

University of Colorado Law School

Colorado Law Scholarly Commons

Climate Change and the Future of the American
West: Exploring the Legal and Policy
Dimensions (Summer Conference, June 7-9)

2006

6-8-2006

SLIDES: In the Nick of Time: Pathways to a Post-2012 Climate Treaty Framework

Annie Petsonk

Follow this and additional works at: <https://scholar.law.colorado.edu/climate-change-and-future-of-American-west>



Part of the [Agricultural Science Commons](#), [Environmental Policy Commons](#), [International Law Commons](#), and the [Natural Resources Management and Policy Commons](#)

Citation Information

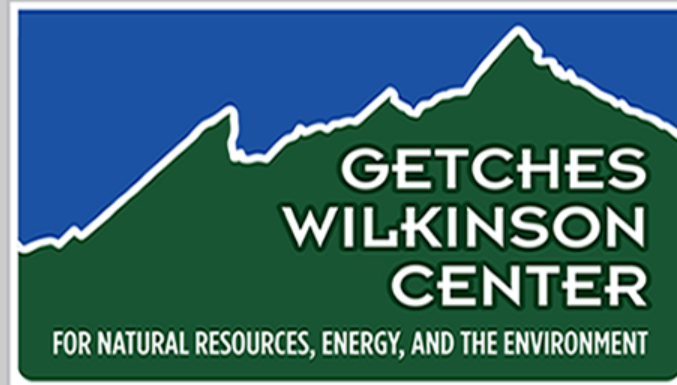
Petsonk, Annie, "SLIDES: In the Nick of Time: Pathways to a Post-2012 Climate Treaty Framework" (2006). *Climate Change and the Future of the American West: Exploring the Legal and Policy Dimensions (Summer Conference, June 7-9)*.

<https://scholar.law.colorado.edu/climate-change-and-future-of-American-west/20>

Reproduced with permission of the Getches-Wilkinson Center for Natural Resources, Energy, and the Environment (formerly the Natural Resources Law Center) at the University of Colorado Law School.



William A. Wise Law Library
COLORADO **LAW**
UNIVERSITY OF COLORADO **BOULDER**



Getches-Wilkinson Center Collection

Annie Petsonk, *In the Nick of Time: Pathways to a Post-2012 Climate Treaty Framework*, in *CLIMATE CHANGE AND THE FUTURE OF THE AMERICAN WEST: EXPLORING THE LEGAL AND POLICY DIMENSIONS* (Natural Res. Law Ctr., Univ. of Colo. Sch. of Law 2006).

Reproduced with permission of the Getches-Wilkinson Center for Natural Resources, Energy, and the Environment (formerly the Natural Resources Law Center) at the University of Colorado Law School.

In the Nick of Time

Pathways to a Post-2012 Climate Treaty Framework
Presentation at the University of Colorado School of Law

Annie Petsonk

June 2006



ENVIRONMENTAL DEFENSE

finding the ways that work

UNFCCC Article 2

“The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, **stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.** Such a level should be achieved within a timeframe sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner. “

“I reaffirm America's commitment to the United Nations Framework Convention and its central goal, to stabilize atmospheric greenhouse gas concentrations at a level that will prevent dangerous human interference with the climate.”

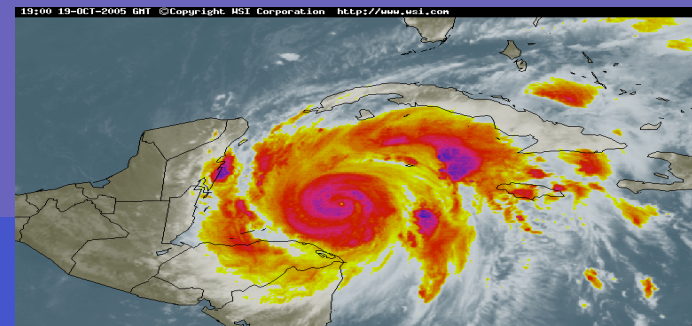
--President George W. Bush,
February 14, 2002

Dangerous Climate Change: Questions for Policy Makers

- How warm is too warm?
- How fast is too fast?
- Is there a tipping point?
- How much time do we have to make emissions cuts?

