An aerial photograph of a winding river through a lush green valley. The river is a vibrant blue, and the surrounding land is a mix of green and brown, suggesting a natural, possibly agricultural or forested, landscape. The text is overlaid on this image.

**U.S. Legislation to  
Address Climate Change:  
The Lieberman/McCain  
Climate Stewardship Act**

**Tim Profeta**

**November 16, 2004**

## Genesis of Lieberman/McCain Climate Stewardship Act: U.S. Rejection of Kyoto

- After Kyoto deal was sealed in COP 6 *bis* in July 2001, Senators Lieberman and McCain took Senate floor on August 3, 2001 to announce intention to develop domestic cap and trade.
- Declared intent to meet with “leaders from each sector of our economy to discuss what commitments they can make to curb our growing problem of global warming without seriously harming our economy.”

# Genesis of Lieberman/McCain Climate Stewardship Act

- Both Senators voiced concern over competitiveness as well as international leadership.
  - Senator McCain: “We also have to recognize that the international system for addressing climate change is evolving. Only a few years ago, many of America's trading partners were reluctant to accept market-based solutions. But now they have embraced them, and the global marketplace for greenhouse gas cap-and-trade is beginning. A national cap-and-trade system could give America the business valuable experience they will need to remain competitive with other companies in countries where greenhouse emissions trading is moving forward.”

# Genesis of Lieberman/McCain Climate Stewardship Act

- Both Senators voiced concern over competitiveness as well as international leadership.
  - Senator Lieberman: “By going forward with the Kyoto Protocol even without the United States, the world has taken a giant stride forward in response to this pressing problem. That agreement will create a worldwide market in greenhouse gas reductions, using market forces to drive environmental gains. Unfortunately, because the United States did not participate, U.S. interests were virtually ignored in crafting the final deal. In the end, I believe that not just our environment but our economy will suffer as a result.”

# Climate Stewardship Act: Development

- After the August 3, 2001 colloquy, the Lieberman and McCain offices engaged in 16 months of stakeholder meetings to design a program that could work for the United States.
  - Major utilities, NGO's, manufacturers, think tanks.
  - Searching to maximize flexibility while sending clear market signal to economy.

# Climate Stewardship Act: Introduction

- The bill was introduced in January 2003.
- Used the “Cap-and-trade” approach, most famously used with the Acid Rain trading program.
- Two phase cap – 2000 levels by 2010, 1990 levels by 2016 – on all six greenhouse gases.
- Covered all 4 major sectors: Industry, utilities, transportation, commercial
- Allowed flexible use of “offsets” to account for 15% of entity’s emissions.

# Climate Stewardship Act: Evolution

- When bill offered for consideration on Senate floor in October 2003, it had evolved.
  - Dropped the second phase – now just 2000 levels by 2010.
  - Buttressed technology programs.
- For purposes of today's talk, want to base descriptions on the October 2003 version.

# Climate Stewardship Act: The Basic Cap

- Bill creates a pool of “allowances” equal to the total emissions allowed, beginning in 2010.
- It is approximately 5.5 billion allowances, accounting for 5.5 billion tons of greenhouse gas emissions in CO2 equivalence.
- Covered entities are required to have one allowance for every ton emitted.
  - Only entities with a facility that emits over 10,000 tons a year are covered.
- But who gets the allowances to start?

# Climate Stewardship Act

**Creates 5.896 billion allowances (minus uncovered sources) (§331)**

**The Secretary of Commerce determines the amount of tradable allowances to be allocated to each covered sector and to the Climate Change Credit Corporation (§332) based upon:**

- (1) Distributive effects on household income and net worth of individuals;
- (2) Impact on corporate income, taxes, and asset value;
- (3) Impact on income levels of consumers and on their energy consumption;
- (4) Effects in terms of economic efficiency;
- (5) Ability to pass compliance costs to their customers;
- (6) Degree the allocations should decrease over time; and
- (7) The need to maintain the international competitiveness of US manufacturing jobs.

Utility

Industrial

Transportation

Commercial

Climate Change Credit Corporation (4C)

**EPA Administrator determines method for allocating to individual entities (§333(b)) that will:**

- (1) Encourage investments that increase the efficiency of the process that produce greenhouse gas emissions;
- (2) Minimize the costs to the government of allocating the tradable allowances;
- (3) Not penalize a covered entity for emissions reductions made before 2010 and registered with the database; and
- (4) Provide sufficient allocation for new entrants into the sector.

**Director of 4C to decide use (§352)**

Offset consumer impacts

Transition asst. for workers

Technology deployment

A B C D E

A B C D E

A B C D E

A B C D E

# Climate Stewardship Act: Climate Change Credit Corporation (“4C”)

- Trades in the market; smooths out the peaks and valleys of the market.
- Uses revenues to smooth out impacts of bill
  - Transition assistance for affected workers.
  - Funds to offset consumer impacts, particularly those with the least ability to pay.
  - Technology dissemination programs.
    - Coal gasification
    - Agricultural technologies
- If given 10 percent of the allowances, it will have an annual budget of \$5.5 billion, according to MIT’s cost estimates

# **4C – Technology Programs**

- The Corporation shall provide direct financial incentives for the dissemination of Integrated Gasification – Combined Cycle facilities.**
- The Corporation shall run an agricultural technology program, using direct grants, loan guarantees, or other financial incentives to “provide incentives for greenhouse gas emissions reductions or net increases in greenhouse gas sequestration on agricultural lands.”**

# Technology Programs (cont.)

- **Agricultural technology program shall include incentives for:**
  - Agricultural management practices that achieve increases in net carbon sequestration
  - Wind energy on agricultural lands
  - Production of renewable fuels
    - The requirement that refiners be responsible for the carbon content of their fuels creates a new, market driver for the use of renewable fuels.

