Keith McCoy
Vice President Energy and Resources

National Association of Manufacturers

CLIMATE CHANGE LEGISLATION: FACT OR FICTION

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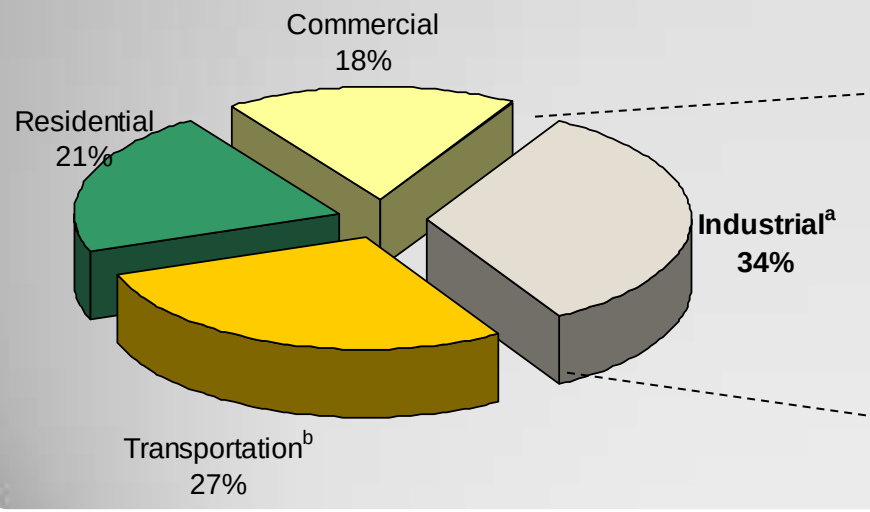
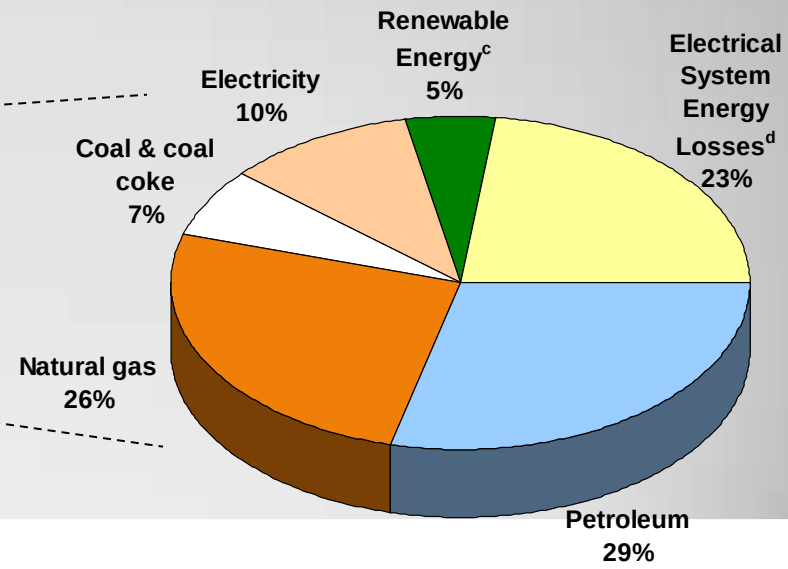
Industrial's Energy Usage

