

Climate Change/Cap & Trade

Presentation to

Rayne Chamber of Commerce

Rayne Civic Center

Rayne, LA

by

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LSU Center for Energy Studies

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LSU CENTER FOR
ENERGY STUDIES

Climate Change/Cap & Trade

PRESENTATION OUTLINE

- Introduction
- Climate Legislation Update
- Potential Impacts of Cap-and-Trade on Louisiana
- Will There be Climate Legislation This Year?
- Potential EPA Regulation of Greenhouse Gases
- U.S. Chamber Initiative
- Questions/Discussion



CLIMATE LEGISLATION UPDATE

Administration

Obama and congressional leaders have a goal to pass a new climate law before the Climate Conference in Copenhagen in December.

U.S. House

- Last year the primary climate legislation bill (Lieberman-Warner, S. 2191) failed in the Senate
- This year climate legislation originated in the House (H.R. 2454, Waxman-Markey, ACESA)
- After considerable arm twisting and horse-trading, ~1500 page Waxman-Markey passed out of the House on a 219-212 vote.

U.S. Senate

- Boxer, Chair of Senate Environment and Public Works Committee initially announced her desire to start with Waxman-Markey and produce a bill in August.
- Reid, Senate Majority Leader has said that the Senate climate plan envisions all committee action being completed by the end of September, with an eye toward October for the floor debate.
- Latest count: 35 yes; 9 probably yes; 21 fence sitters; 13 probably no; 22 no.

**WAXMAN-MARKEY
THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009
(ACESA)
SUMMARY**

Title I – Clean Energy

Renewable Energy (20% RES)

Carbon Capture and Sequestration
Clean Fuels and Vehicles
Smart Grid and Electricity Transmission
Partnering with the States
Federal Purchases of Renewable Electricity

Title II – Energy Efficiency

Building Energy Efficiency
Manufactured Homes
Appliance Energy Efficiency
Transportation Efficiency
Utilities Energy Efficiency
Industrial Energy Efficiency
Public and Federal Energy Efficiency

Title III – Reducing Global Warming Pollution

Global Warming Pollution Reduction Program

Supplemental Pollution Reductions
Offsets
Banking and Borrowing
Strategic Reserve
Carbon Market Assurances and Oversight
Additional Greenhouse Gas Standards
Clean Air Exemptions

Title IV – Transitioning to a Clean Energy Economy

Ensuring Domestic Competitiveness
Green Jobs and Worker Transition
Consumer Assistance
Exporting Clean Technology
Adapting to Global Warming

Title V – Agriculture and Forestry Related Offsets

WAXMAN-MARKEY THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009

Renewable Electricity and Efficiency Standard:

- Sets a combined 20% renewable electricity and efficiency standard by 2020 overseen by the Federal Energy Regulatory Commission.
- Applies to utilities with at least 4,000 megawatts of annual sales
- Requires utilities to supply 15% of their power sales from qualified renewable sources of electricity by 2020.
- Requires 5% energy savings through efficiency measures.
- State governors may lower the renewables requirement to 12% for their state, but the efficiency mandate would then rise to 8% to keep the overall 20% level
- New nuclear generation, existing hydropower, and fossil generation with carbon capture and storage are excluded from the power sales baseline

WAXMAN-MARKEY
THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009
Overview of the proposed greenhouse gas (GHG) cap-and-trade program contained in Titles III and V

Coverage

large stationary sources emitting more than 25,000 tons/yr of GHGs, producers and importers of all petroleum fuels, distributors of natural gas to residential, commercial and small industrial users, producers of "F-gases", and other specified sources.

Emissions Reduction Targets

Emission caps that would reduce aggregate GHG emissions for all covered entities from 2005 levels by 3% in 2012; 17% in 2020; 42% in 2030; and 83% in 2050. Bill also establishes economy-wide goals for all sources, including but not limited to those covered by the cap-and-trade program.

