Inc.
- National Wildlife Federation
- Natural Resources Defense Council
- NRG Energy, Inc.
- The Nature Conservancy
- PepsiCo
- Pew Center on Global Climate Change
- PG&E Corporation
- PNM Resources
- Rio Tinto
- Shell
- Siemens Corporation
- World Resources Institute
- Xerox Corporation

Both Presidential Candidates Support Global Warming Legislation

Sooner or Later?



My Last Three Bosses in Congress

Boxer Jeffords Dingell


America's Climate

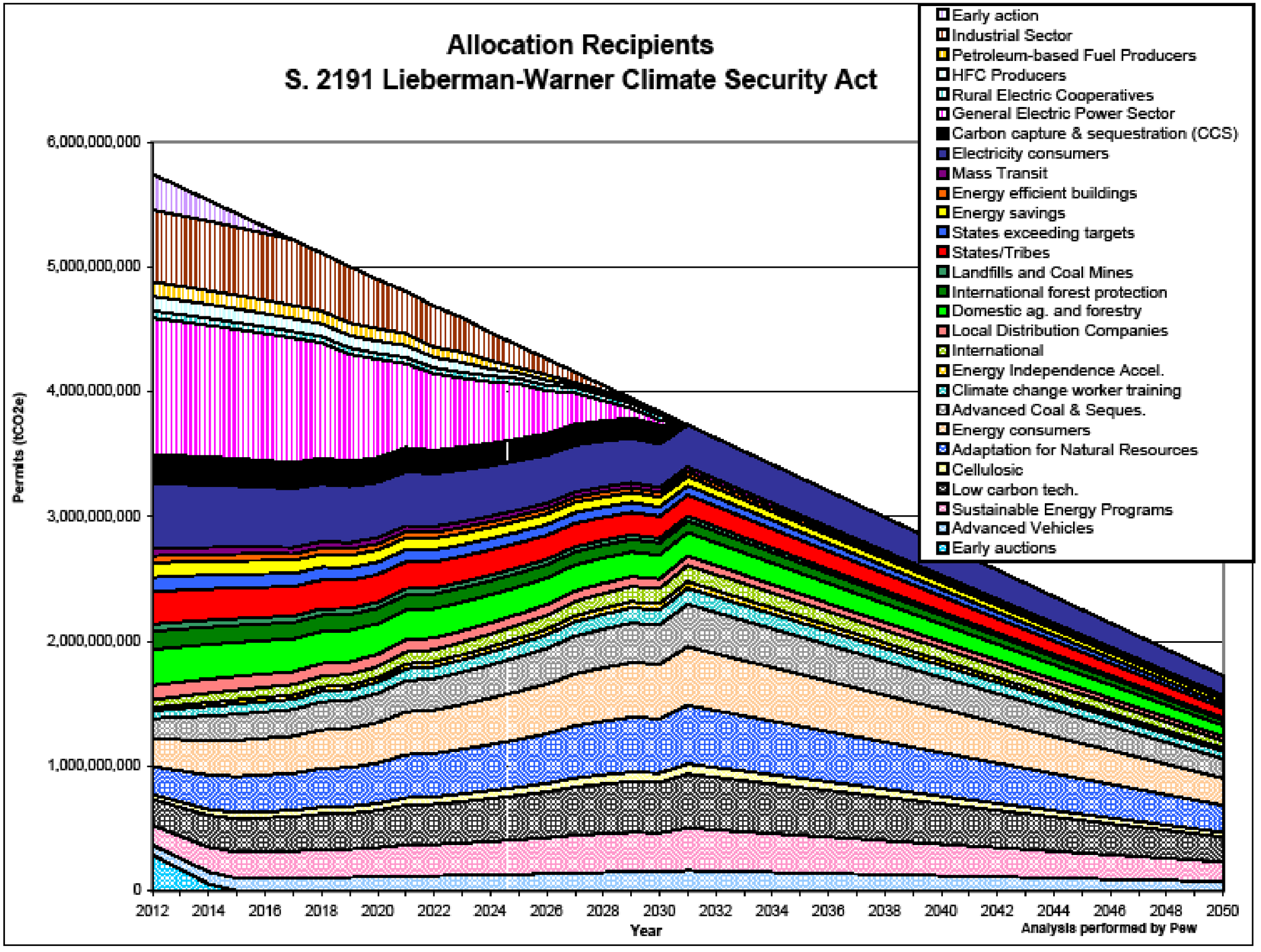
Lieberman-Warner Overview

- Cap and Trade System administered by the EPA
  - 6,065 million allowances in 2012 decreasing annually to 1,822 million in 2050
- Coverage: 86% of U.S. emissions
- “Big Six” gases: CO2, Methane, Nitrous Oxide, SF6, PFCs, HFCs.
- Targets:
  - 4% reduction of 2005 levels by 2012 (5-13% total)
  - 19% reduction of 2005 levels by 2020 (18-25% total)
  - 71% reduction of 2005 levels by 2050 (62-66% total)

Covered Facilities

- Coal-using facilities (> 5,000 tons/yr)
- Natural gas processors and importers; natural gas producers in the State of Alaska
- Petroleum- or coal-based liquid or gaseous fuel producers and importers (assuming no capture and sequestration)
- Other GHG producer (for sale), distributor, or importer (> 10,000 tons/yr carbon dioxide equivalents, assuming no capture and destruction or sequestration)
- Hydrochlorofluorocarbons (> 10,000 tons/yr carbon dioxide equivalents)

Allocation Recipients
S. 2191 Lieberman-Warner Climate Security Act



How S.2191 (as reported from EPW) Allocates

2012 EMISSION ALLOWANCE ACCOUNT		2022 EMISSION ALLOWANCE ACCOUNT		2031 EMISSION ALLOWANCE ACCOUNT	
Recipient	**%**	**Recipient**	**%**	**Recipient**	**%**
TRANSITION ASSISTANCE:					
Fossil Fuel-Fired Power Plants	19	Fossil Fuel-Fired Power Plants	13	Fossil Fuel-Fired Power Plants	0
Energy Intensive Manufacturing	10	Energy Intensive Manufacturing	7	Energy Intensive Manufacturing	0
Companies That Took Early Action	5	Companies That Took Early Action	0	Companies That Took Early Action	0
CO_2 Sequestration Bonus Account	4	CO_2 Sequestration Bonus Account	4	CO_2 Sequestration Bonus Account	0
Petroleum Importers and Refiners	2	Petroleum Importers and Refiners	1.75	Petroleum Importers and Refiners	0
HFC Producers and Importers	2	HFC Producers and Importers	1.75	HFC Producers and Importers	0
Rural Electric Cooperatives	1	Rural Electric Cooperatives	1	Rural Electric Cooperatives	0
TOTAL	43	TOTAL	28.5	TOTAL	0
ENTITIES OTHER THAN REGULATED EMITTERS:					
Annual Auction and Early Auction	26.5	Annual Auction	41	Annual Auction	69.5
States	10.5	States	10.5	States	10.5
Electricity Consumers	9	Electricity Consumers	9	Electricity Consumers	9
U.S. Farmers and Foresters	5	U.S. Farmers and Foresters	5	U.S. Farmers and Foresters	5
International Forest Protection	2.5	International Forest Protection	2.5	International Forest Protection	2.5
Natural Gas Consumers	2	Natural Gas Consumers	2	Natural Gas Consumers	2
Reducing Coal Mine, Landfill Methane	1	Coal Mine, Landfill Methane	1	Reducing Coal Mine, Landfill Methane	1
Tribal Governments	0.5	Tribal Governments	0.5	Tribal Governments	0.5
TOTAL	57	TOTAL	71.5	TOTAL	100
Uses of Auction Proceeds	**%**	**Uses of Auction Proceeds**	**%**	**Uses of Auction Proceeds**	**%**
Technology Deployment	52	Technology Deployment	52	Technology Deployment	52
Low-Income Energy Consumers	18	Low-Income En. Consumers	18	Low-Income Energy Consumers	18
Wildlife Adaptation	18	Wildlife Adaptation	18	Wildlife Adaptation	18
International Adaptation	5	International Adaptation	5	International Adaptation	5
Worker Training	5	Worker Training	5	Worker Training	5
Advanced Energy Research	2	Advanced Energy Research	2	Advanced Energy Research	2
TOTAL	100	TOTAL	100	TOTAL	100
TOTAL	100	TOTAL	100	TOTAL	100