# Climate Stewardship Act – Offsets

- For up to 15 percent of its emissions, an entity can opt not to use an allowance created by the bill.
- Instead, the entity could use an “offset”
  - An international credit that is retired in another nation’s certified trading scheme
  - Registered tons of sequestered greenhouse gases under the certification provisions of the legislation
  - Registered reductions by a noncovered entity
- Entities meeting 1990 levels by 2010 may meet up to 20 percent of allowance requirements through sequestration offsets

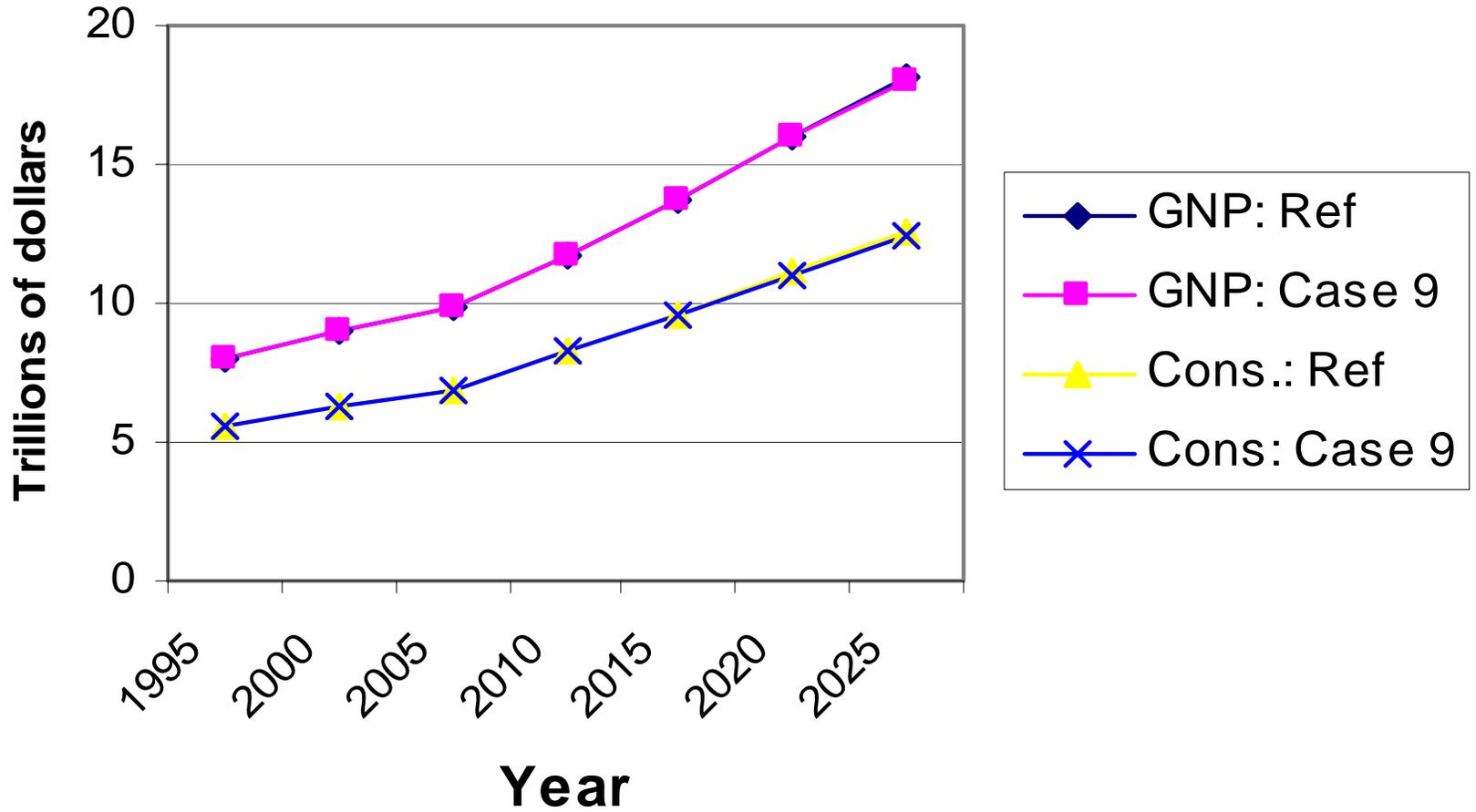
# Climate Stewardship Act – International Offsets

- Forbidden from trading directly in Kyoto system because of U.S. withdrawal.
- Climate Stewardship Act wants to encourage international cooperation and transactions.
- Thus, will allow foreign reductions as an offset if:
  - The Secretary of Commerce certifies that the other country's system is “complete, accurate, and transparent.”
  - The other nation adopts “enforceable limits on its greenhouse gas emissions.”
  - The covered entity certifies that the foreign allowance has been “retired unused.”