Distribution of Allowances

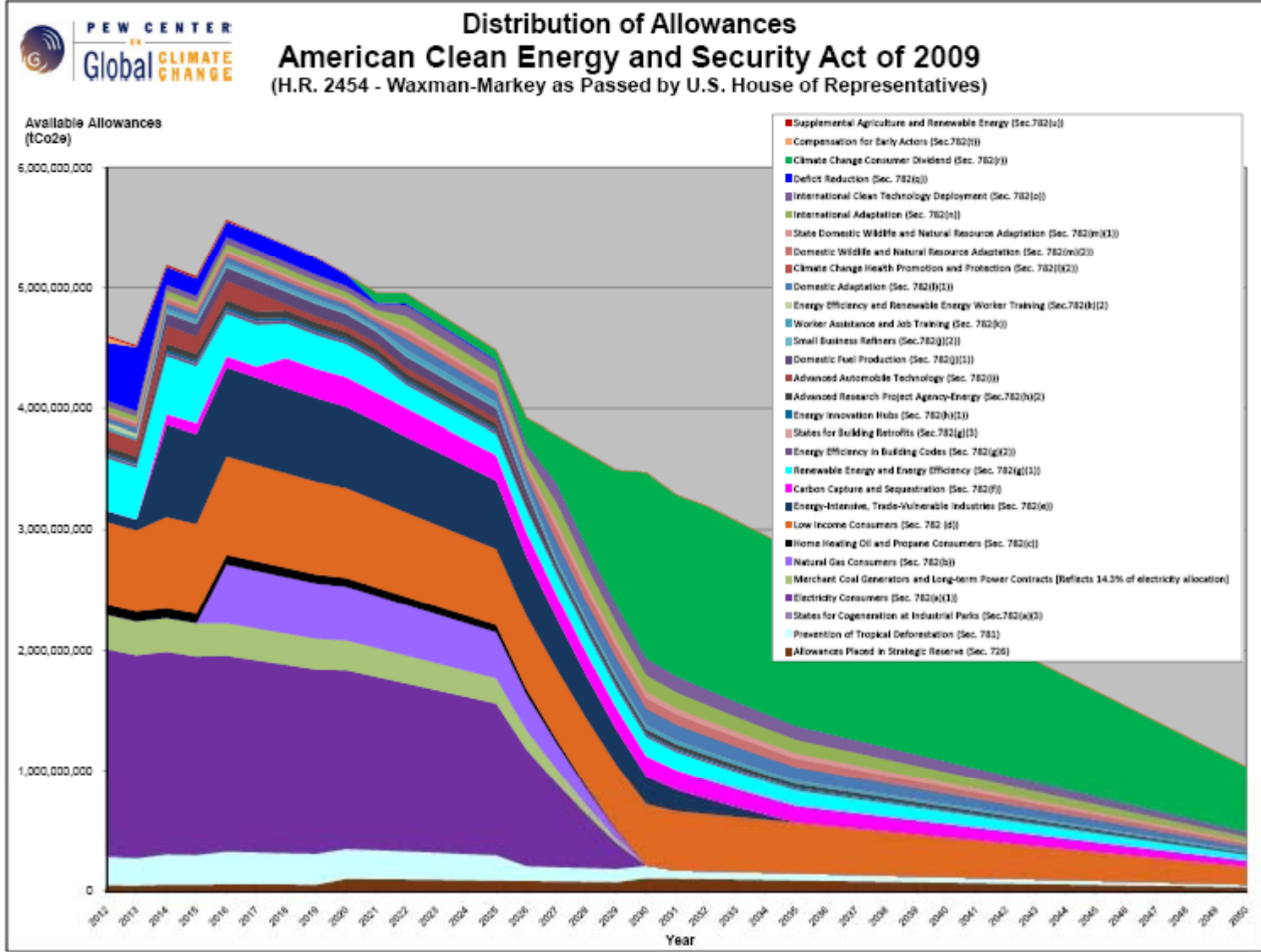
[See following chart] Approximately 20% of allowances are auctioned in the initial years of the cap-and-trade program. This percentage increases over time to about 70% by 2030 and beyond.