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

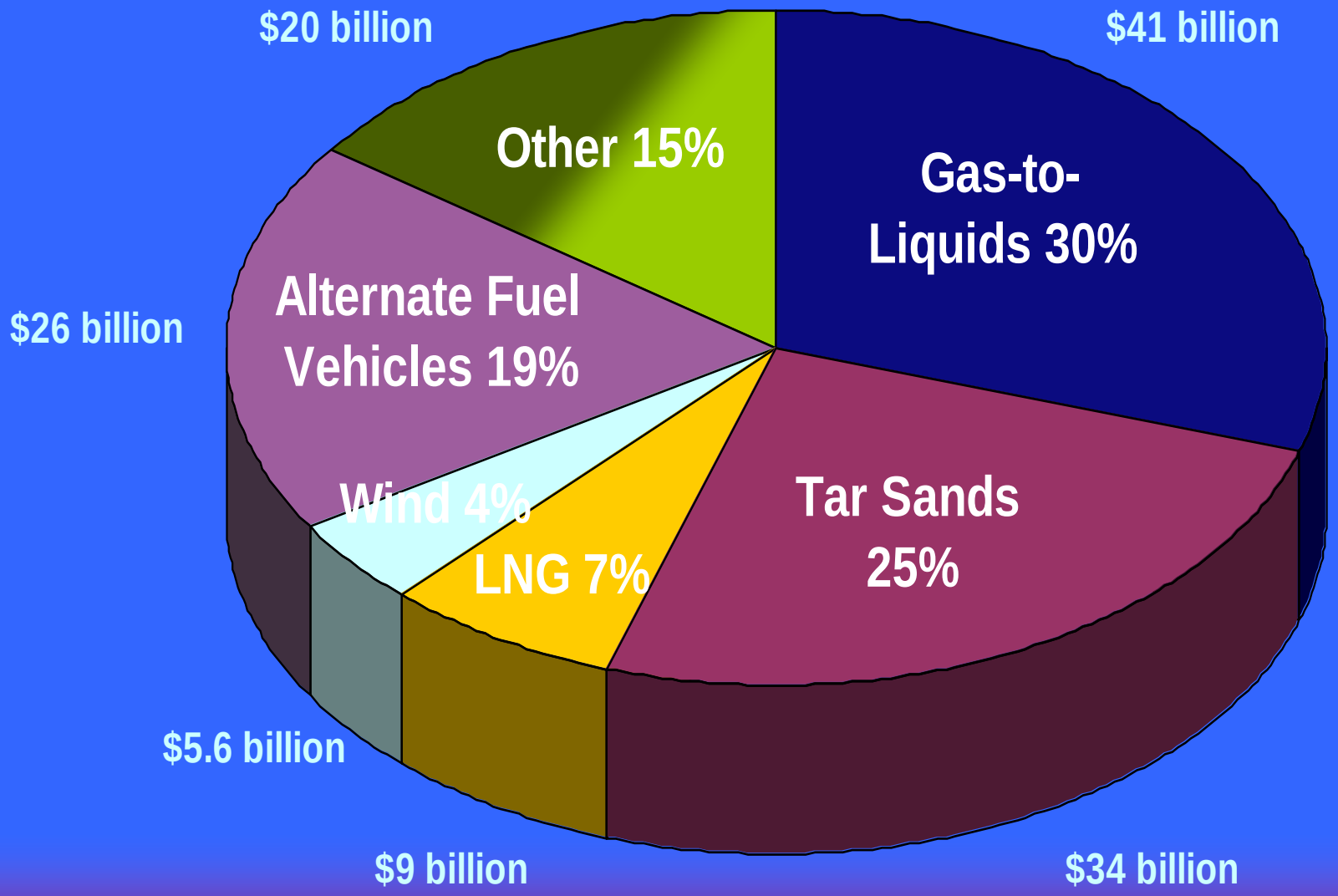


Industrial Energy's Usage
Industrial Sector Energy Consumption,
in percent of total energy consumed (Btu)



Source: Department of Energy, Energy Information Administration

Leading Emerging Energy Investments by U.S. Firms



Source: Compiled from 250+ Annual Company Reports for 2000-2005, and the U.S. Department of Energy, EIA

Elections Have Consequences

- 77 Vote Margin in House;
- 59 votes in the Senate;
- President Believes He Has a Mandate;
- President Aggressively Supports a Cap and Trade Scheme.