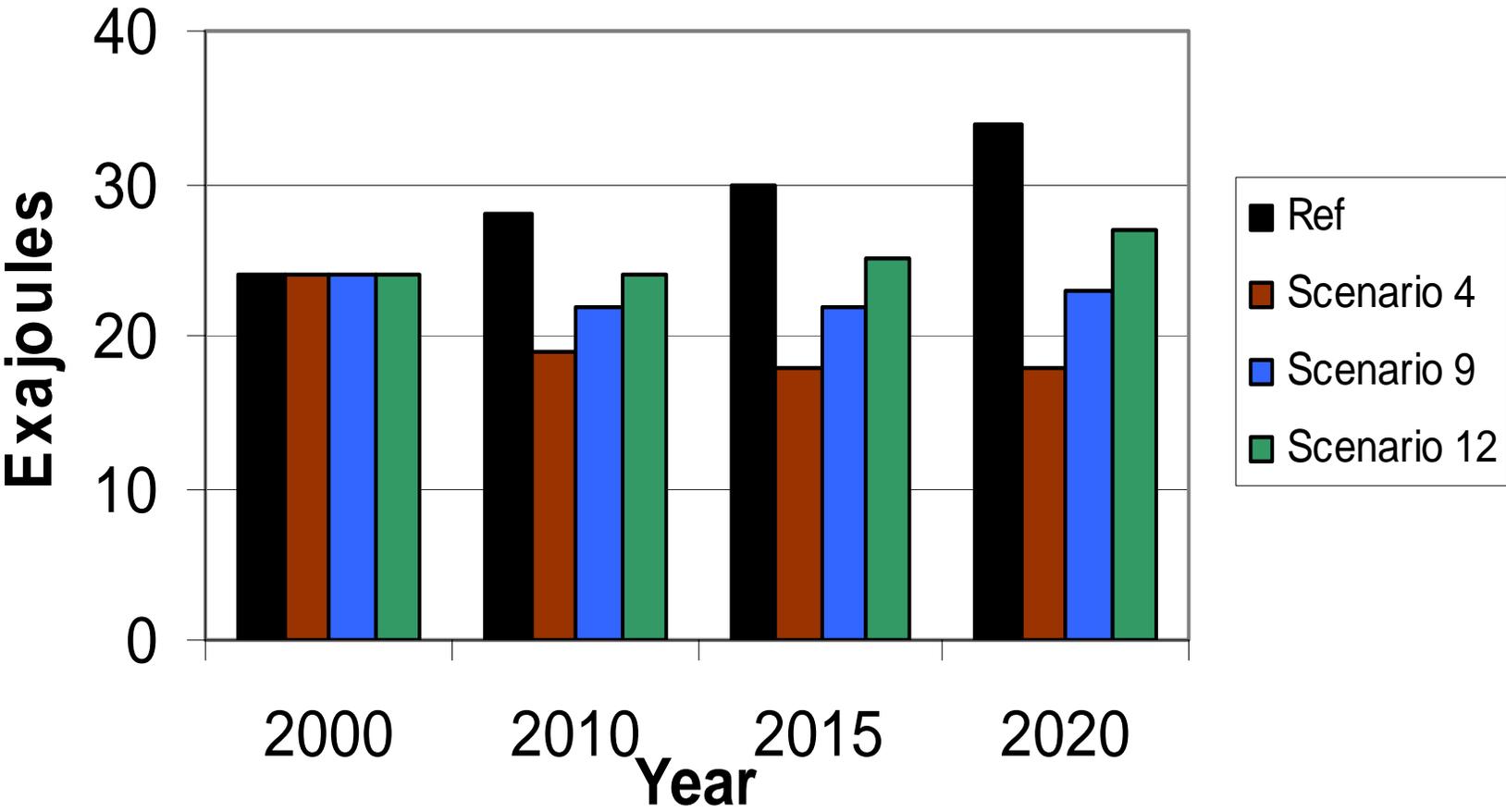
# **Climate Stewardship Act – Sequestration Offsets**

- **Carbon sequestration accounting standards to be developed through interagency process**
  - **Eligible activities include agriculture, reforestation, forest preservation, and other methods.**
  - **Sequestered tons discounted for uncertainty.**
- **Not permanent – the bill requires the entity to confirm every 5 years that the carbon is still sequestered.**
- **Some concern raised that forest sequestration efforts would swamp agricultural efforts**
  - **Bill was amended to require a minimum of 10 percent of sequestration to come from agricultural lands**
  - **Creates a minimum guarantee to allow sequestration methods to mature**