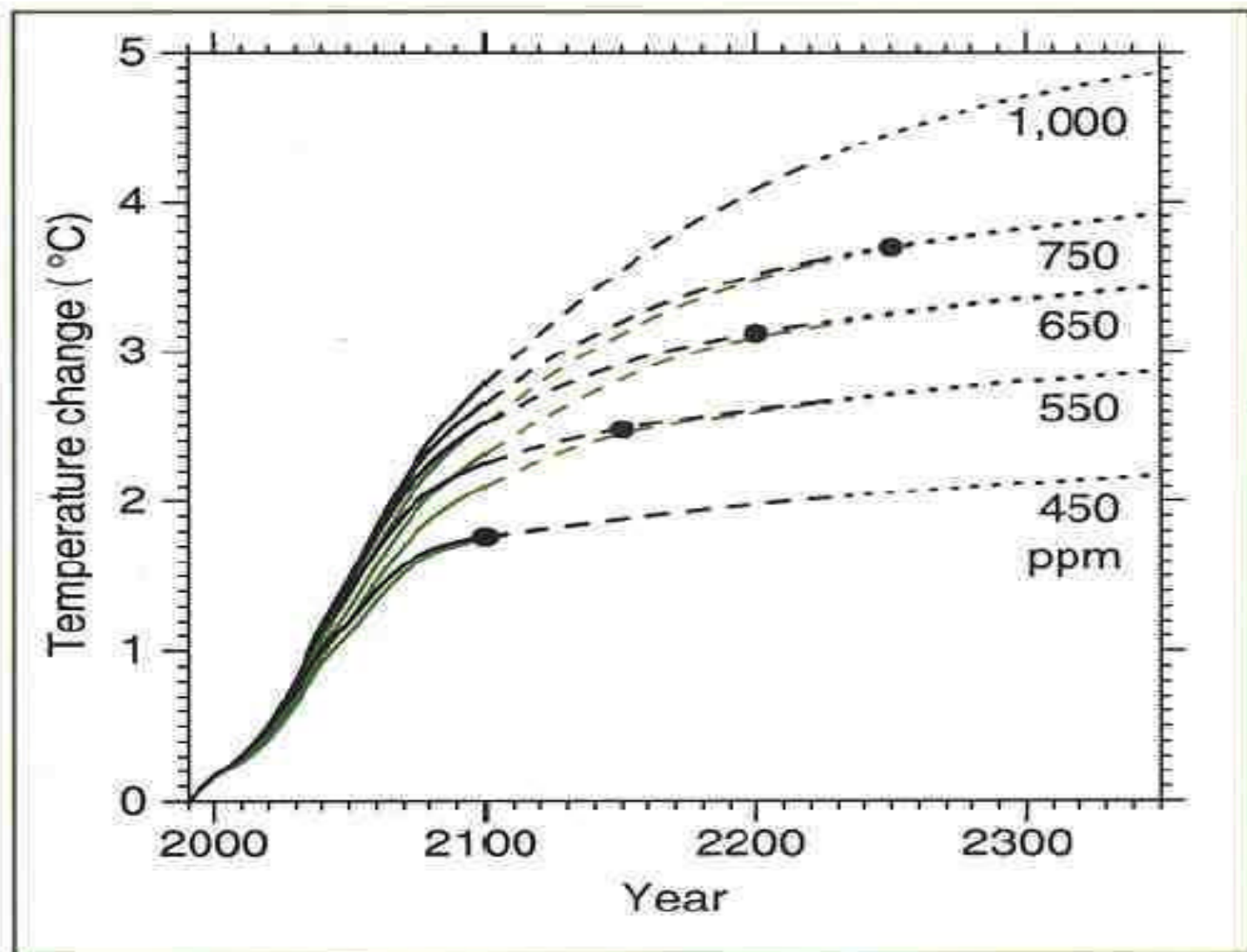
How warm is too warm? How fast is too fast?

- Summer 2003 heat wave in southern Europe causes more than 14,000 “excess deaths” in France
- Heat stress on western US forests increases risks of pest, fire damage
- Warmer sea surface temperatures > more intense hurricanes
- Hurricane Wilma (2005) most intense Atlantic storm ever recorded



ENVIRONMENTAL DEFENSE

FIGURE 2: CONCENTRATION LEVELS AND TEMPERATURE CHANGE



Source: IPCC Third Assessment Report, Technical Summary (2001).

Is there a tipping point? How much time do we have?

- Absent urgent and strenuous mitigation actions in the next 20 years, the world will almost certainly be committed to a temperature rise of between about 0.5° C and 2° C relative to today by 2050.
- If action to cut emissions is delayed by 20 years, rates of emission reduction may need to be 3 to 7 times greater to meet the same temperature target... Even a delay of 5 years could be significant.

What is Dangerous?

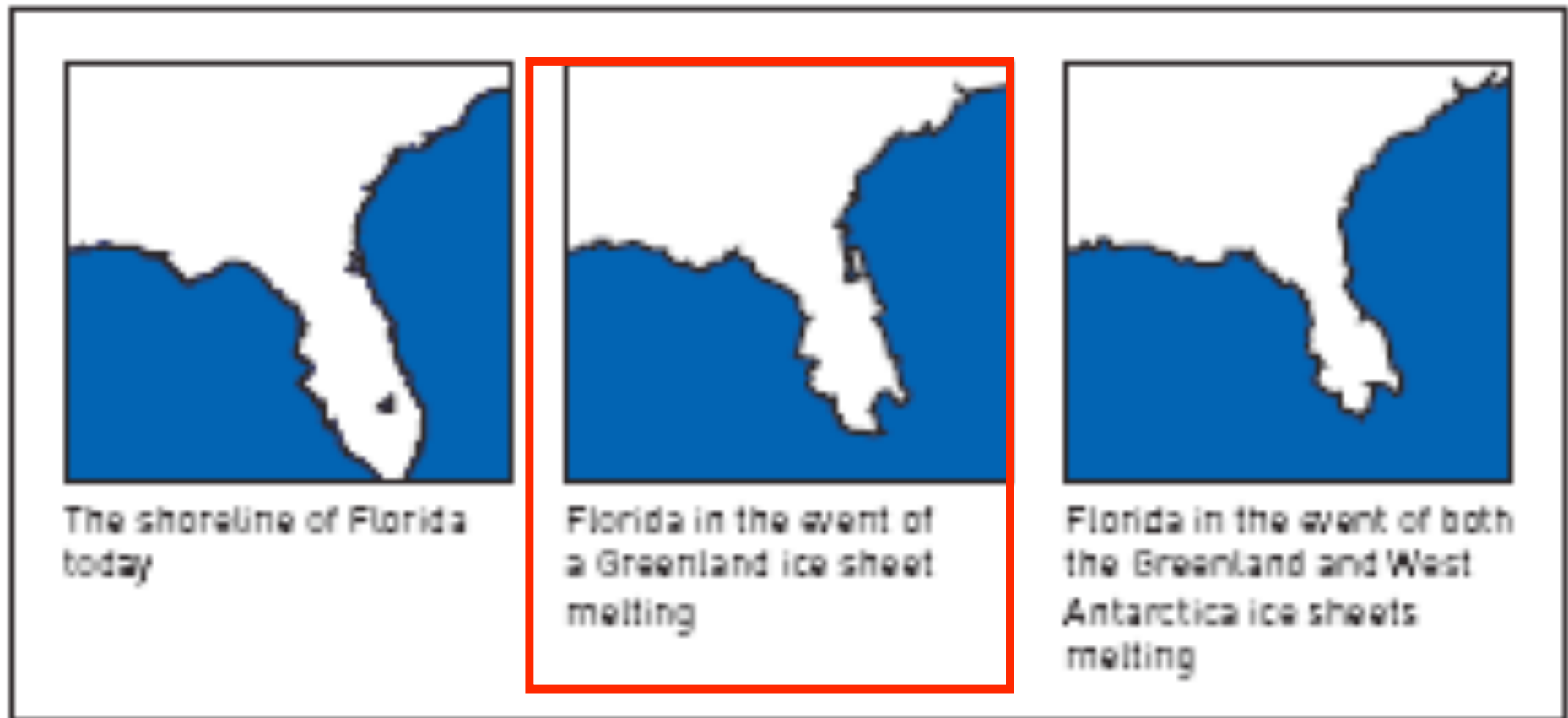
Gulf Stream shutdown	3°C in 100 years	O'Neill & Oppenheimer 2002; Keller et al. 2004
Disintegration of West Antarctic Ice Sheet	2°C 450 ppm CO ₂ 2-4°C, less than 550 ppm	O'Neill & Oppenheimer 2002; Oppenheimer & Alley 2004, 2005
	CO ₂	
Disintegration of Greenland Ice	1° C	Hansen 2004
Widespread coral reef bleaching	More than 1° C	Smith et al. 2001; O'Neill & Oppenheimer 2002

