NAM: The Voice of Manufacturing

Keith McCoy, Vice President Energy and Resources Policy
The National Association of Manufacturers
1331 Pennsylvania Avenue, Suite 600
Washington, DC 20004-1790
(202) 637-3000
www.nam.org

NAM National Association of Manufacturers

The NAM Mission

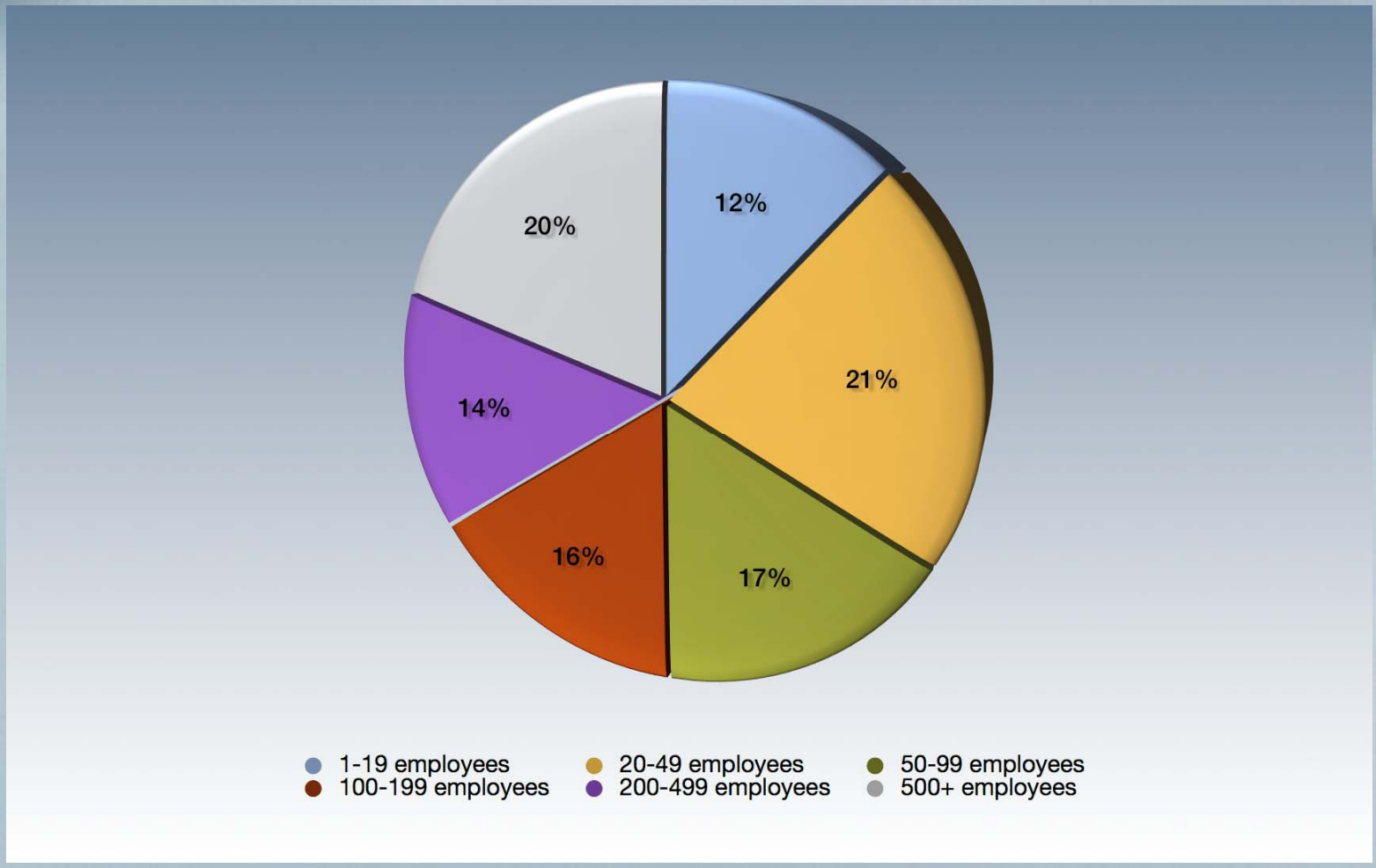
The NAM's mission is to advocate on behalf of its members to enhance the competitiveness of manufacturers by shaping a legislative and regulatory environment conducive to U.S. economic growth and to increase understanding among policymakers, the media and the general public about the vital role of manufacturing in America's economic and national security for today and in the future.

- The NAM is the leading advocate of a pro-growth, pro-manufacturing agenda.
- The NAM is a partner in reinforcing the legislative and regulatory activities of its member firms.
- The NAM is a primary source for information on manufacturers' contributions to innovation and productivity.

What Is the NAM?

- The NAM is the largest multi-industrial trade association, with 11,000 companies of all sizes as members;
- The NAM represents 14.1 million manufacturing employees;
- The NAM includes 350 trade associations in its membership;
- Member companies of the NAM are responsible for 85 percent of
  U.S. manufacturing output;
- The NAM represents every industrial sector; and
- The NAM is composed of members from all 50 states.