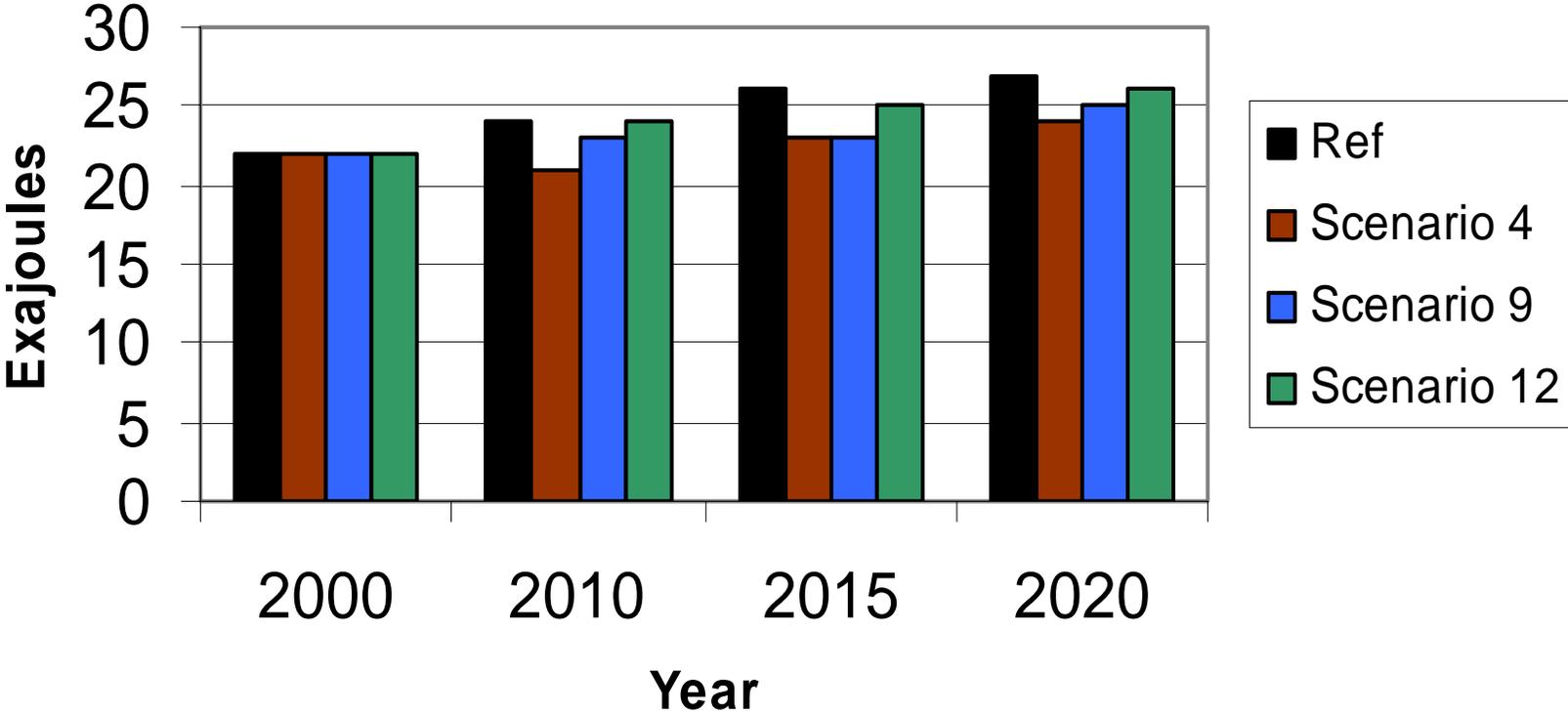
# GNP and Consumption Effects



# Coal Use

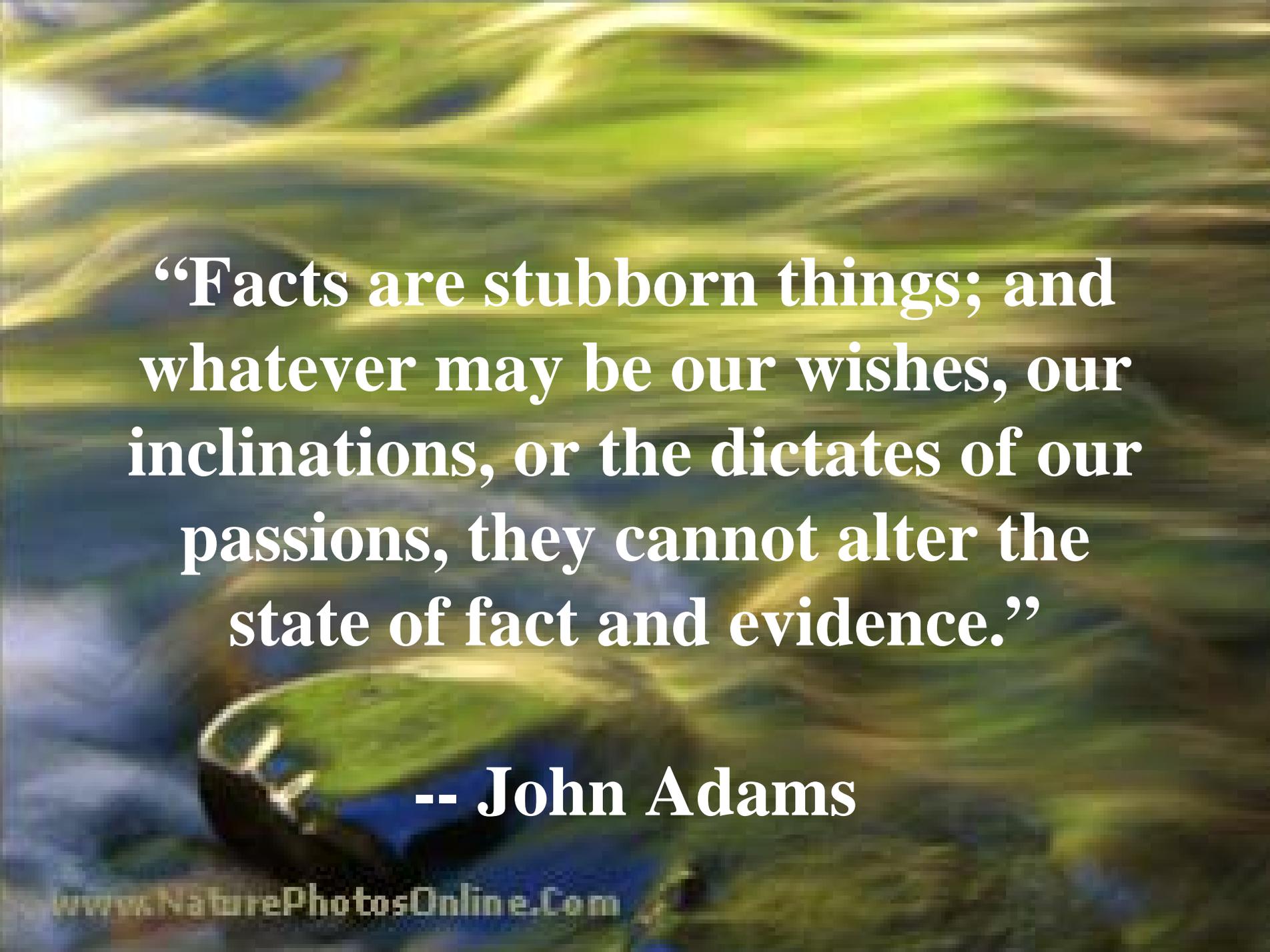


# Natural Gas Use



# Climate Stewardship Act – Political Future

- Action to create mandatory climate obligations in the United States is inevitable, unless you believe that the problem of global warming will evaporate.

An aerial photograph of a winding river flowing through a lush, green valley. The river is a vibrant blue, contrasting with the surrounding green fields and forests. The perspective is from a high angle, looking down at the river as it curves through the landscape. The lighting is bright, suggesting a sunny day, with some shadows cast by the terrain.

**“Facts are stubborn things; and whatever may be our wishes, our inclinations, or the dictates of our passions, they cannot alter the state of fact and evidence.”**

**-- John Adams**

## Qori Kalis, Peruvian Andes 1978...



- In 1978, the Qori Kalis Glacier looked like this, flowing out from the Quelccaya Ice Cap in the Peruvian Andes Mountains.