Year	**2012**	**2020**	**2030**	**2049**	**Cumulative 2012-2049**
Assumed Carbon Price ($/ton)*	$15.61	$23.10	$37.80	$96.09	**$5,446,850**
Value (in millions)	$90,166	$113,744	$145,908	$176,703	

Source: Center for Clean Air Policy & Duke University's Nicholas Institute for Environmental Policy Solutions

Historic Action

- December 5th—Chairman Boxer reports first comprehensive climate bill from environment and public works Committee by an 11-9 vote

- June 9, 2008 vote on cloture on Boxer Substitute—48 ayes and 38 nays—

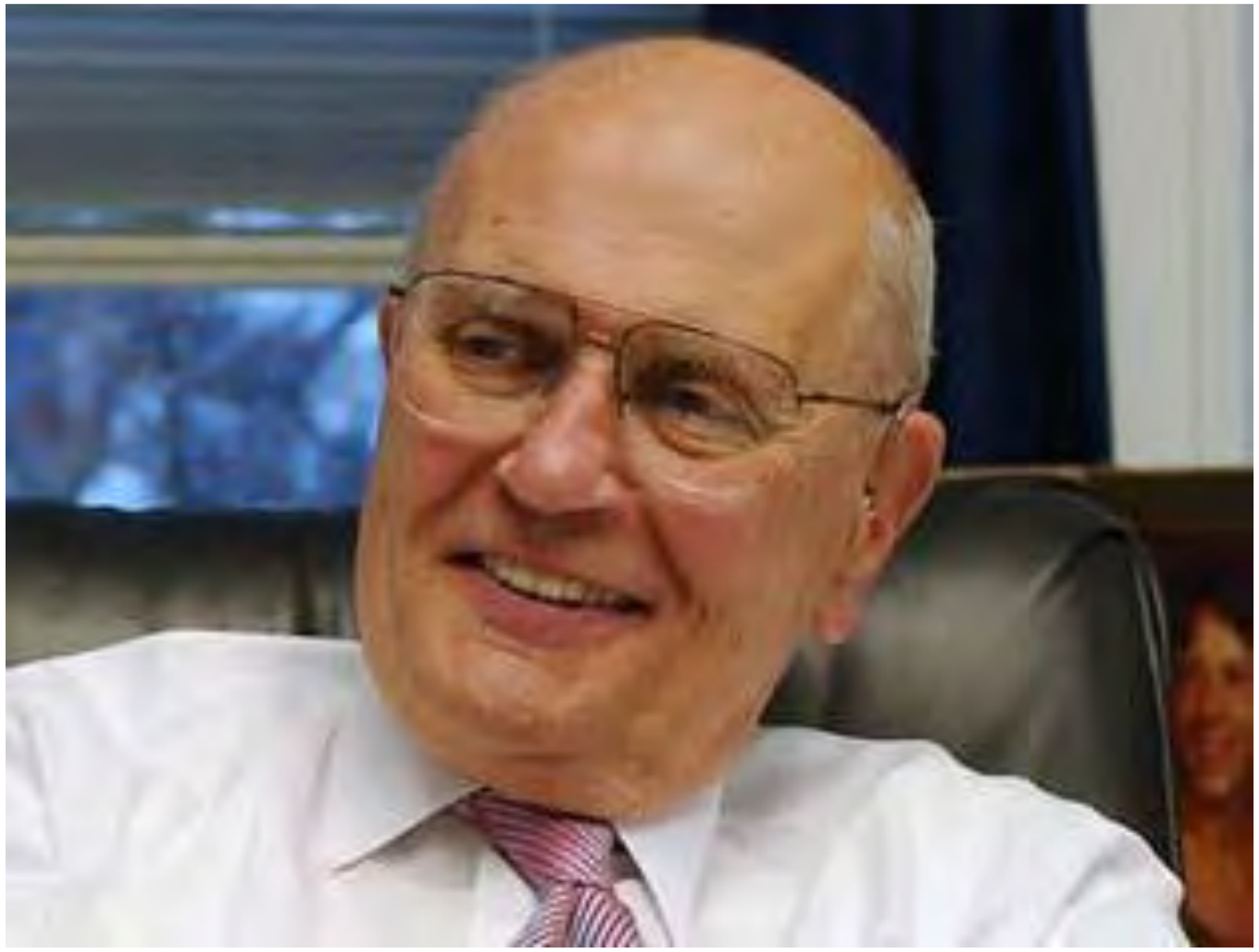
- With six members, indicating they would have voted aye had they been present, (including Senators Obama, McCain and Clinton), 54 members can be considered to have supported moving forward on comprehensive climate legislation.

BUT---10 Member Post Vote Letter:

- *The letter explains that the ten Senators "could not support final passage of the Boxer Substitute in its current form."*
- *Stabenow (MI), Rockefeller (WV), Levin (MI), Lincoln (AR), Pryor (AR), Webb (VA), Bayh (IN), McCaskill (MO), Brown (OH), and Nelson (FL).*

10 Member Letter Concerns

- *helping regulated industries transition*
- *balancing the burdens of regulation across states and regions*
- *providing additional allowances to regulated utilities*
- *establishing “strong, aggressive, and verifiable offset policies*
- *ensuring that federal climate laws “clearly prevail” over state climate laws*
- *protecting U.S. manufacturing jobs from international competitors*
- *and eliminating the possibility of waste, fraud, and abuse in distributing funds raised by a cap-and-trade program.*



Dingell/Boucher Bill

- Cap and Trade Bill Implemented by EPA under the Clean Air Act
- Calls for an 80% reduction by 2050 and a 6% reduction by 2020
- Reduction targets fall within USCAP Recommended Range
- Covers 87% of US emissions with “supplemental” reduction program.
- Phase in of industrial sector after transportation and electricity

Dingell Boucher Bill cont'd

- 4 allowance allocation options
- Common Allocation elements: energy efficiency, clean technology, low income assistance, credit for early action, and
- In all allocation option 100% cap and dividend in 2025—all allowances returned to US citizens on a per capita basis