Size Breakdown of NAM-Member Companies

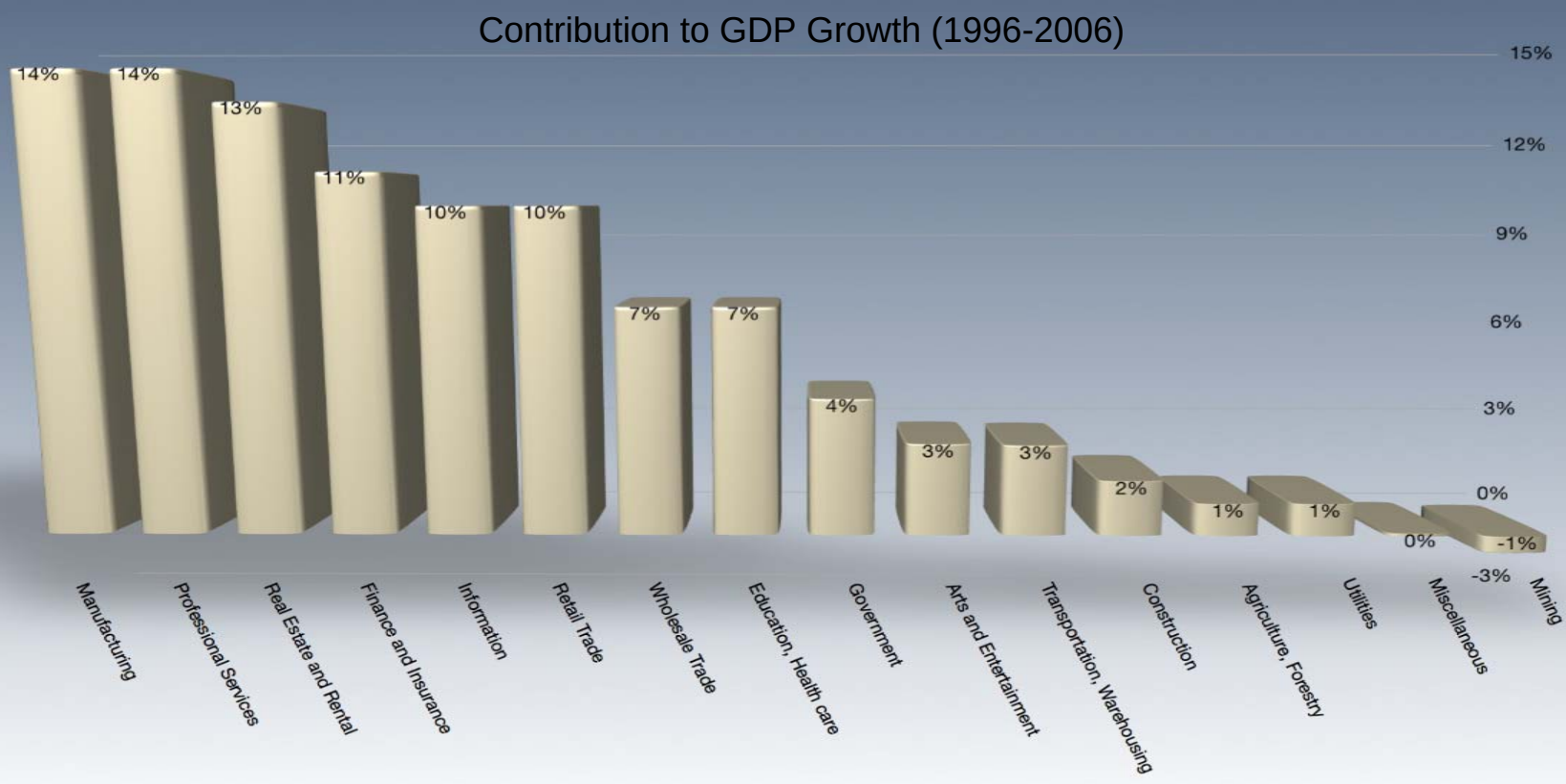


What Comprises the Manufacturing Economy?

- Food and Beverage;
- Computer & Electronic Products;
- Motor Vehicles, Bodies and Trailers;
- Fabricated Metal Products;
- Chemicals and Machinery;
- Pharmaceuticals and Medicines;
- Plastics and Rubber Products;
- Paper Products; and
- Several Other Industrial Sectors.

If U.S. manufacturing was a country by itself, it would be the 8th largest economy in the world.