Offsets and Other Cost Containment Measures

Bill allows up to 2 billion tons of offsets (1 billion from domestic sources, 1 billion from international sources) to be used for compliance system wide.

Carbon Market Oversight

Bill requires FERC to regulate the cash market in allowances and offsets, and assigns the Commodity Futures Trading Commission the responsibility for regulation and oversight of any derivatives markets (unless the President decides otherwise).



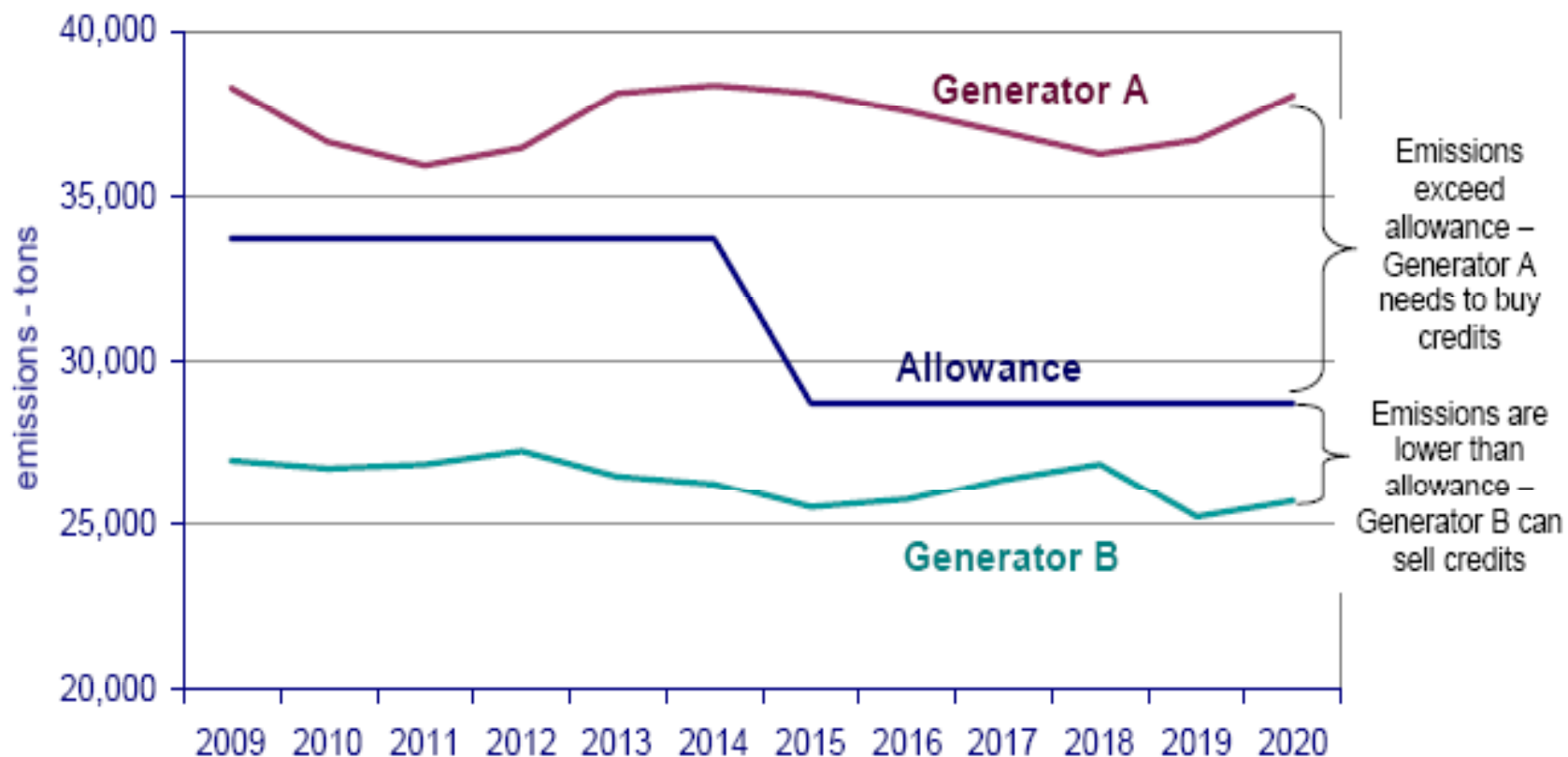
An "allowance" equals 1 metric ton of CO₂ equivalent.