**Glaciers are shrinking nearly worldwide**

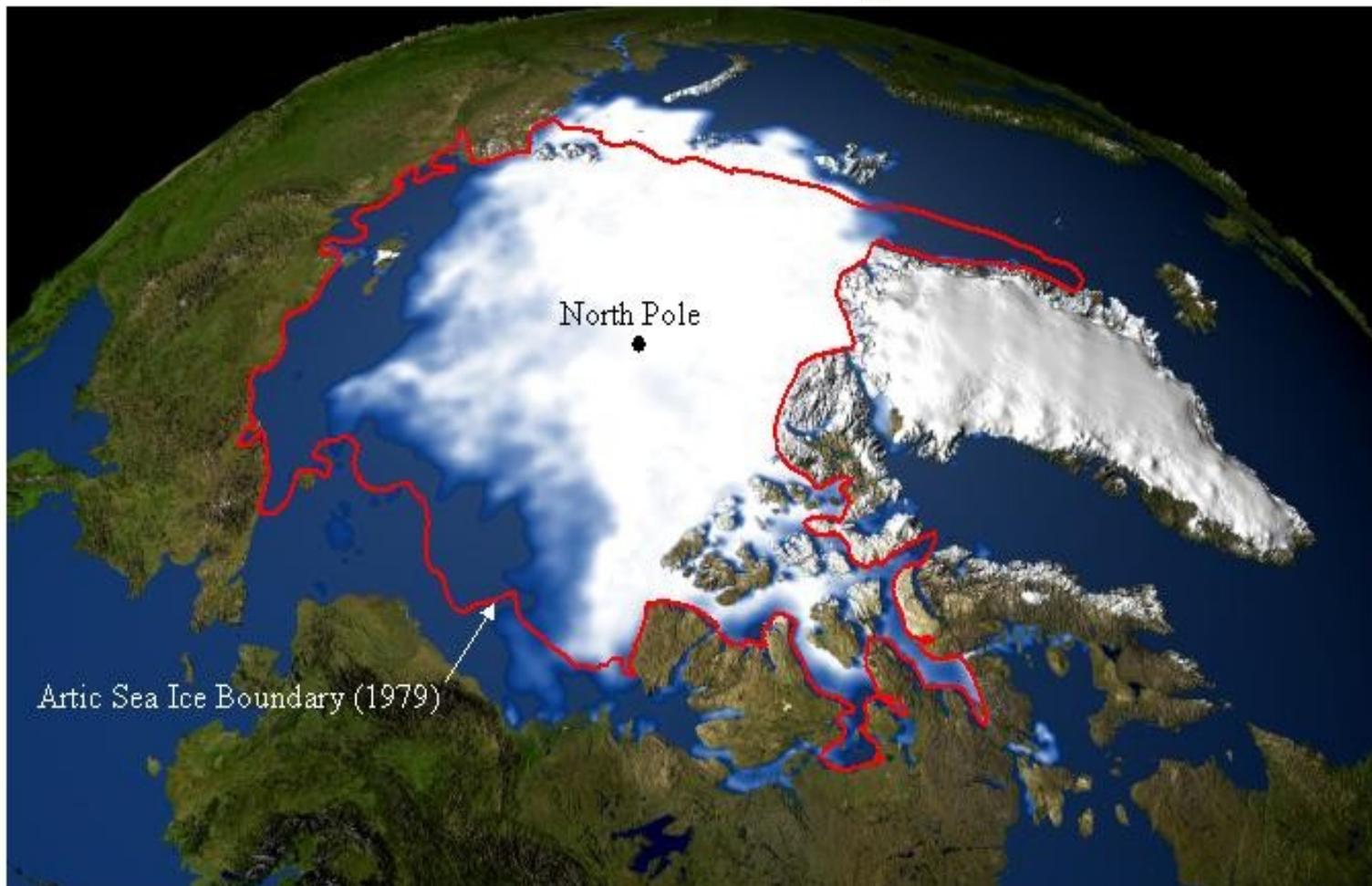
## ...And Today



- In 2000, the view of Qori Kalis has changed dramatically with a massive 10-acre lake forming at the ice margin.

# Arctic Sea Ice Loss: Greater than Land Area of Texas, California, and Maryland Combined

2003 vs. 1979 Comparison



# Climate Stewardship Act – The Case for Action

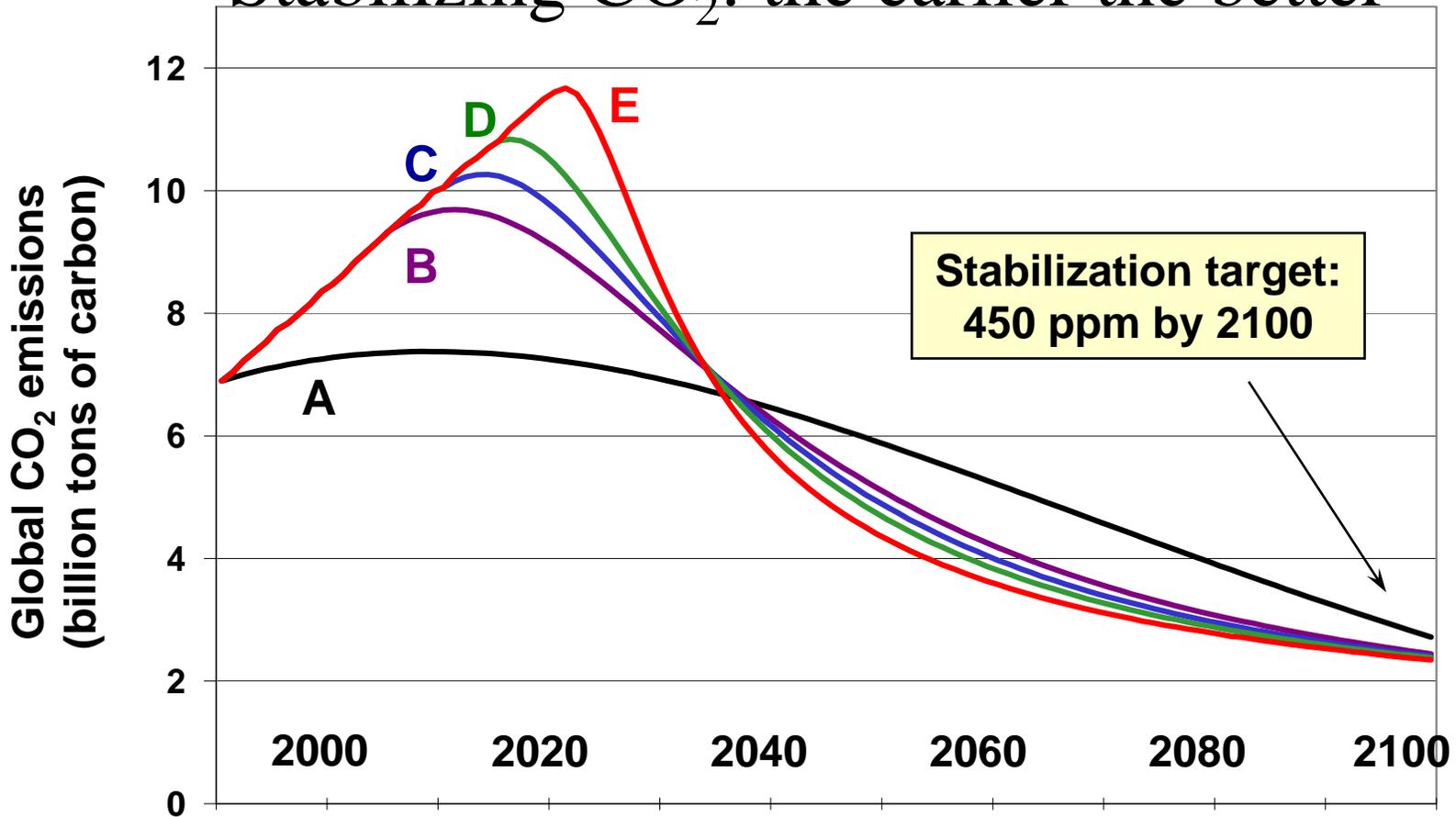
- Recent Nature study conservatively found mean estimate of 1.25 million species extinct by 2050 under current trends
- American Geophysical Union consensus statement
  - “Human activities are increasingly altering the Earth's climate . . . . Scientific evidence strongly indicates that natural influences cannot explain the rapid increase in global near-surface temperatures observed during the second half of the 20th century.”