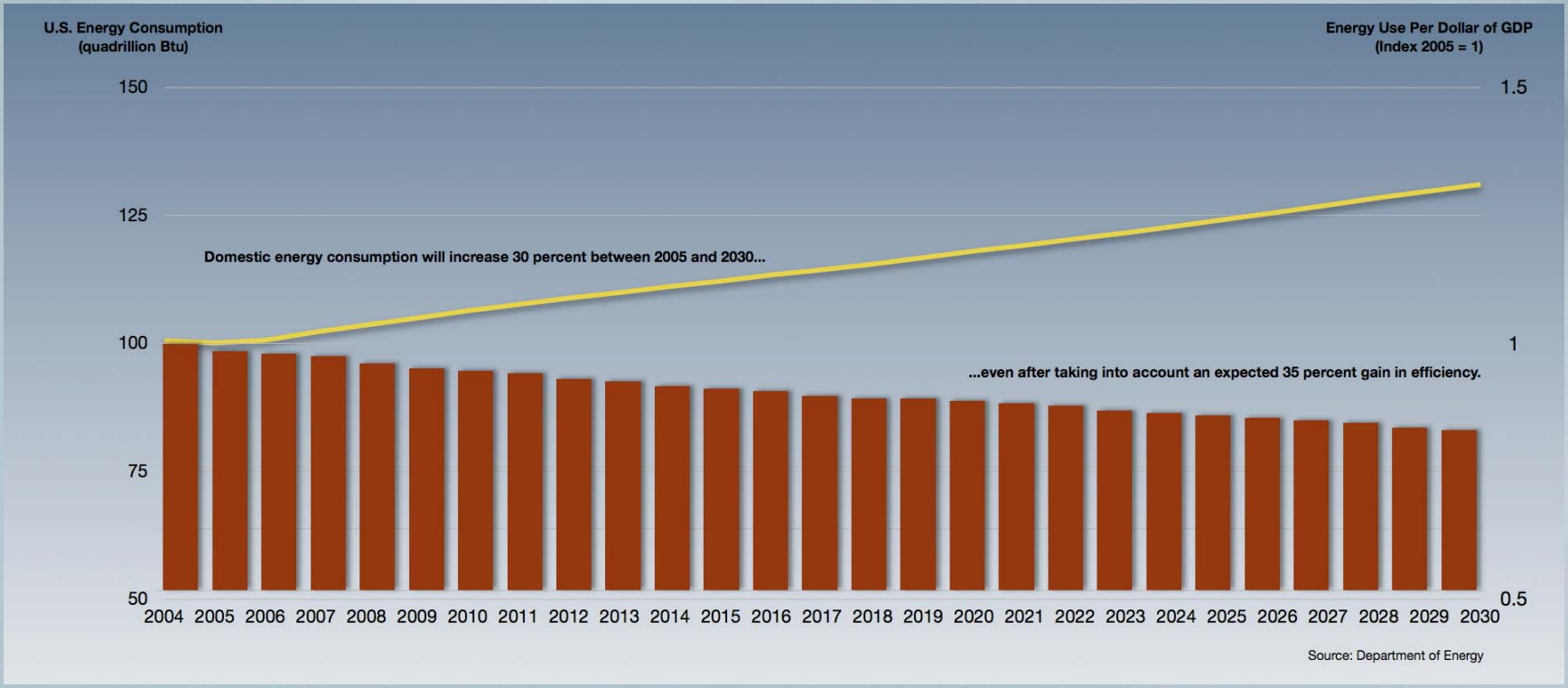
Manufacturing Drives Economic Growth



Manufacturing is responsible for the largest portion of U.S. economic growth in the past decade.

Challenges

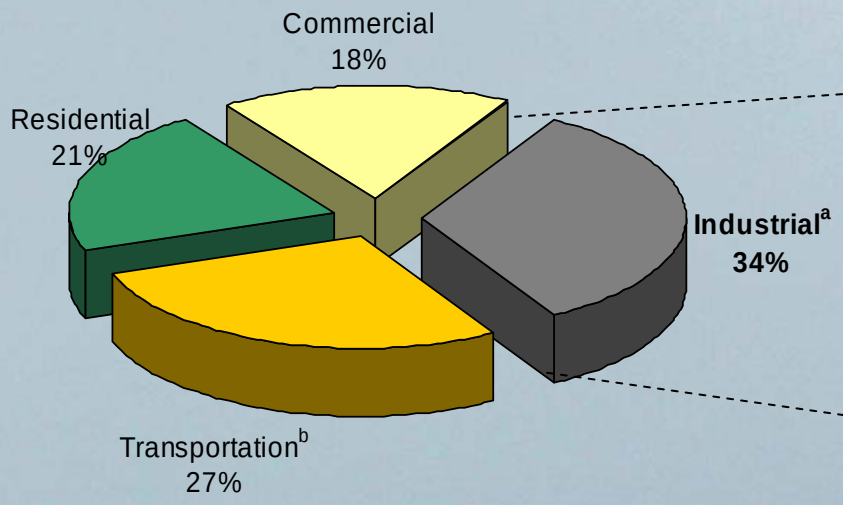
Domestic Energy Use and Efficiency Gains (2005-2030)



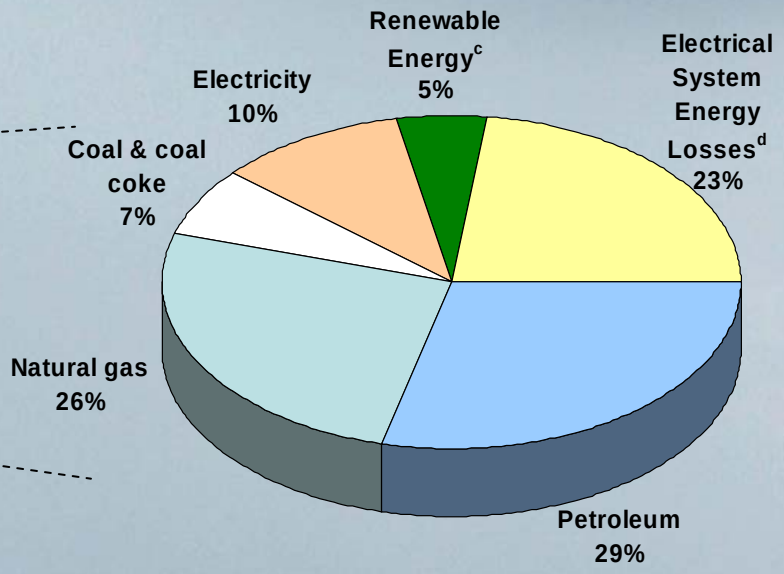
American energy consumption is increasing price pressures.