Distribution of Allowances Under Waxman-Markey For Selected Industrial Sectors

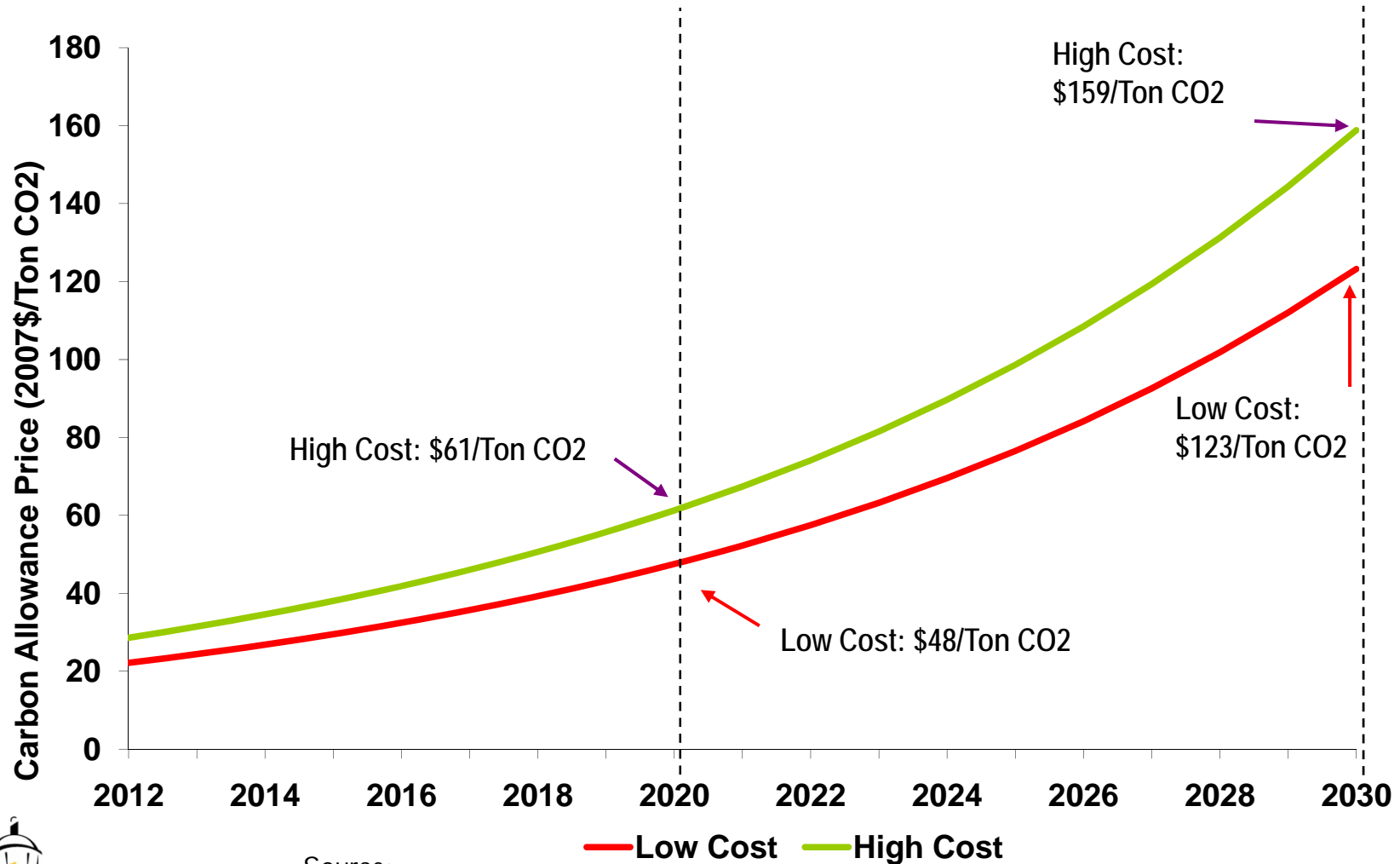
- The electric utility industry would receive 35% of the allowances for free. Of the 35%, state-regulated local electric distribution companies will get 30% of the credits and must use the funds to protect customers from electricity price increases. Merchant coal and long-term power producers will get the remaining 5% of the allowances. All of the utility sector credits will be distributed according to a formula suggested by the industry, split along historic emissions levels and retail sales. Credits will be phased out between 2026 and 2030.
- Local natural gas distribution companies would get 9% of the allowances, and state-regulated firms must use the funds to protect consumers from natural gas price increases. The free allowances will be phased out between 2026 and 2030.
- Oil refiners will get 2% allowances for free starting in 2014 and ending in 2016. Small business refiners get an additional 0.25% between 2014 and 2026.
- Carbon capture and storage efforts would get 2% of the allowances from 2014 to 2017 and 5% from 2018 and beyond.