In the Nick of Time

ENVIRONMENTAL DEFENSE

FIGURE 5

Potential coastline retreat as a result of ice sheets melting Florida

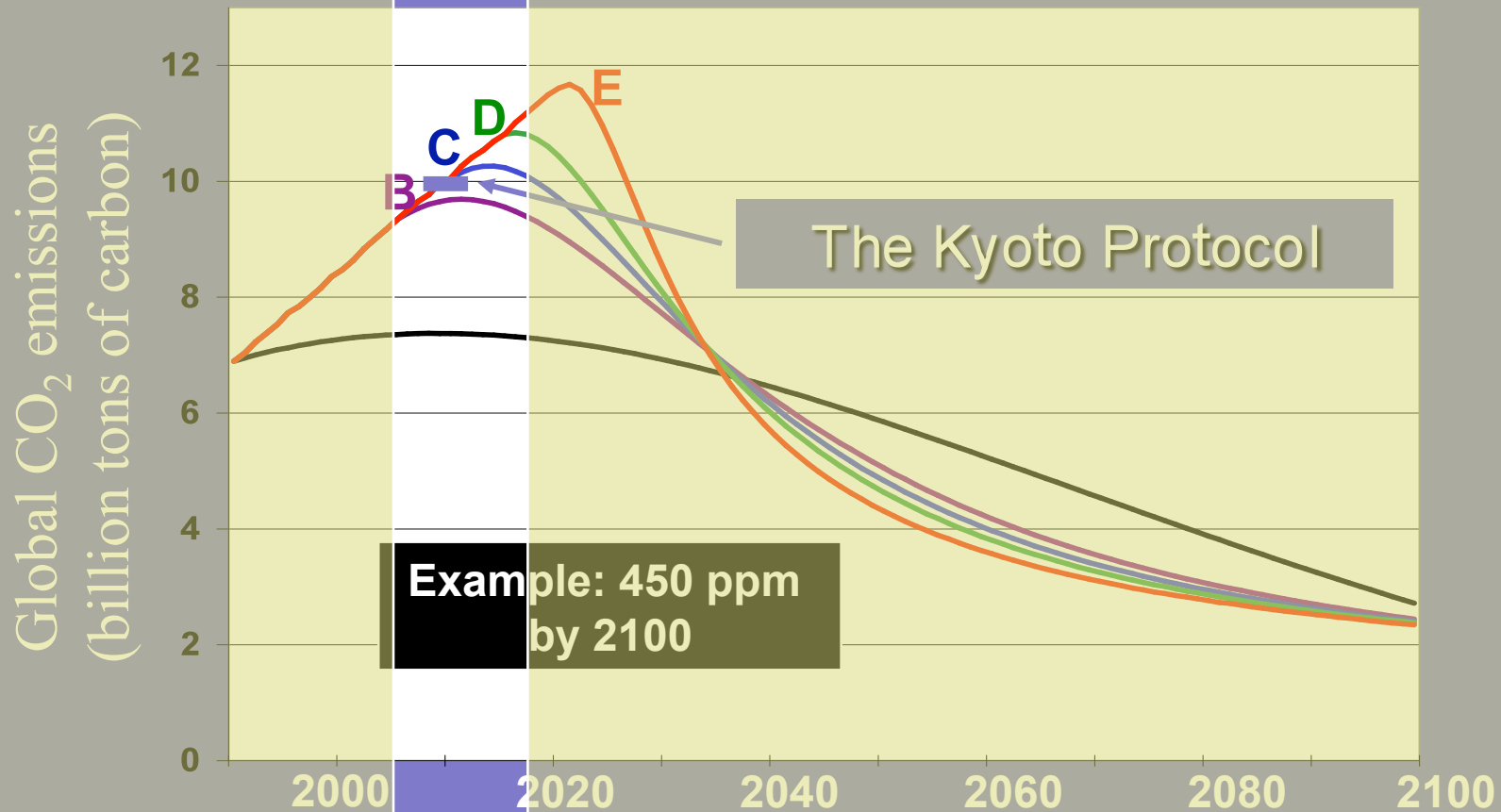


Courtesy of Byron R. Parizek, Ph.D., Pennsylvania State University

In the Nick of Time

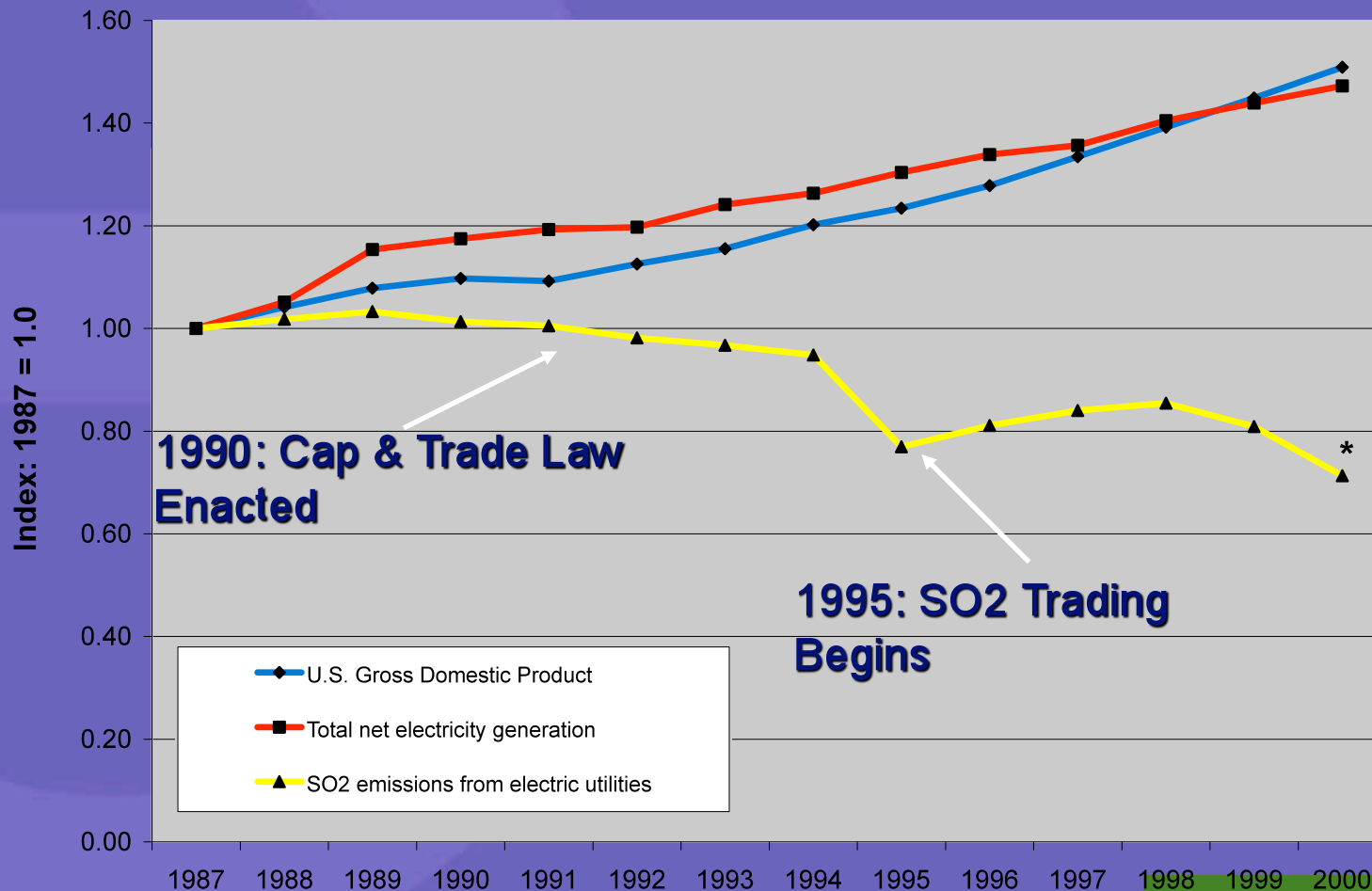
High Water Blues (Environmental Defense, 2005 Update)

The costs of delay



- 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

Cap and Trade Drives US SO2 Down While Economic Growth Moves Up



(Sources: DOC, DOE and EPA, respectively)