Industrial's Energy Usage

Industry Uses 1/3 Energy Supply,
End-Use Sectors of Energy,
in percent of total energy consumed (Btu)

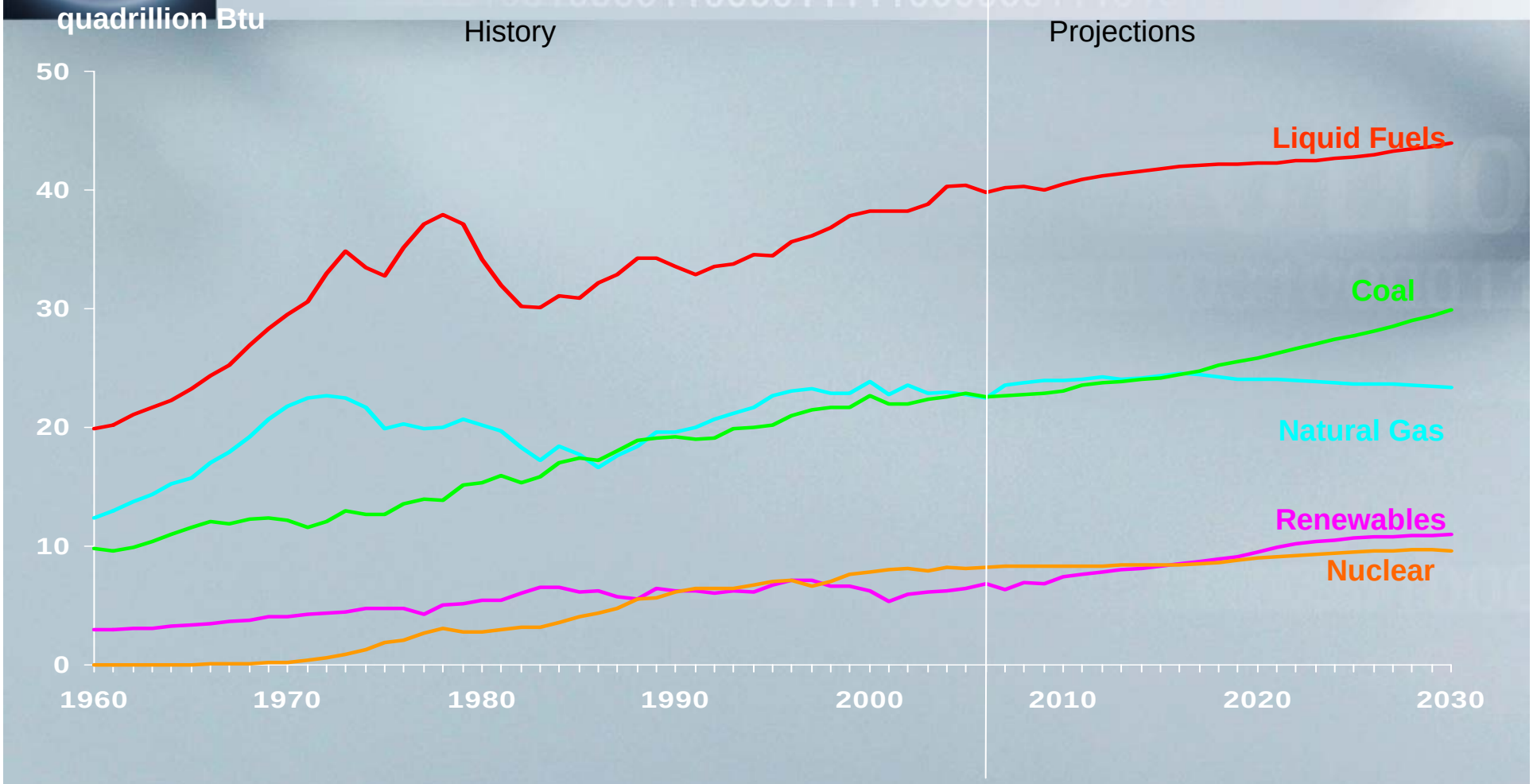


Industrial Energy's Usage
Industrial Sector Energy Consumption,
in percent of total energy consumed (Btu)