# **Climate Stewardship Act – The Case for Action**

**“The evidence is there. The  
time is now to take action.”**

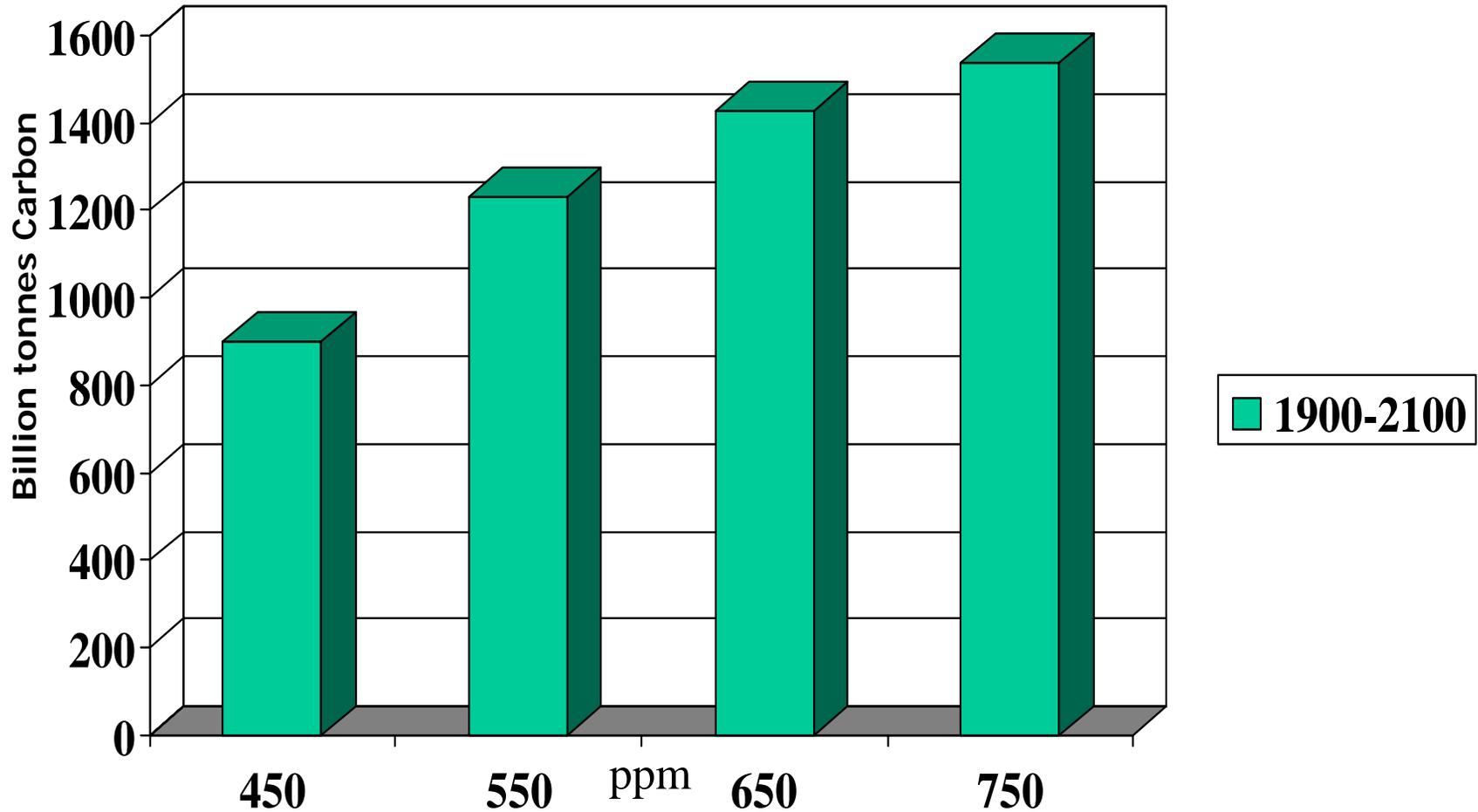
-- Dr. Antonio Busalacchi, Jr.,  
Chair of the Climate Research Committee,  
National Research Council  
October 1, 2003 Congressional Hearing