* ARP units only

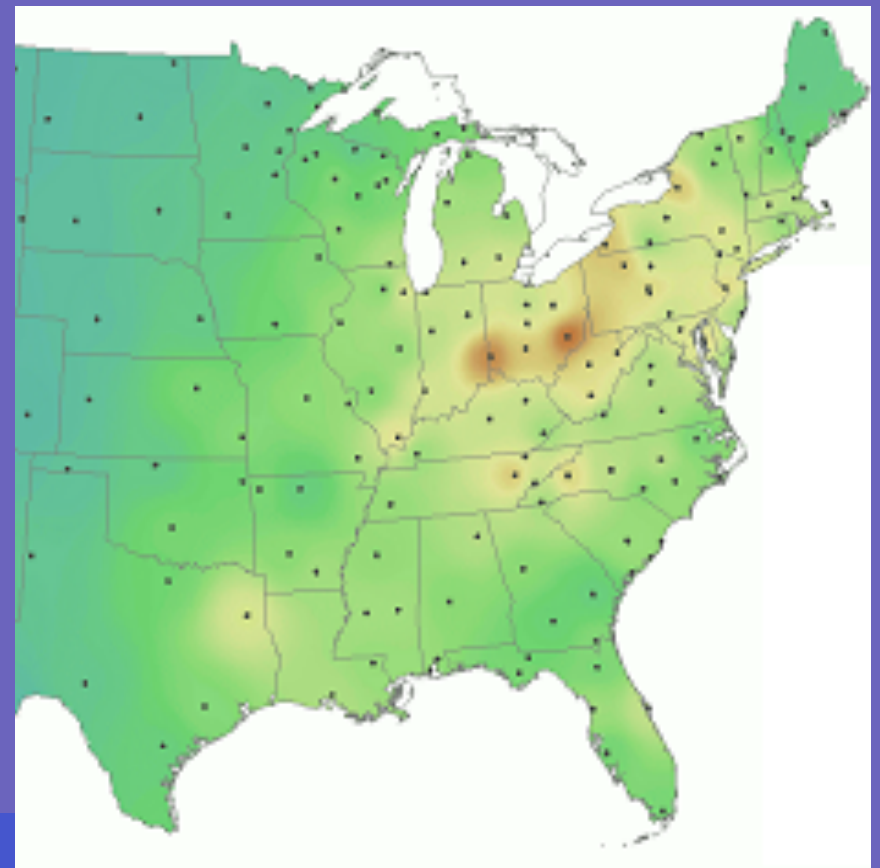
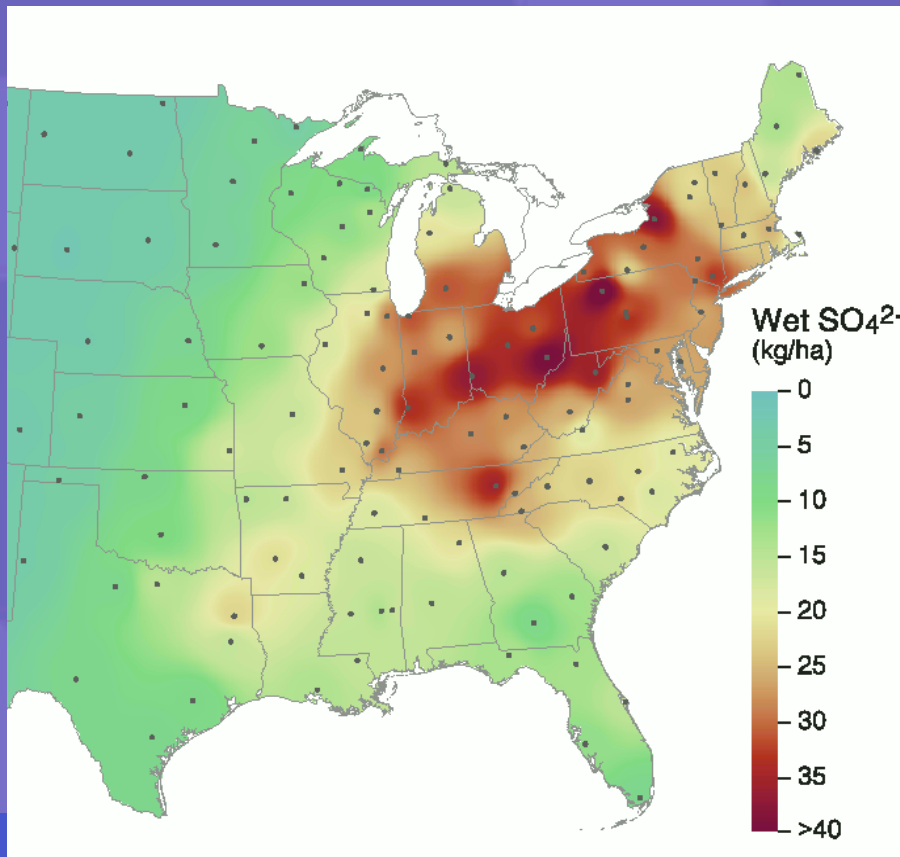
In the Nick of Time