How Does Cap-and-Trade Work?

Simply speaking, sources "long" on credits will trade with those that are "short."



Macroeconomic Impact of Waxman Markey Bill: Carbon Allowance Price (2007\$/Ton CO2)



Source:

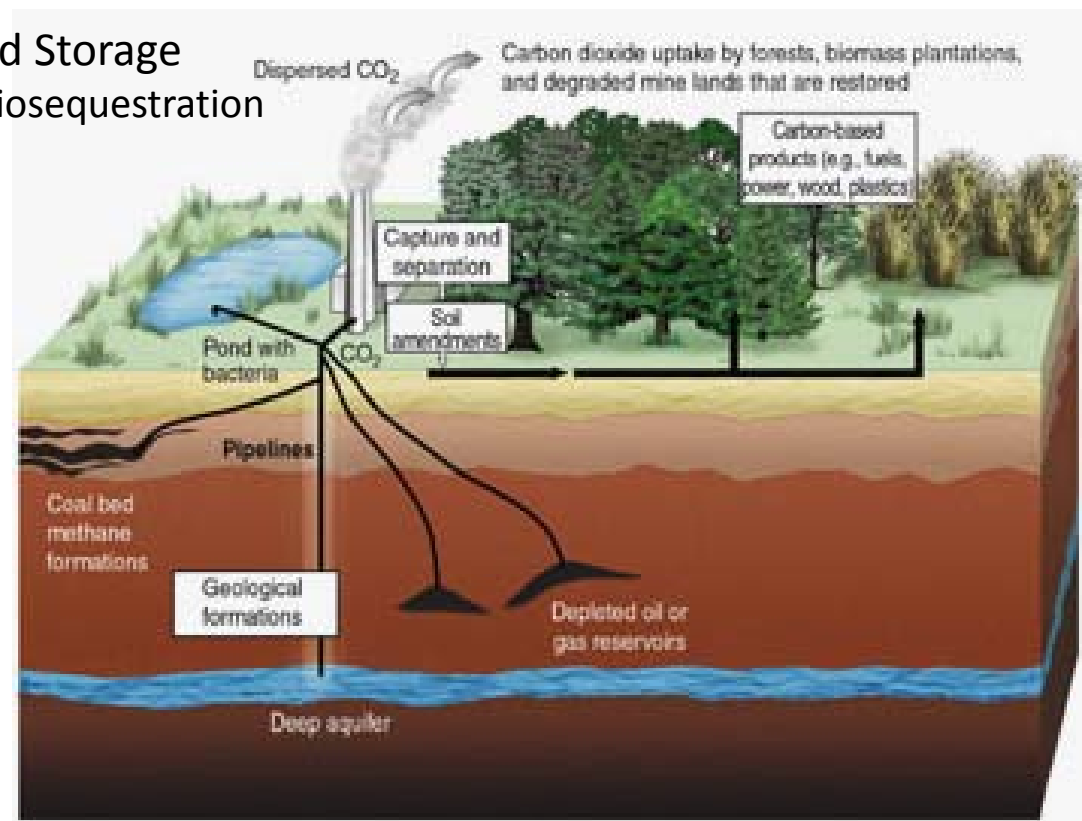
Dr. Margo Thorning, Ph.D., Senior Vice President and Chief Economist
American Council for Capital Formation