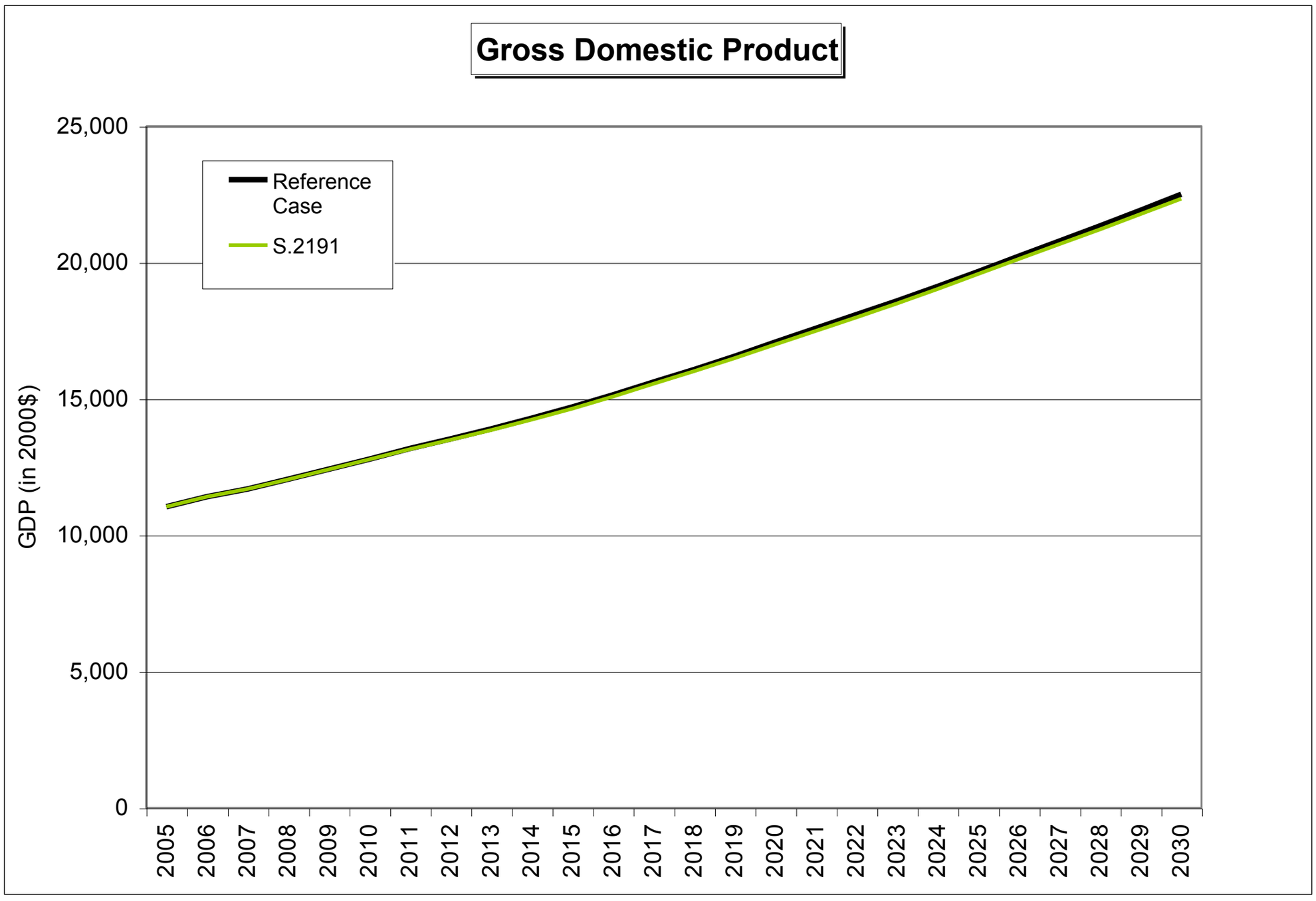
Dingell Boucher, Continued

- Allocation Options A and B—allocate to industrial sector and to electricity sector (LDCs)
- Option A—allocate 44% to electricity sector—14.75% to industrial sector
- Option B allocate 26.75% to industrial sector and 21% to electricity
- Option D—no allocations to emitters except for clean technology and energy efficiency

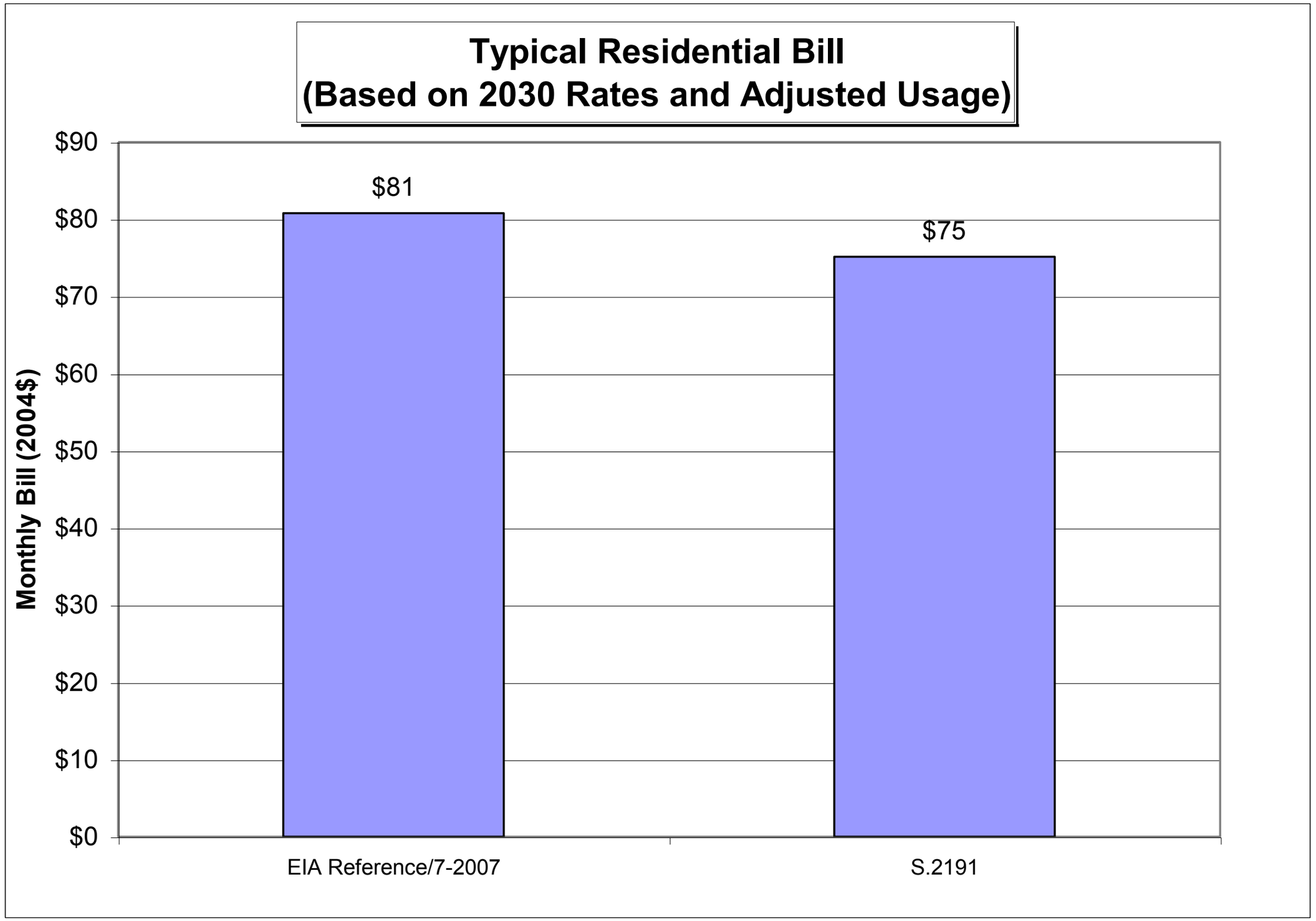
Dingell Boucher Cont'd

- No "safety valve/fixed price"
- Uses NCEP/Nicholas Institute Reserve of Borrowed Allowances
- AEP/IBEW "Border Tax"
- Coal Fired Performance Standard for Coal and Petcoke Electric Generating Units
- Financial Incentives/Bonus Allowances for CCS