USEPA, 2004

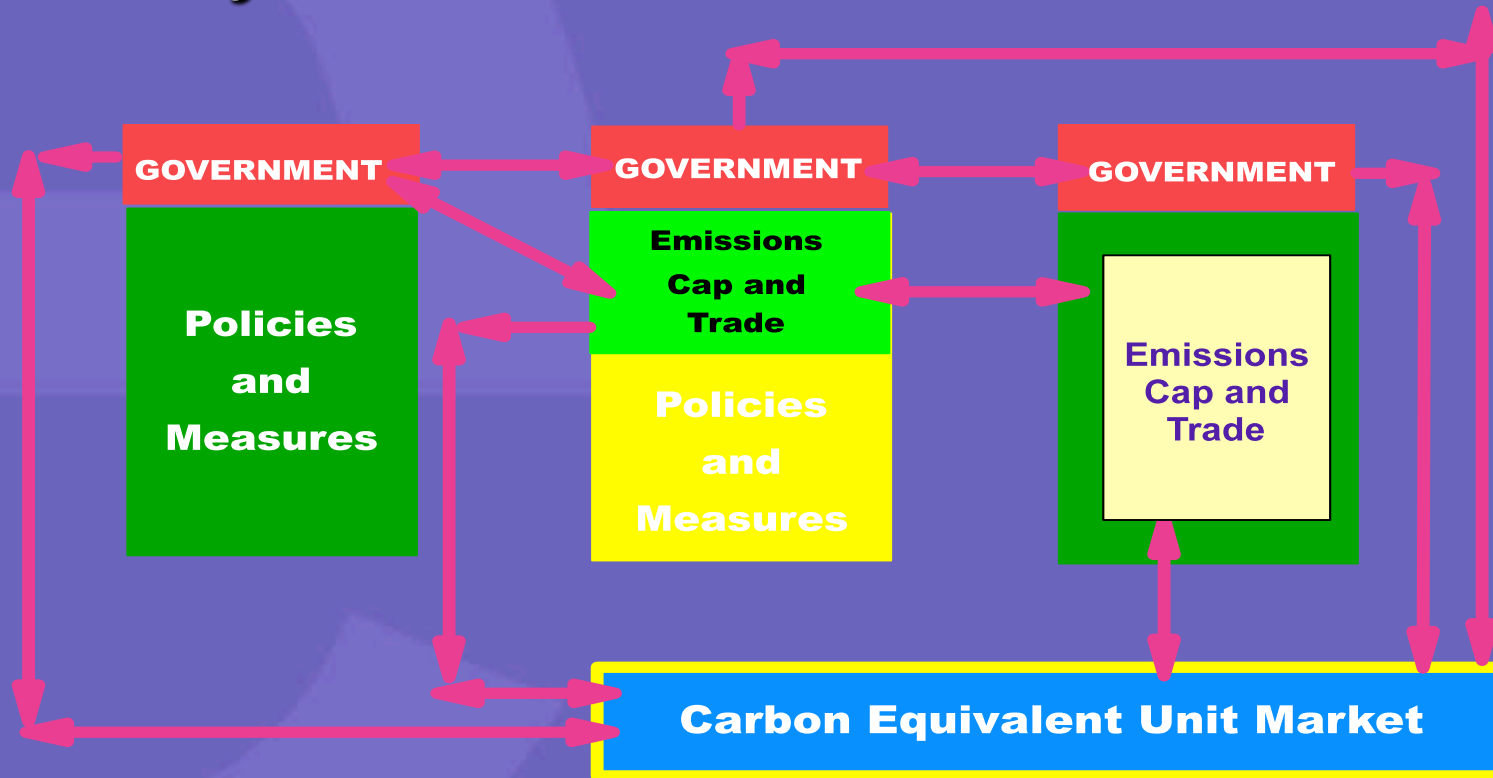
SO₂ Cap And Trade Program Achieves Major Reductions in Acid Rain