# Stabilizing CO<sub>2</sub>: the earlier the better



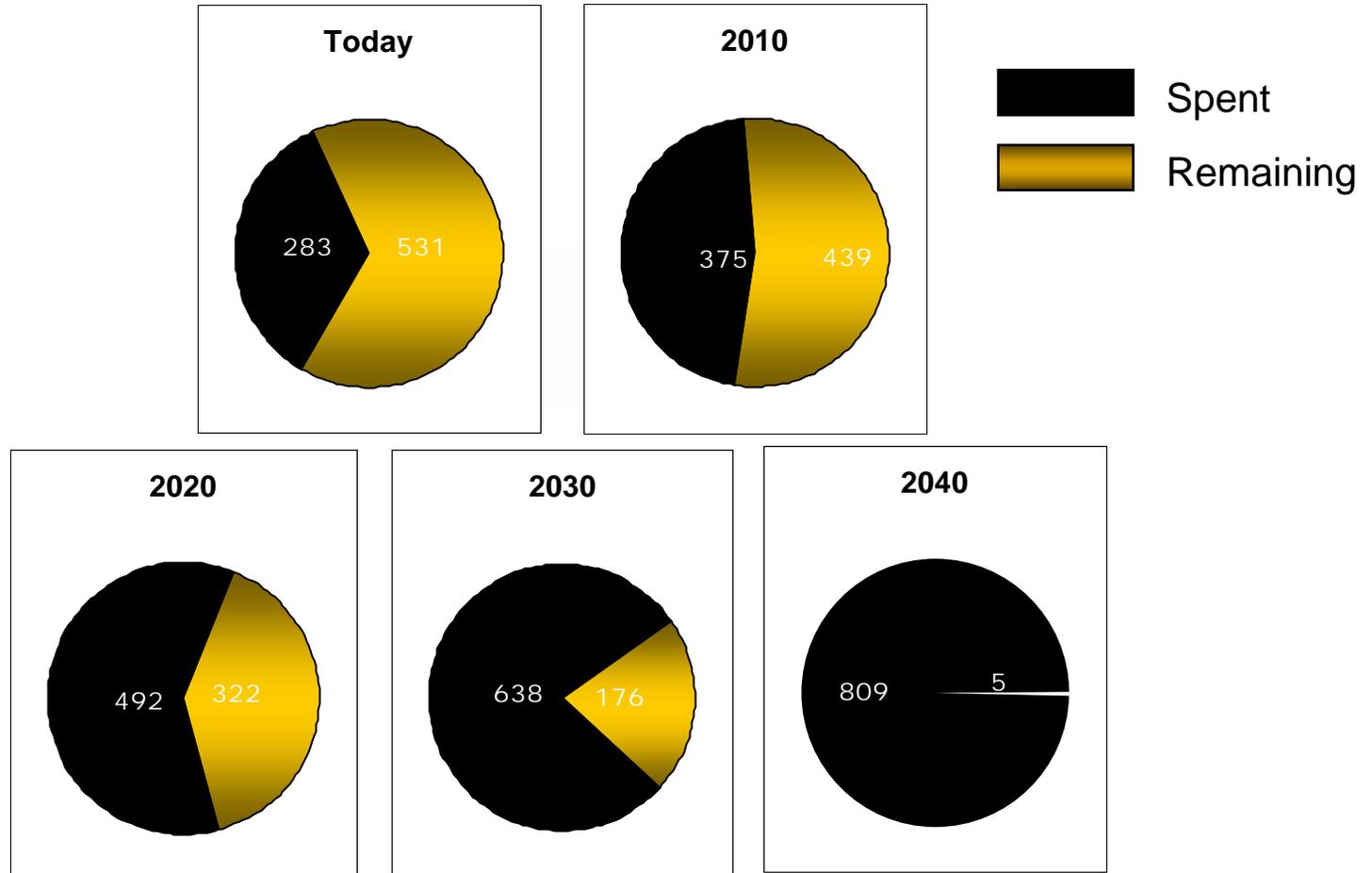
- A - Reductions begin 1990, gradual, at steepest a 2% annual decline by 2080
- B - Reductions delayed until 2005, decline of 2%/year beginning not later than 2035
- C - Reductions delayed until 2010, decline of 2.5%/year beginning not later than 2030
- D - Reductions delayed until 2015, decline of 3.0%/year beginning not later than 2028
- E - Reductions delayed until 2020, decline of nearly 5%/year beginning not later than 2025

# Stabilization Requires a Budget



# The Budget is Disappearing

Cumulative carbon emissions 1900-2100 (GtC)



Budget for 450 ppm Stabilization



# Climate Stewardship Act – Next Vote

- **Senators McCain and Lieberman pledged to get another vote as soon as possible**
- **Bipartisan House Introduction**
- **Increasing support**
  - **Religious organizations**
  - **Wall Street investors**
  - **Sportsmen**
  - **National security community**