At the macro-economic level there is very little difference

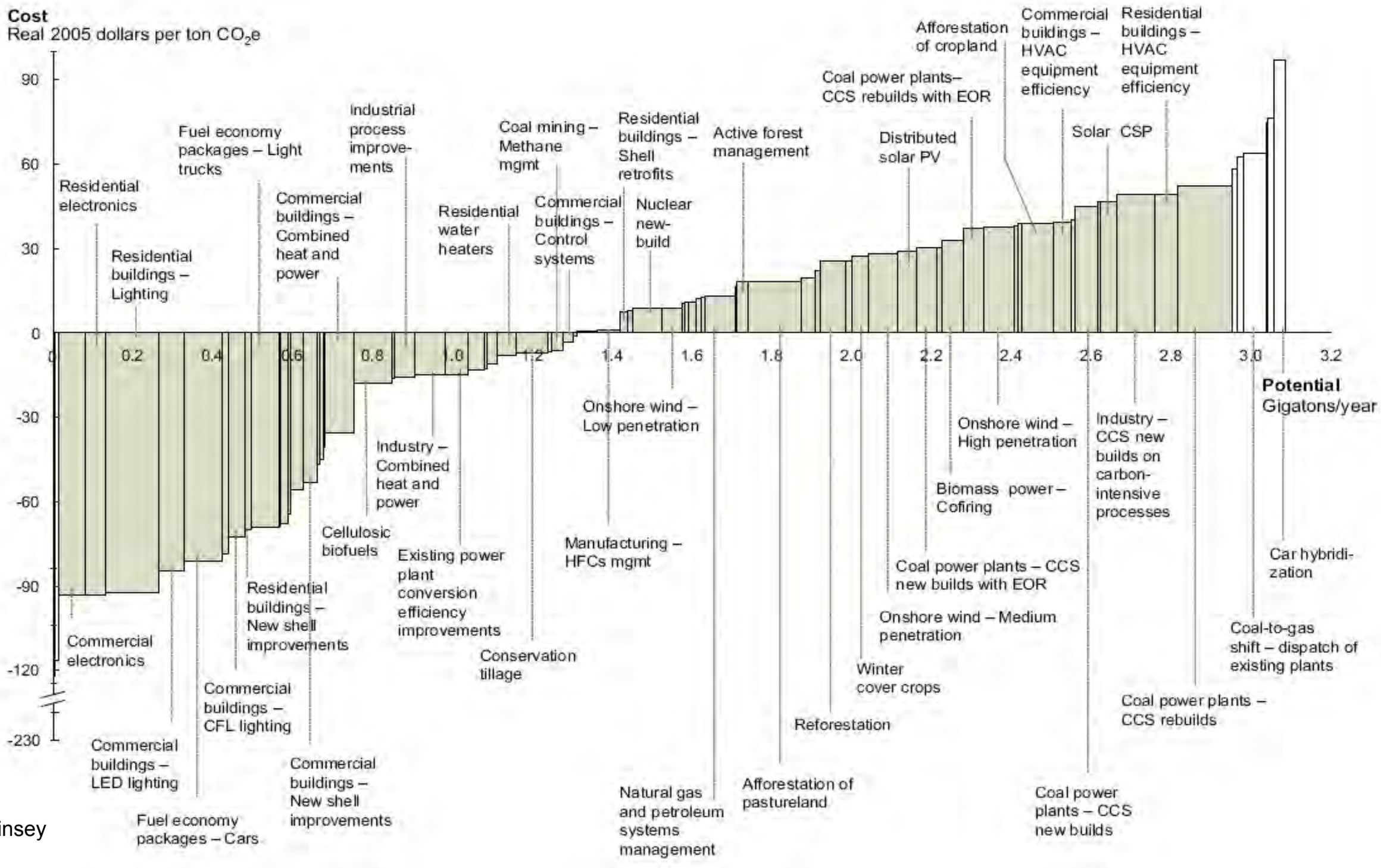


GDP is 0.7% lower in 2030 under S.2191 than in the Reference Case. Growth in GDP is 104% in the Reference Case, and 102% under S.2191 from 2005 to 2030. Under S.2191 the US would be about 4 months behind BAU.


Typical Residential Bill
(Based on 2030 Rates and Adjusted Usage)
Monthly Bill (2004$)
$90
$80
$70
$60
$50
$40
$30
$20
$10
$0
$81
$75
EIA Reference/7-2007
S.2191

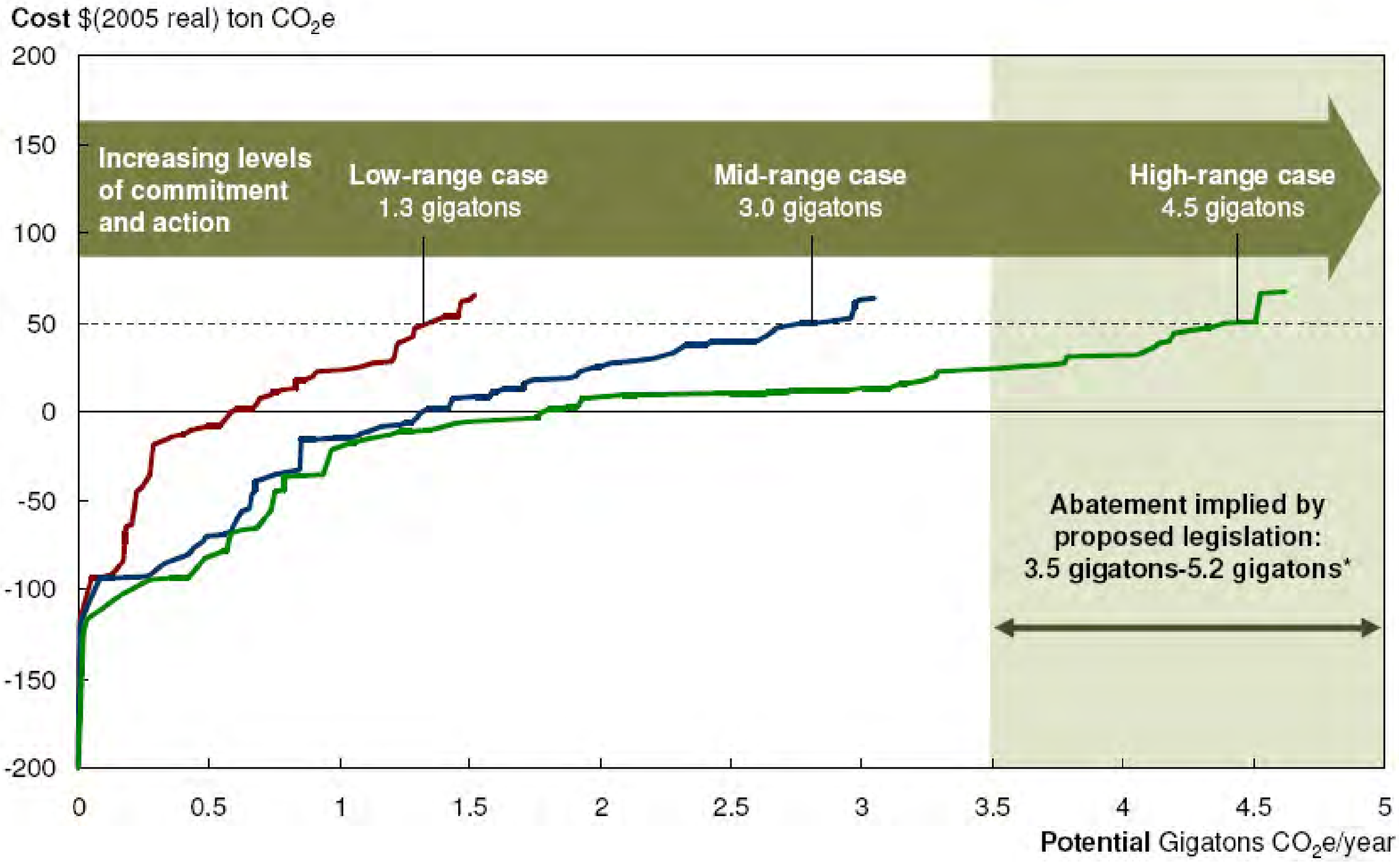
McKinsey Report

2030 U.S. abatement potential under mid-range commitment and action



Source: McKinsey

US greenhouse gas abatement potentials in 2030 increases with faster and more comprehensive policy commitment



Cost of Inaction is Much Larger

- Stern Review: Action 1-2% Global GDP—cost of inaction 5-20% of Global GDP
- NRDC/Tufts: Cost of Inaction for US Economy: 3.6 trillion Dollars in 2100
  - Cost from hurricane losses, real estate losses, energy sector costs and water costs: 271 billion in 2025 and 1.8 Trillion in 2100.

Solution: Cap and Trade Bill

- To jump start the economy and to develop the type of new energy economy we need, in a challenging economic climate, we need a cap and trade bill that recycles the billions of dollars of revenue for public purposes—these purposes can include some limited transition assistance for industry, some money for energy efficiency and clean technology and money for those consumers most impacted by global warming and global warming legislation.