Average 1989 - 1991

Average 2000 - 2002

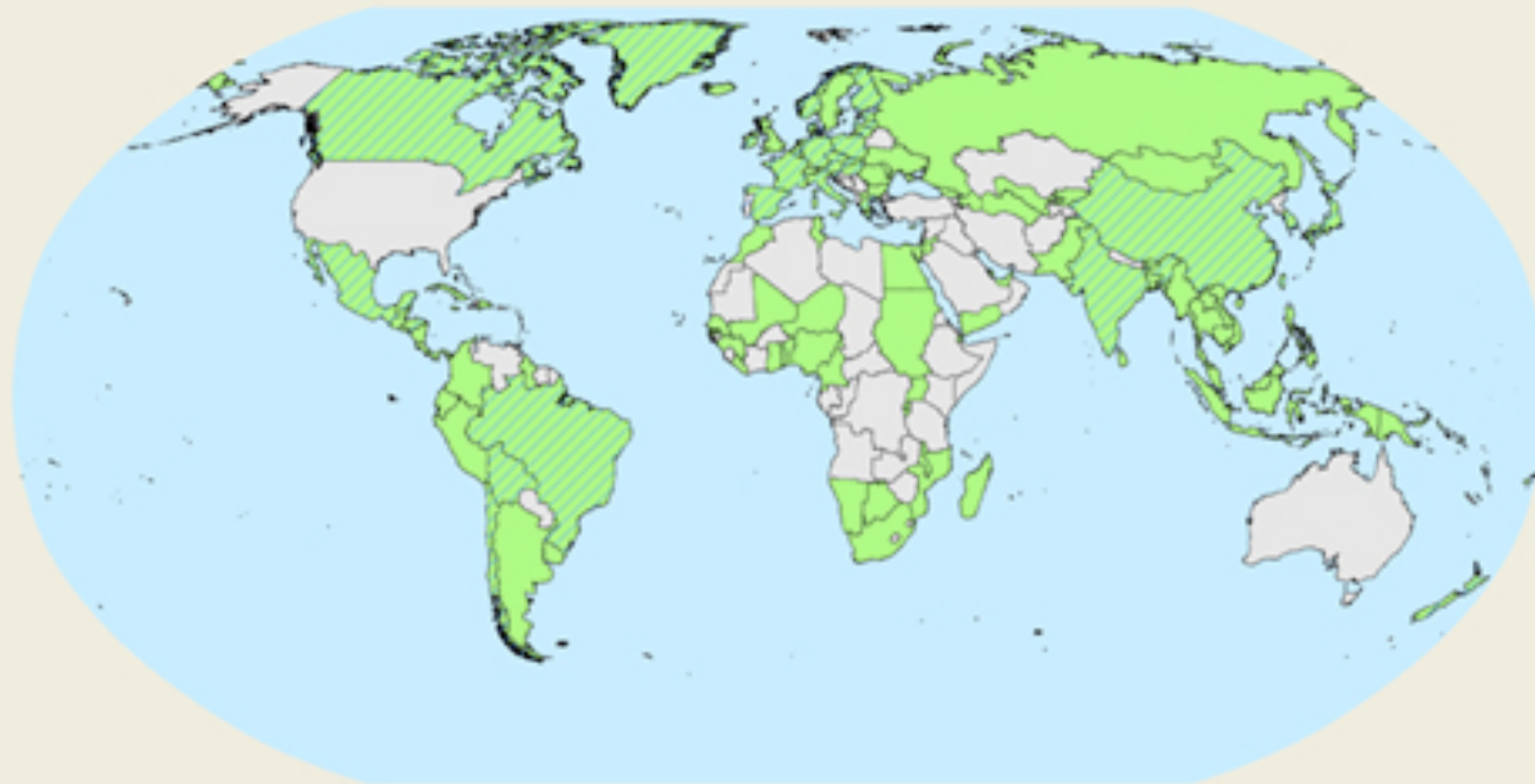


Emissions Trading Among Kyoto Protocol Parties



Countries Participating in Greenhouse Gas Emissions Trading (undertaken or planned)