H.R. 2454 Waxman-Markey

- Require electric utilities to meet 20% of their electricity demand through renewable energy sources and energy efficiency by 2020.
- Invest in new clean energy technologies and energy efficiency, including energy efficiency and renewable energy ($90 billion in new investments by 2025), carbon capture and sequestration ($60 billion), electric and other advanced technology vehicles ($20 billion), and basic scientific research and development ($20 billion).
- Mandate new energy-saving standards for buildings, appliances, and industry.
- Reduce carbon emissions from major U.S. sources by 17% by 2020 and over 80% by 2050 compared to 2005 levels. Complementary measures in the legislation, such as investments in preventing tropical deforestation, will achieve significant additional reductions in carbon emissions.

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Renewable Electricity Standard

- Begins at 6% in 2012 and gradually rises to 20% in 2020.
- At least three quarters (75%) of the requirement must be met by renewable energy, except that upon receiving a petition from the governor, the Federal Energy Regulatory Commission can reduce the renewable requirement to three fifths (60%).
- In 2020, 15% of the electricity load in each state must be met with renewable electricity and 5% with electricity 2
- Upon petition by the governor, the renewable requirement can be reduced to 12% and the electricity savings can be increased to 8%.

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Renewable Energy Mandates

Greenhouse Gas Reduction

- (1) a cap on large domestic sources of emissions;
- (2) a program to reduce tropical deforestation; and
- (3) an offset program

Cap on Industry

- Reduce U.S. carbon emissions by 28% to 33% below 2005 levels by 2020.
- By 2050, reduce U.S. carbon emissions by over 80% below 2005 levels.

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"Cost-Containment Measures"

- unlimited banking
- a two-year compliance period (which allows borrowing one year in advance)
- a strategic reserve of allowances that are available for auction if allowance prices exceed 160% of their three-year average
- Bill establishes a minimum floor price for auctioned allowances of $10 (in 2009 dollars) to provide stability and investment certainty
- EPA estimates that in 2005 dollars, these allowances will cost $11 to $15 in 2012, $13 to $17 in 2015, $17 to $22 in 2020, and $22 to $28 in 2025.
- Using EPA's estimates of allowance prices, the total value of the allowances created under the legislation ranges from $60 billion in 2012 to $113 billion in 2025

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Behind the Numbers

- Raise the cost per household by $1,600 per year (CBO);
- Raise revenue to $80 billion per year (CBO);
- One Mid-West Utility estimated that their cost would be $300 million;
- Early estimates price carbon between $40 to $140 per ton.

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

Legislative Outlook

- June 19th Committee Deadline;
- July 4th Floor Action;
- Senate parliamentary maneuver (Rule 14) which could bring it directly to the floor;
- Rep. Van Hollen Bill (H.R. 1862);