WW II Strategies

- “To save fifty million tons of wool, the government outlawed vests, cuffs, patch pockets and wide lapels; hemlines rose, pleated skirts vanished and an edict requiring a 10% reduction in the cloth used for women’s bathing suits led to the bikini.”
- ***From “The Day of Battle, Rick Atkinson***

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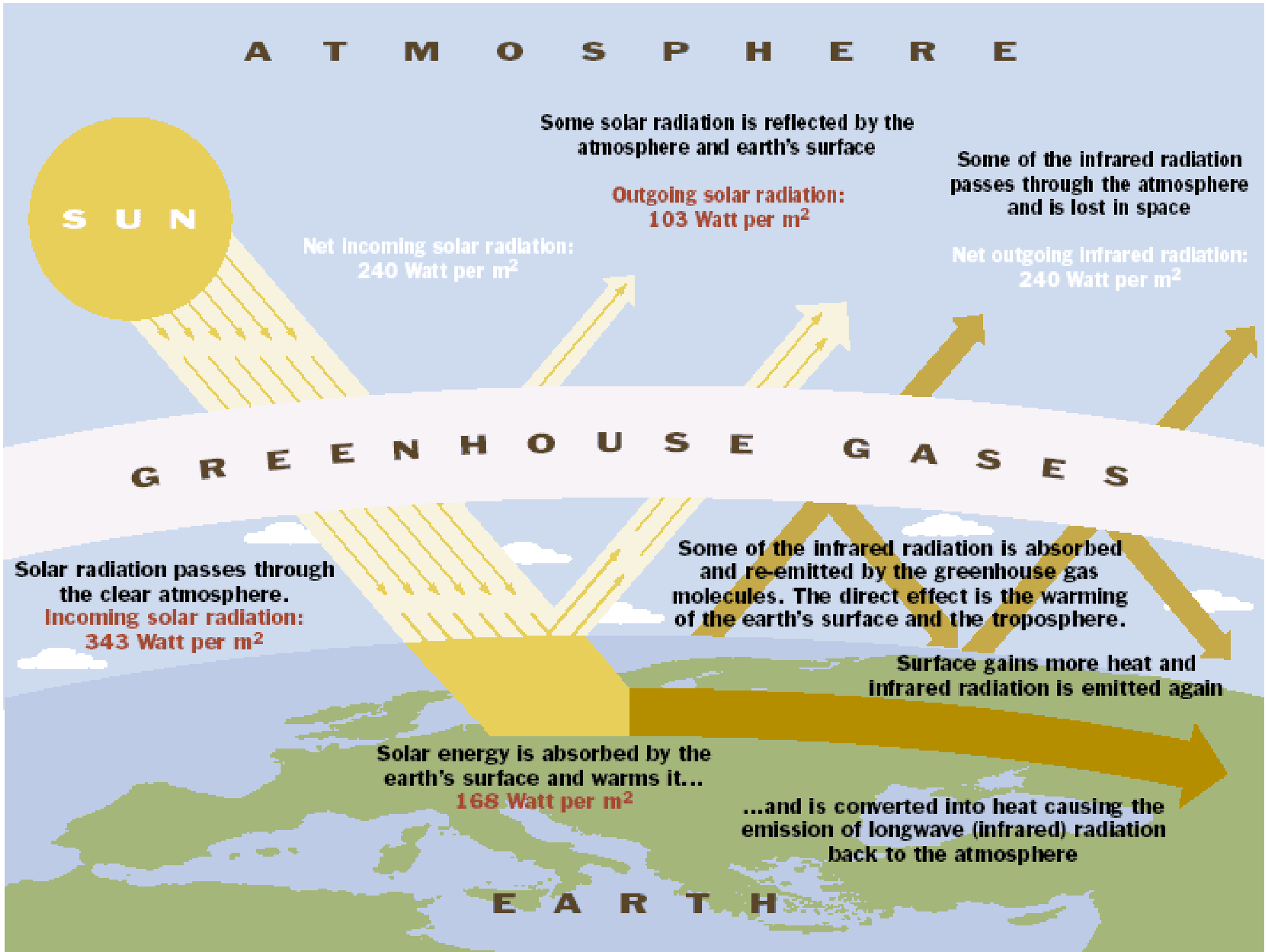
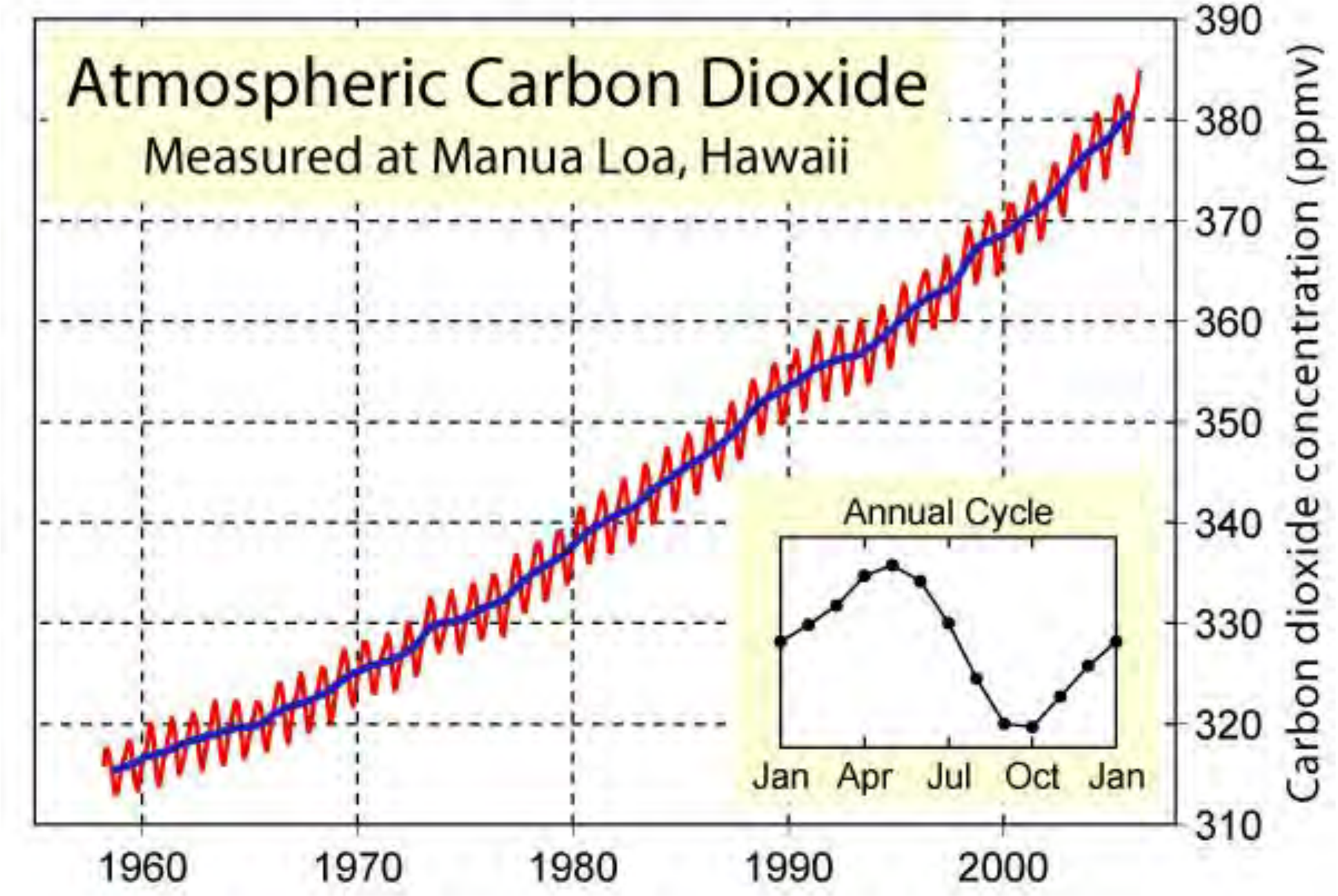
NRDC