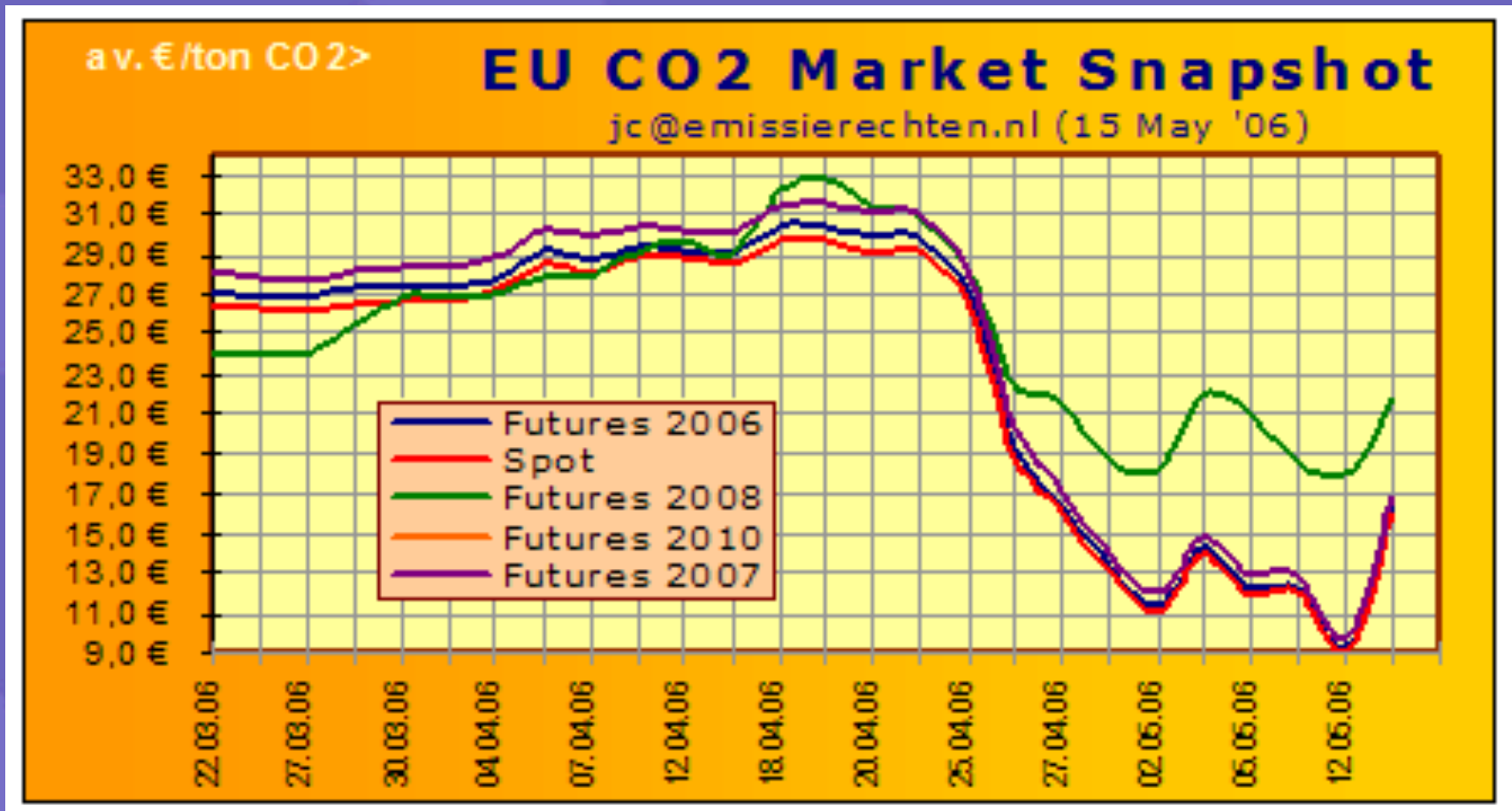
As of February 1, 2005



-  GHG Trading Countries
-  Ratified Kyoto Protocol
-  Not Ratified Kyoto Protocol

Sources: Argus Media Group, Cantor Fitzgerald, CO2e.com, Ecoscurities, Evolution Markets, Natsource, Point Carbon, The World Bank