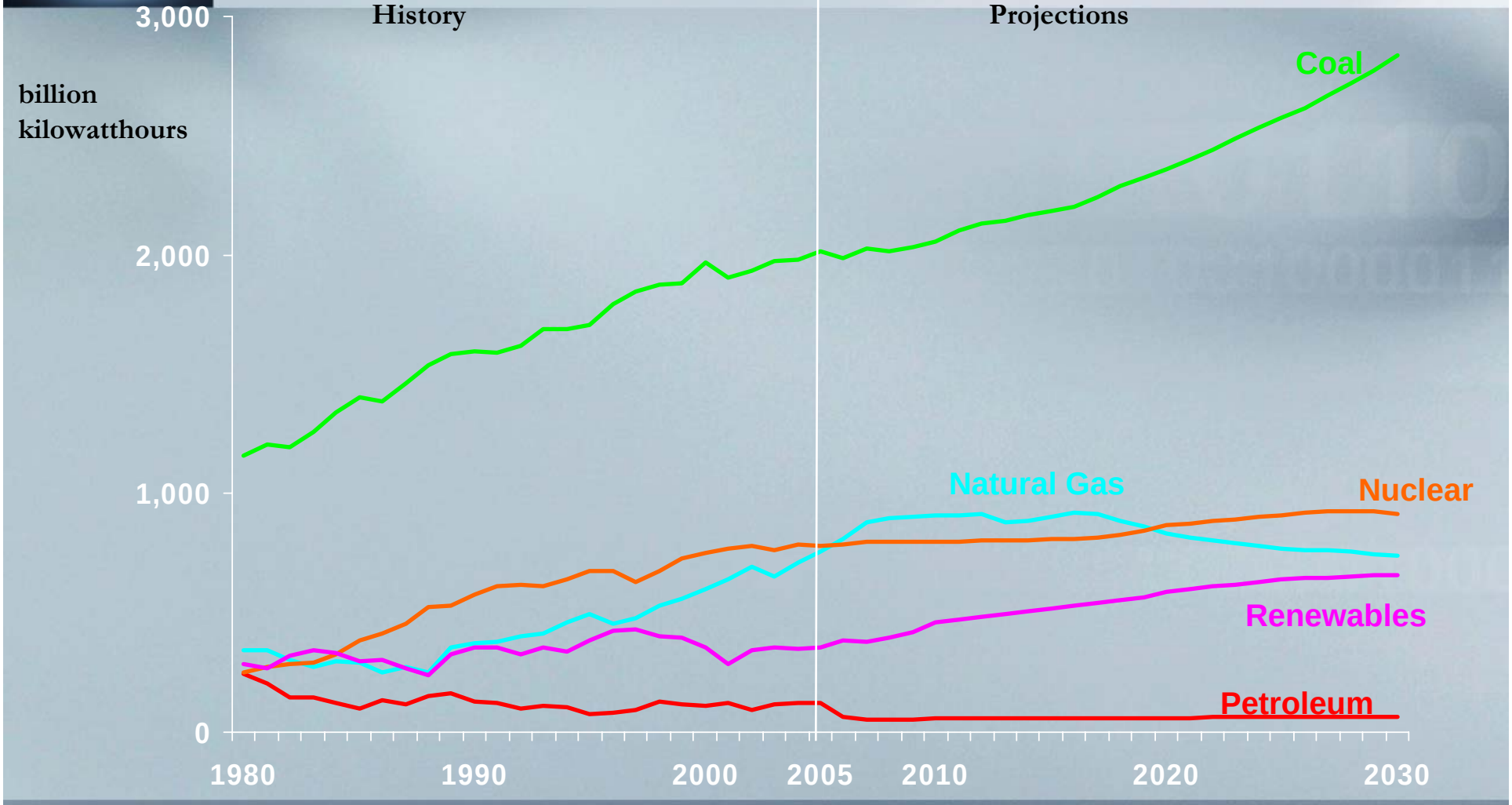
Source: Department of Energy, Energy Information Administration

Liquid fuels continue to dominate primary energy consumption in the United States



Annual Energy Outlook 2008

Coal remains the largest source of electricity generation



Annual Energy Outlook 2008

Assumptions Used in Modeling:

Technology Build Constraints (2030 Build Limits)

	High Cost Scenario	Low Cost Scenario
Nuclear	**10 GW**	**25 GW**
IGCC w Sequestration	**25 GW**	**50 GW**
Biomass	**Max 3 GW/Year**	**Max 5 GW/Year**
Wind	**Max 3 GW/Year**	**Max 5 GW/Year**
NGCC w Sequestration	**25 GW**	**50 GW**

Assumptions Used in Modeling:

Technology Total Capital Requirement (2008$/kW)

	High Cost Scenario	Low Cost Scenario
Nuclear	3,410	3,410
IGCC	2,640	2,640
NGCC	1,100	1,100
Supercritical PC	2,200	2,200
IGCC w SEQ	3,696	3,696
NGCC w SEQ	2,090	2,090
Wind-Onshore	2,000	2,000
Wind-Offshore	3,800	3,800
Biomass	3,968	3,968