THE EARTH'S BEST DEFENSE

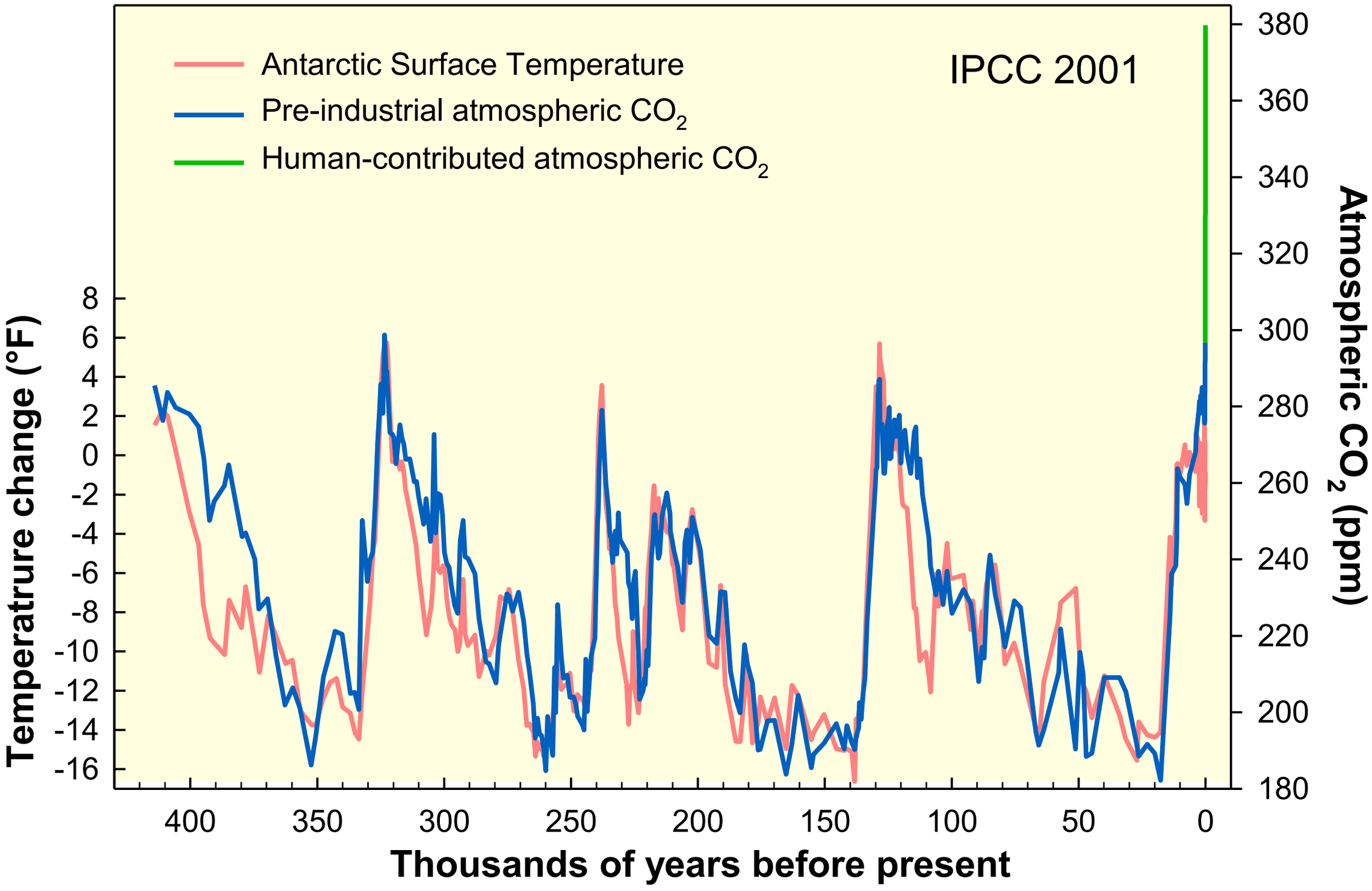
The Greenhouse Effect



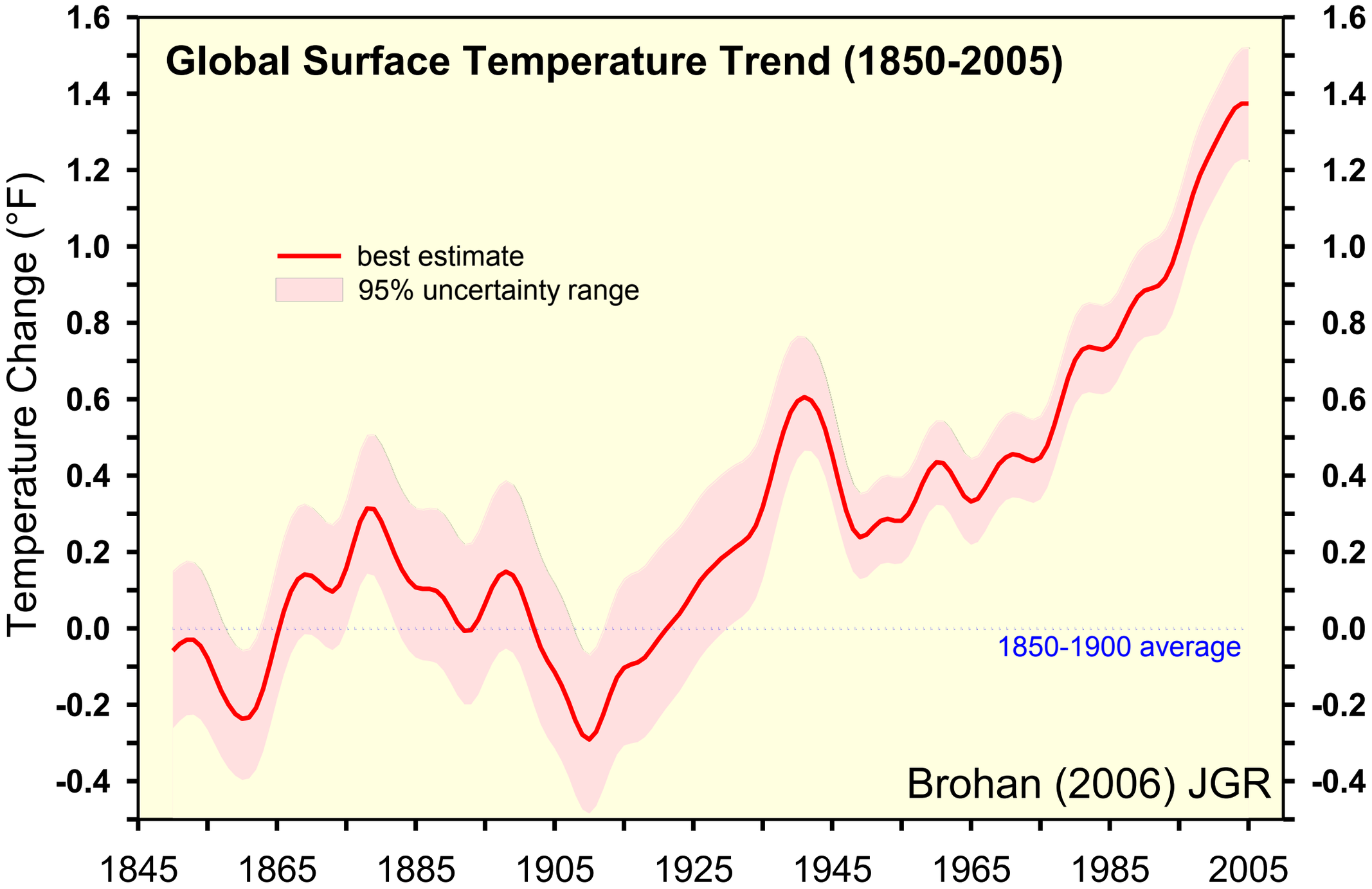

Atmospheric Carbon Dioxide
Measured at Manua Loa, Hawaii
Annual Cycle
Jan
Apr
Jul
Oct
Jan
1960
1970
1980
1990
2000
390
380
370
360
350
340
330
320
310
Carbon dioxide concentration (ppmv)