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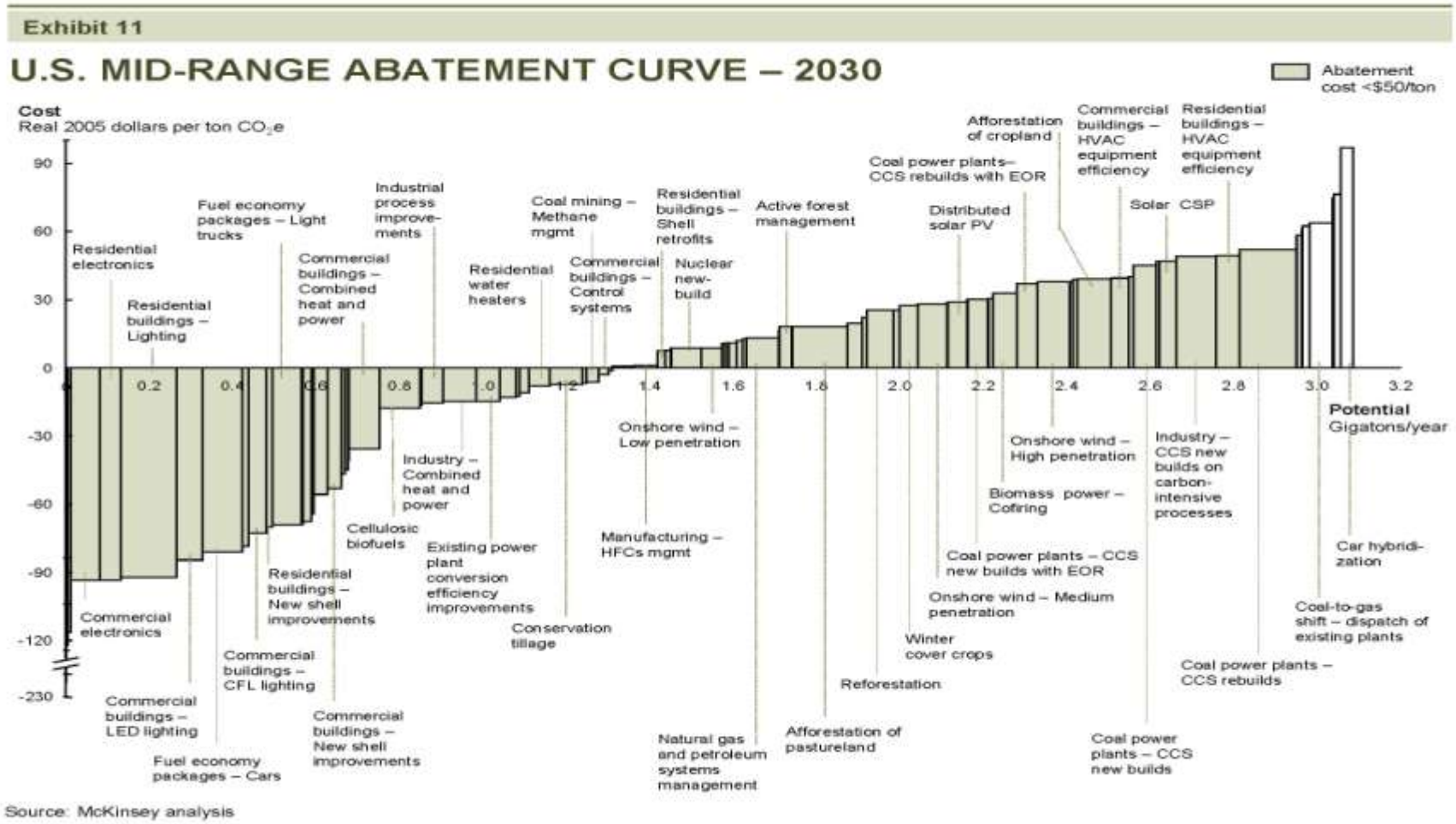
Why Endangerment Matters

- EPA becomes a regulator not just of the environment, but of all sectors of the economy.
- Clean Air Act was not designed to regulate carbon dioxide
- The most critical opportunity to date in the U.S. to engage and express views on climate change and GHG regulation.
- Opportunity to express unique impacts of climate change regulation, and present novel solutions and contributions toward addressing global climate change.

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

McKinsey Curve



Enormous Challenge to Reduce Carbon Emissions

How big is a Gigaton of Carbon?

Technology	Actions that provide 1 Gt/yr of Carbon Mitigation
• Coal-fired power plants	➢ Build 1,000 "zero-emission" 500 MW power plants
• Geologic sequestration	➢ 3,700 sequestration sites the size of Norway's Sleipner
• Nuclear	➢ Build 500 new nuclear plants, each 1 GW in size
• Efficiency	➢ Deploy 1 billion new cars at 40 mpg vs. 20 mpg
• Wind energy	➢ Install 650,000 wind turbines
• Solar photovoltaics	➢ Install 6 Million acres of photovoltaics
• Biofuels for transport	➢ Convert an area 20 times that of Iowa to new biomass
• CO_2 storage in forests	➢ Convert to new forest a barren area 9 times that of the state of Washington

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Source: DOE Climate Change Technology Program.