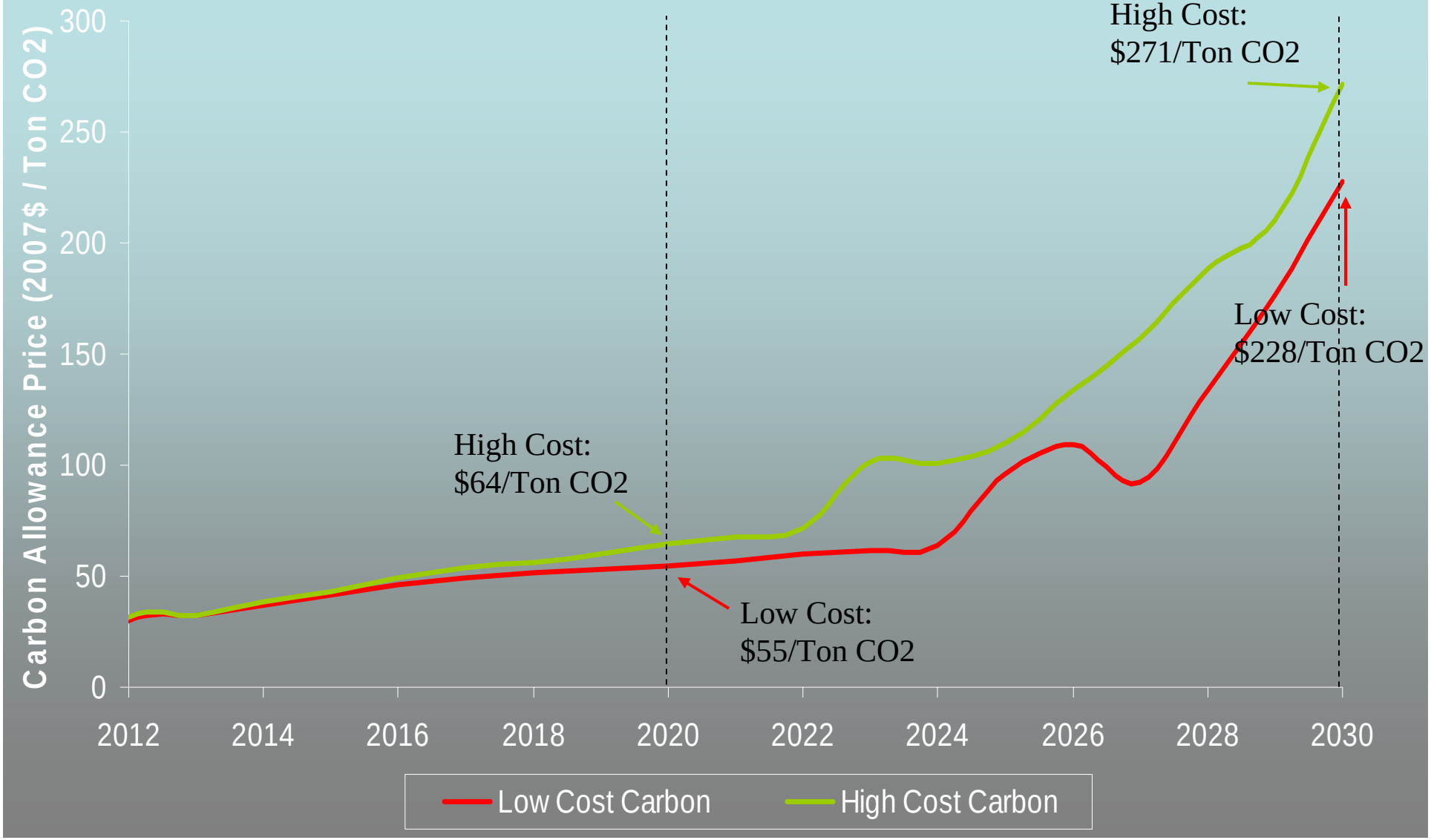
Assumptions Used in Modeling: Other Specifications

	High Cost Scenario	Low Cost Scenario
Offsets	**15-20%**	**Greater than 20%**
Oil Price Profile	**AEO2007 High Profile Side Case**	**AEO2008 Ref Price Profile**
Natural Gas Prices	**Not Constrained**	**Not Constrained**
Cellulosic Ethanol	**With HR.6 – Not Constrained**	**With HR.6 – Not Constrained**
Banking	**No Banking**	**No Banking**
HR.6 (Key items that could be modeled)	**Yes**	**Yes**
Allowance Prices	**Not Constrained**	**Not Constrained**

Impact of Lieberman-Warner Bill on the United States Compared to Baseline Forecast

	Low Cost Case			High Cost Case		
	2014	2020	2030	2014	2020	2030
Loss in GDP	-0.8%	-0.8%	-2.6%	-1.6%	-1.1%	-2.7%
Loss in Jobs (millions)	-0.85	-1.22	-3.04	-1.86	-1.80	-4.05
Loss in Household Income (2007$)	-$1,010	-$739	-$4,022	-$2,779	-$2,927	-$6,752

Macroeconomic Impact of Lieberman-Warner Bill: Carbon Allowance Price (2007$/Ton CO2)



Impact of Lieberman-Warner Bill on the United States: Change in Energy Prices Compared to Baseline Forecast

	Low Cost Case			High Cost Case		
	2014	2020	2030	2014	2020	2030
Rise in Gasoline Prices	13%	20%	77%	50%	69%	145%
Rise in Residential Electricity Prices	13%	28%	101%	14%	33%	129%
Rise in Industrial Electricity Prices	22%	41%	142%	23%	49%	185%
Rise in Industrial Natural Gas Prices	36%	49%	180%	40%	66%	244%