Source: NOAA

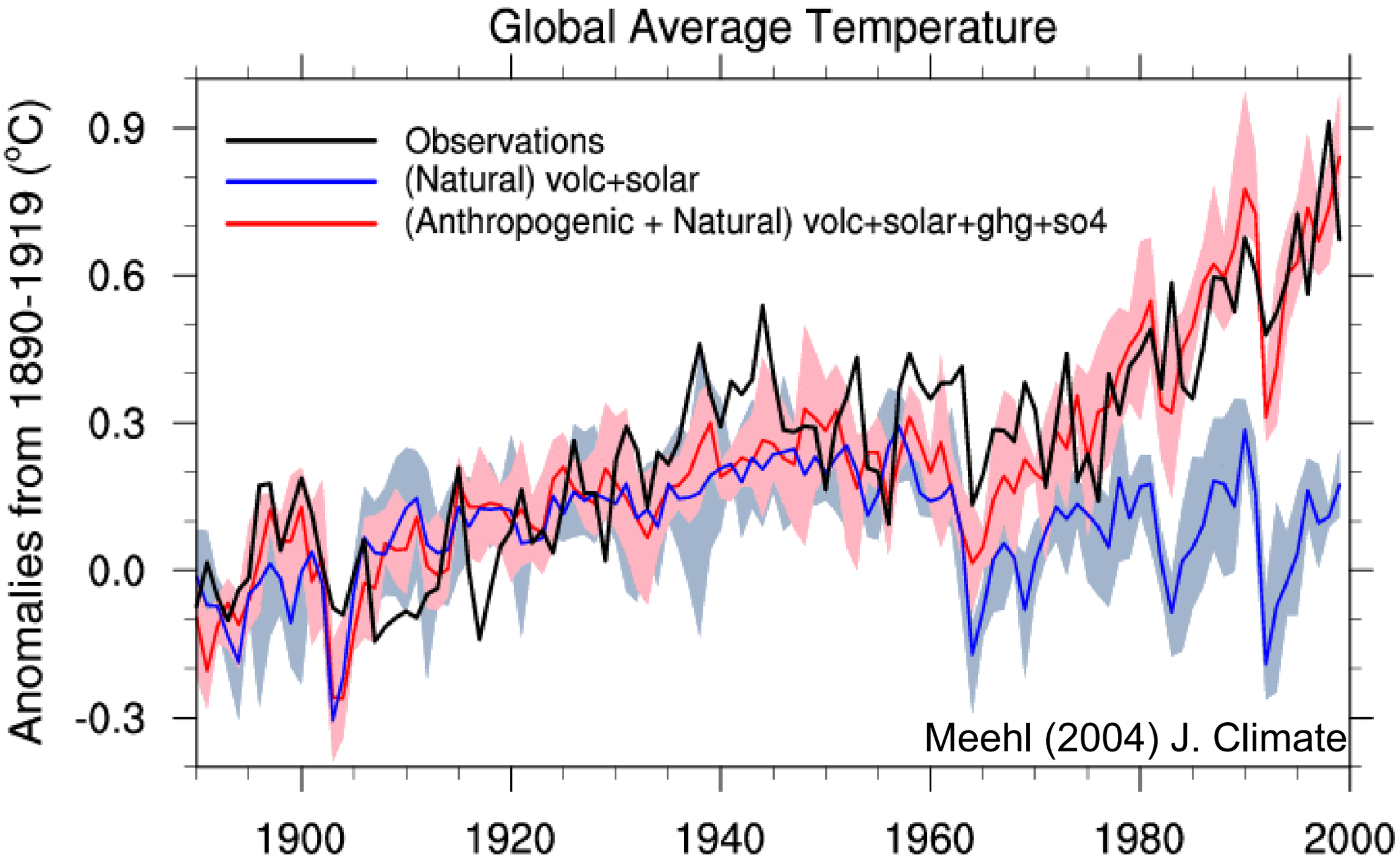
The Carbon Dioxide - Temperature Relationship