EU Trading Market: Price



In the Nick of Time

EU Trading Market: Price and Volume



Hallmarks of Effective Post-2012 Policy

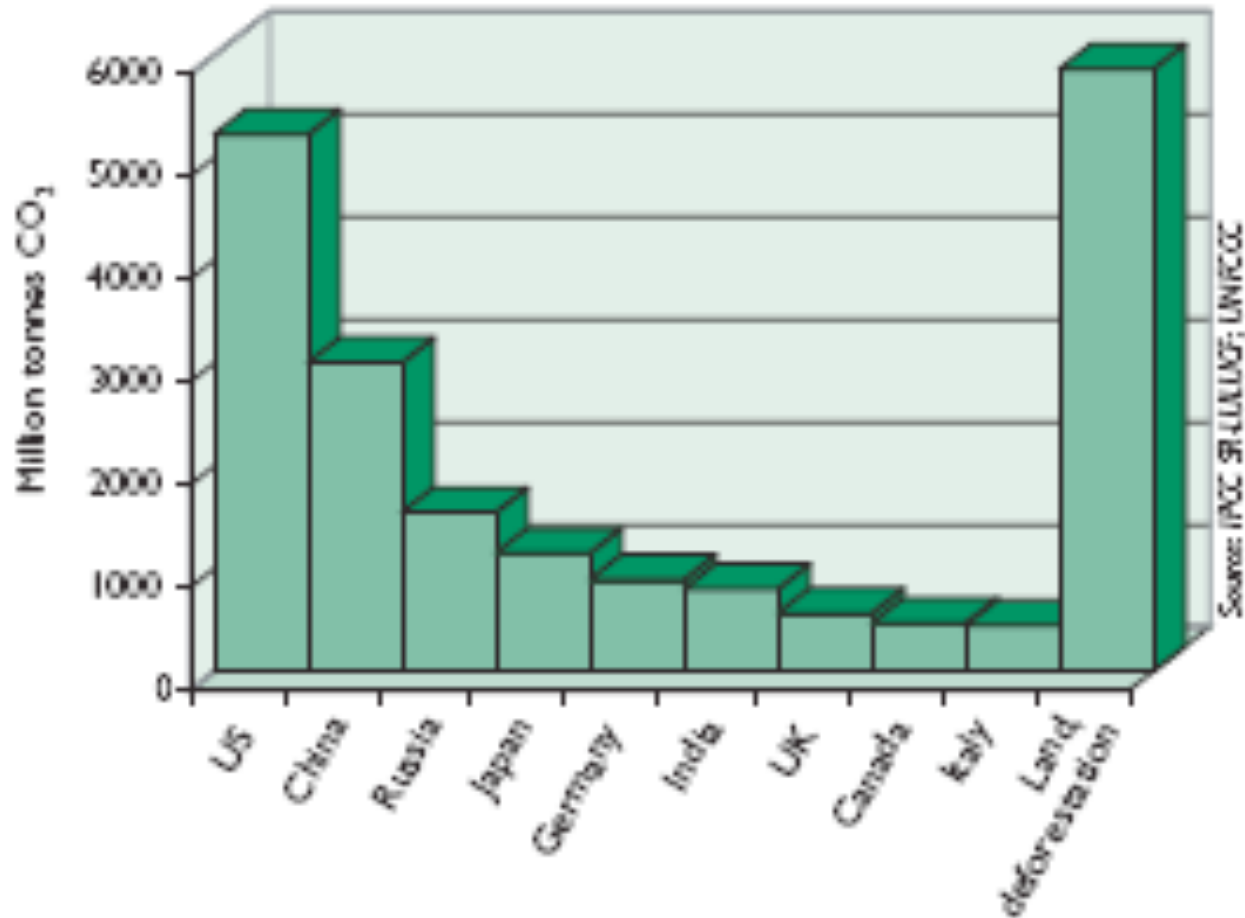
- Mandatory, market-based
- Built on Kyoto design template
- Emissions targets set based on new science of dangerousness
- Interim target signal
- Pathways for broader voluntary participation in carbon markets

Agriculture

- Increased interest in carbon sequestration accounting - eligible activities include agriculture, reforestation, forest preservation, and other methods.
- On-farm renewable energy & biofuels
- Carbon as a new commodity

ENVIRONMENTAL DEFENSE

Comparison of mean annual deforestation emissions (1989-95) with fossil fuel emissions from selected countries (1995)

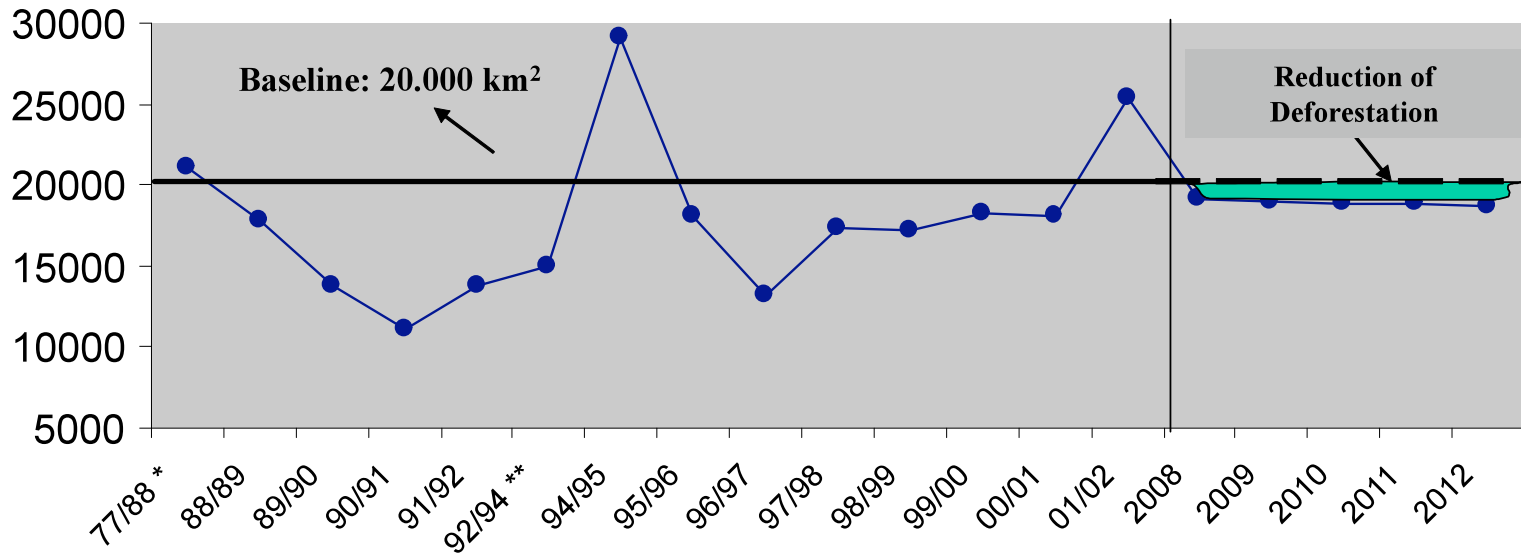


In the Nick of Time



Compensated Reduction of Deforestation

Dialogue on Future



Source: INPE 2003

* Decade mean

** Biennium mean



% reduction of deforestation = ~ 5%

Avoided Emission: mean of 12 Million Tons C/yr

ENVIRONMENTAL DEFENSE



IN THE NICK OF Time

La Conférence des Nations Unies sur les **changements climatiques**

The United Nations Climate Change Conference

Montreal 2009