Macroeconomic Impact of Lieberman-Warner Bill:

Changes in Virginia Economy Compared to Baseline Forecast

	Low Cost Case		High Cost Case	
	2020	2030	2020	2030
Loss in GSP (million 2007$)	-$4,290	-$15,810	-$5,940	-$18,670
Loss in Jobs	-35,820	-53,883	-101,076	-134,548
Loss in Household Income (2007$)	-$1,073	-$3,479	-$4,522	-$8,246

Macroeconomic Impact of Lieberman-Warner Bill:
Change in Energy Prices in Virginia Compared to Baseline Forecast

	Low Cost Case		High Cost Case	
	2020	2030	2020	2030
Rise in Gasoline Prices	21%	74%	70%	145%
Rise in Residential Electricity Prices	30%	103%	39%	135%
Rise in Residential Natural Gas Prices	23%	91%	32%	131%

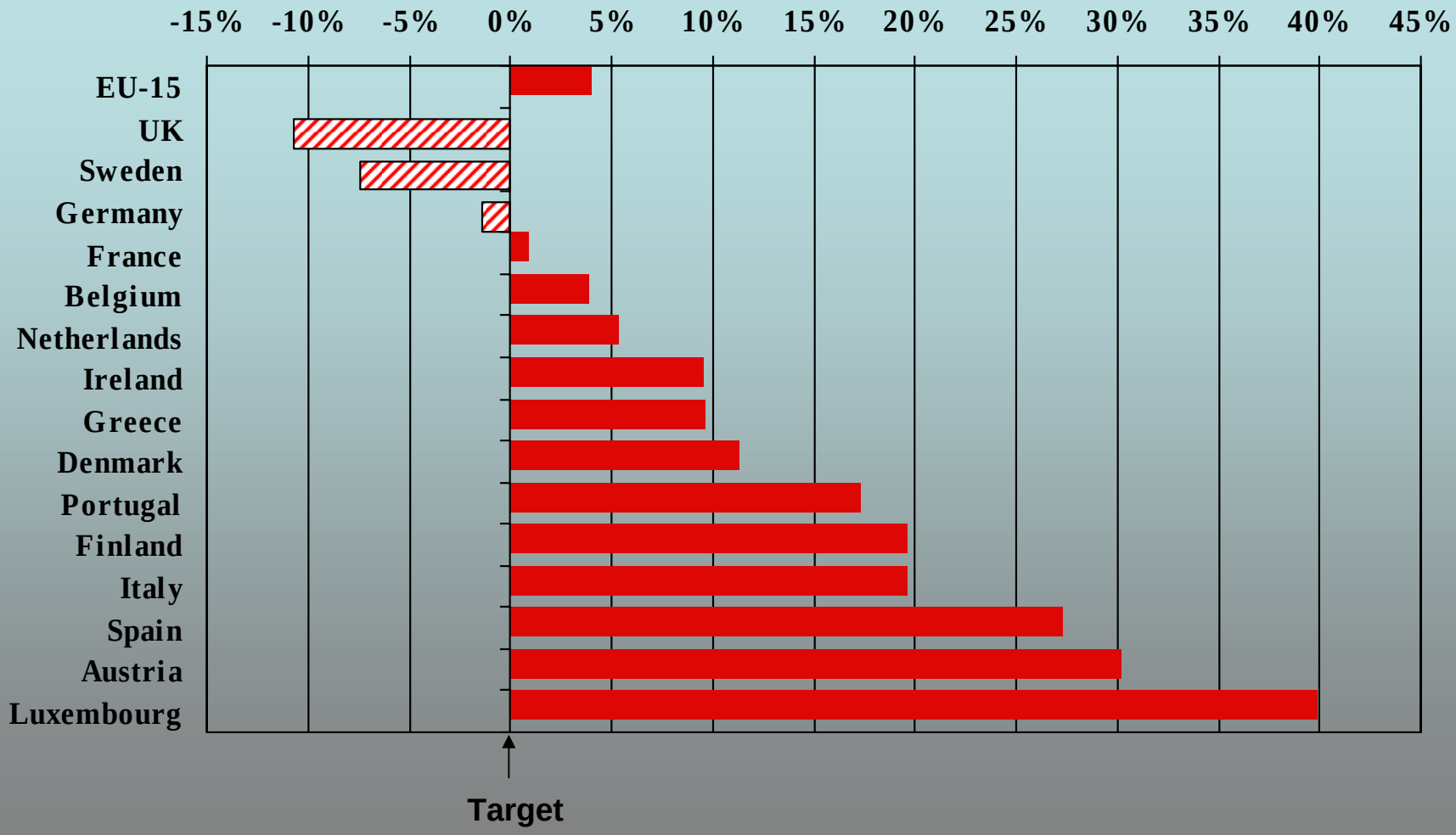
State Climate Initiatives By the Numbers

- 17 States have set GHG Targets
- 24 States Participate in Regional Action Initiatives
- 9 States Have Introduced GHG Reduction Legislation in 2008
- 9 State Commission/Task Forces Established in 2008
- 29 State RPS