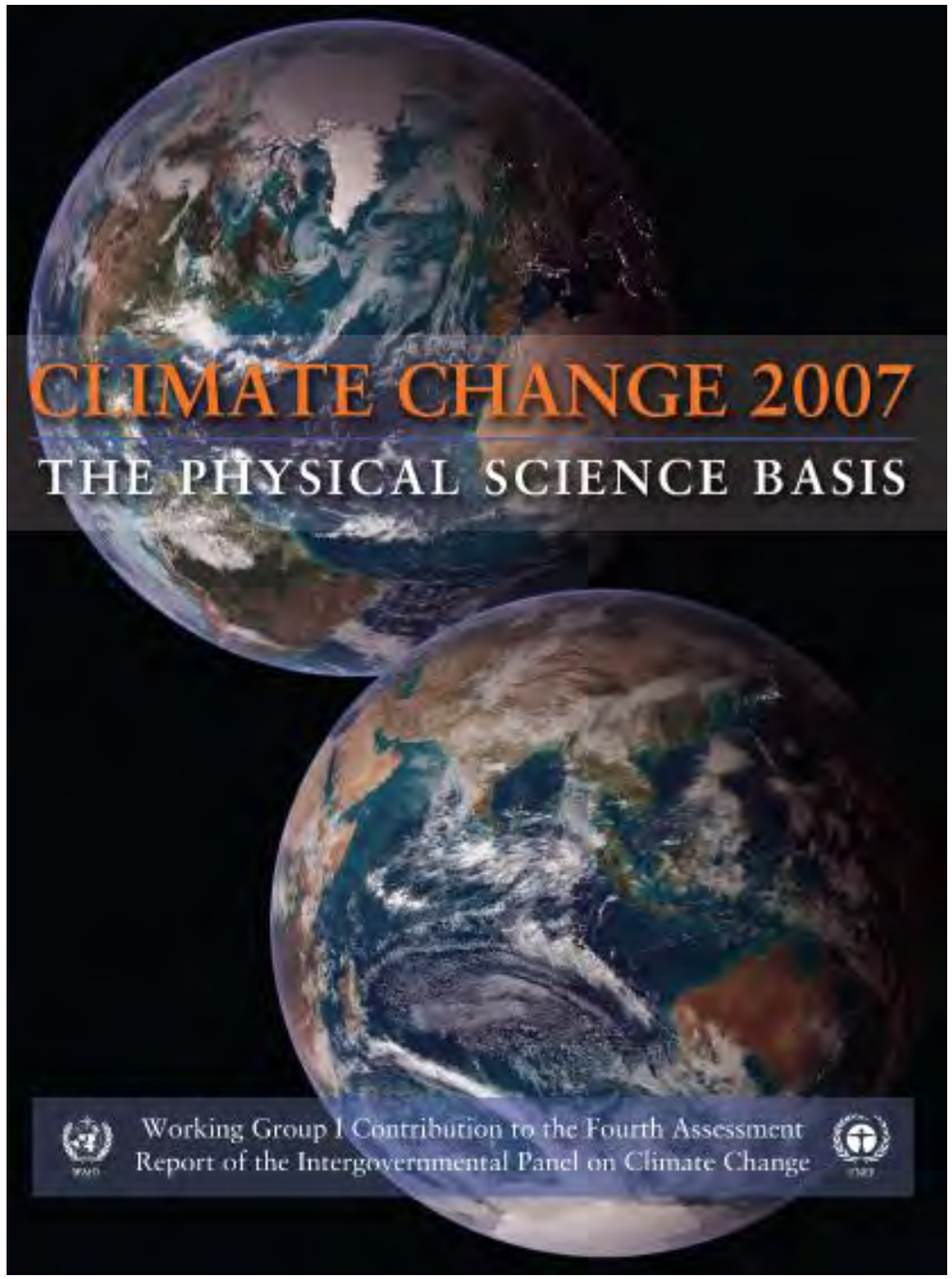
20th Century Global Warming



Human Contribution to 20th Century Global Warming



IPCC Working Group 1 Report



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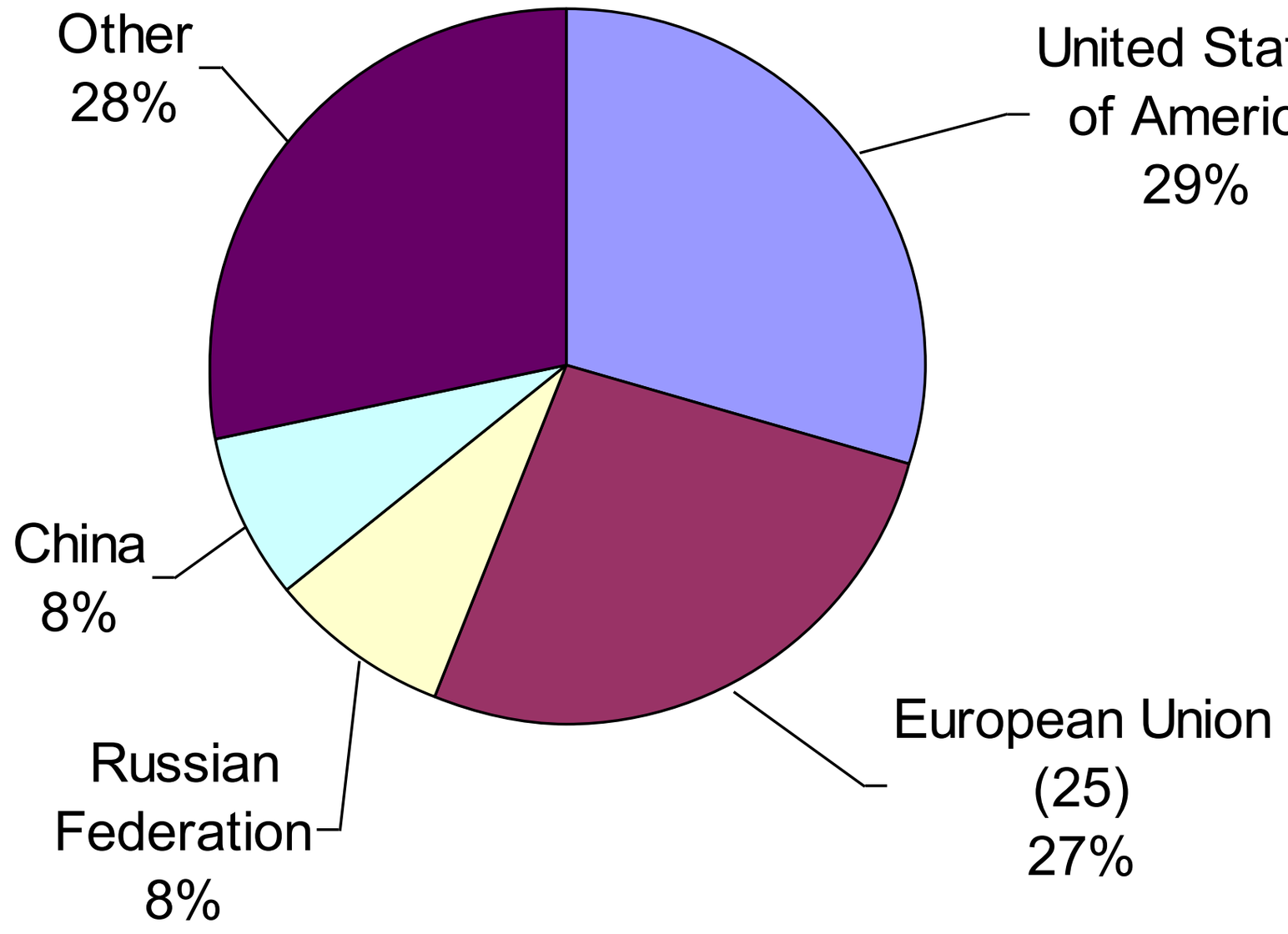
Conclusion: Re Human Caused Global Warming

- CO2 is a greenhouse gas
- Burning Fossil Fuel releases CO2 into atmosphere
- CO2 levels in atmosphere have increased beyond levels seen in last million years
- No skeptic has explained why increased CO2 in atmosphere will **not** cause earth to warm.
- Warming is “unequivocal” and matches model for human contribution to CO2 levels.

If IPCC, Al Gore NRDC are wrong

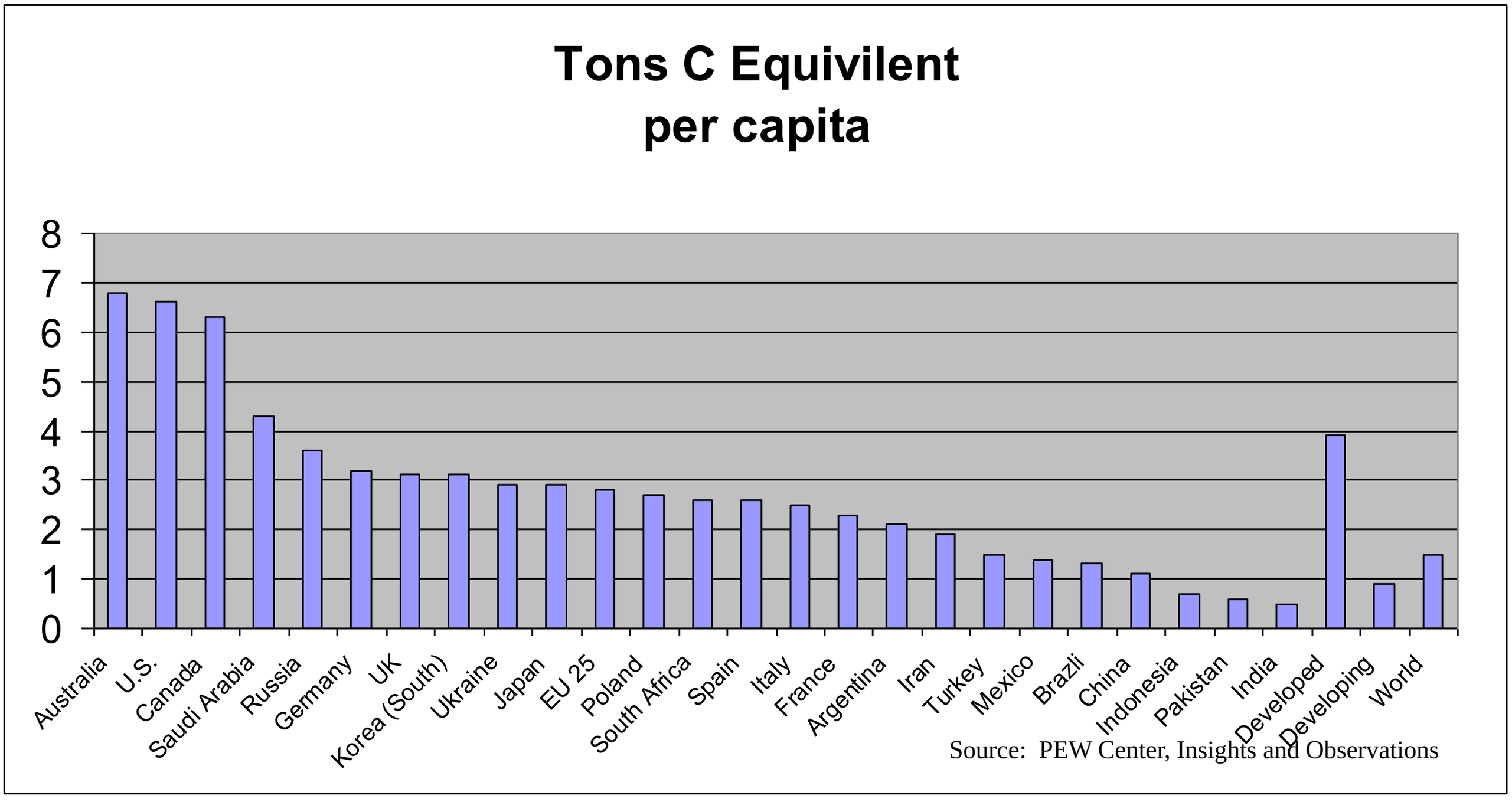
- And there is no human caused global warming but we implement a CO2 reduction program:
  - We will be more energy efficient, more energy independent, more competitive and have new technologies to export.
- But if we fail to act and IPCC and Al Gore and NRDC are right—<u>the results are catastrophic</u>.

Cumulative World Emissions (1850-2002)



Source: World Resources Institute

Per Capita Carbon Emissions



WHAT WE MUST DO.

- The United States must:
  - Moderate the growing demand for energy by increasing efficiency of transportation, residential, commercial, and industrial uses.
  - Develop the legal and regulatory framework to enable carbon capture and sequestration.
  - Provide an effective global framework for carbon management, including establishment of a transparent, predictable, economy-wide cost for carbon dioxide emissions.

Lee Raymond; Chair, National Petroleum Council

NRDC
THE EARTH'S BEST DEFENSE

CCS – has it been done before?

- **Three major international projects:**
  - Sleipner (Norway), 1996
  - Weyburn (Canada), 2000
  - In Salah (Algeria), 2004
- **Decades** **activities:**
  - Enha s)
  - 2500-
  - Inject
- **Several**
- **Tens mo**

The U.S. CO_2 pipeline network

- CCS cannot succeed as a commercially successful emission abatement technology without the policy or regulatory frameworks that would allow commercial entities to invest in it.
- New technology cannot be “pushed” into industrial-scale deployment, a market is necessary to “pull” it.
- Deploying CCS at scale is not as much a question of technology availability but of economic viability.
- CCS is available today to play a significant role in reducing greenhouse gas emissions and addressing climate change.

- Robert Malone, Chairman and President, BP America

NRDC
THE EARTH'S BEST DEFENSE

bp