Feedback

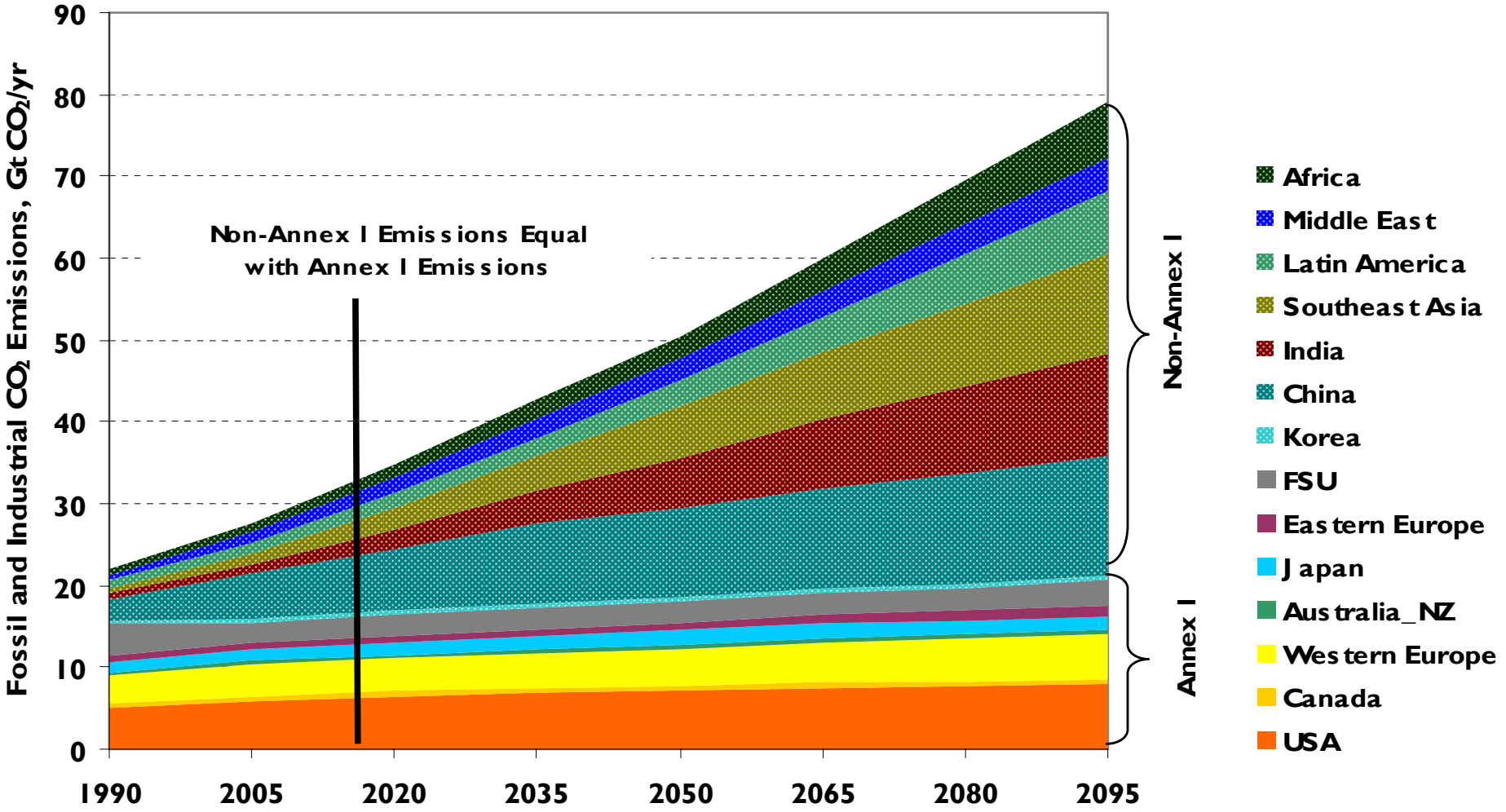
- Increasing fear over increase cost to State and Industry
    - Cost increase as carbon decreases
- Establish a maximum price on CO_2
    - Reduces the economic uncertainty
- How do you address border state's with no GHG?
- Conflict with older environmental laws
    - Solar Shade Control Act
    - Desulphurization of gasoline is energy intensive

Greenhouse Gas Emissions in the European Union: Gap Between Projections* and Kyoto Targets in 2010



** Projections assume existing measures already in place.*
Source: European Environmental Agency, November 2007.

World Carbon Dioxide Emissions



Source: Data derived from *Global Energy Technology Strategy, Addressing Climate Change: Phase 2 Findings from an International Public-Private Sponsored Research Program*, Battelle Memorial Institute, 2007.

Practical Strategies for Reducing Global Greenhouse Gas Growth

- Use cost / benefit analysis before adopting policies
- Reduce cost of U.S. energy investment through tax code improvement and incentives for non profits
- Remove barriers to developing world's access to more energy and cleaner technology by promoting economic freedom and market reforms
- Increase R&D for new technologies to reduce energy intensity, capture and store carbon, and develop new energy sources
- Promote nuclear power for electricity
- Promote truly global solutions and consider expanding the Asia Pacific Partnership on Development with its focus on economic growth and technology transfer to other major emitters