To Comply with GHG Emissions Reduction Requirements, Affected Sources Can:

1. Reduce emissions
2. Purchase allowances
3. Produce or purchase offset credits

Carbon Capture and Storage Geosequestration - Biosequestration



Source: www.123eng.com/projects/carbon.doc

POTENTIAL IMPACTS OF WAXMAN-MARKEY CAP-AND-TRADE

- CBO – The recent (May 7, 2009) CBO analysis updates research of previous cap-and-trade proposals and estimates that a 15% reduction in greenhouse gases (GHG) would *cost American families between \$700 and \$2,200 a year* in increased energy and consumer goods prices. On June 19th, CBO estimated that the net annual economywide cost of the cap-and-trade program in **2020** would be \$22 billion – or about \$175 per household.
- EPA – The cap & trade policy has a *relatively modest impact on U.S. consumers assuming the bulk of the revenues from the program are returned to households.*
- CRA International – By 2030, *net U.S. job losses could hit 3.2 million*, while *household purchasing power would shrink by more than \$2,100.*
- Duke Energy – Barack Obama’s plan to raise revenue from an emissions trading system *would increase electricity bills by as much as 40%* in some U.S. states.
- Moody’s – U.S. *electricity prices are likely to rise 15 to 30 percent* if a national cap on carbon dioxide is instituted.
- The Heritage Foundation – Higher energy costs kick in as soon as bill’s provisions take effect in 2012. *For a household of four, energy costs go up \$436 that year*, and they eventually reach *\$1,241 in 2035. Electricity costs go up 90% by 2035, gasoline by 58%, and natural gas by 55%.* The *cumulative higher energy costs for a family of four by then will be nearly \$20,000.*

POTENTIAL IMPACTS OF WAXMAN-MARKEY CAP-AND-TRADE (Continued)

- Dr. Arthur Laffer - because fossil fuels (oil, coal, and natural gas) provide 86 percent of current U.S. energy needs and it is not currently feasible to substitute contribution of alternative energy sources in the near-term, *"a GHG cap could effectively become an energy production cap -- or an energy supply shock."*
- Douglas Elmendorf, Director, Congressional Budget Office – Under a cap-and-trade program, *consumers would ultimately bear most of the costs of emissions reductions.* Firms that used emission allowances for CO₂ would generally pass along to consumers the cost of using those allowances in the form of higher prices for their products – regardless of whether the government sold emission allowances or gave them away.
- OpEd, Washington Examiner – President Obama wants to prevent “runaway global warming,” by slashing U.S. carbon dioxide emissions to 83% below 2005 levels by 2050. According to Oak Ridge National Laboratory data, *this would return the country to emission levels last seen in 1905.*
- Sharon Begley, Newsweek – We Can’t Get There from Here. *Political will and a price on CO₂ won’t be enough to bring about low-carbon energy sources.* (to attain 2050 goals we will need Nobel-caliber discoveries).
- Berkshire Hathaway CEO Charlie Munger – An artificial market in government-mandated carbon credits would be *“monstrously stupid to do right now”*.
- Pete du Pont, Wall Street Journal (July 26th) – *Waxman-Markey Deserves to Die*

How the Waxman-Markey Climate Change Bill Would Affect Louisiana

- **Higher prices:** The bill will touch every Louisiana family and business directly through increased energy costs (electricity, fuel) and indirectly through increased costs of goods and services caused by increased energy costs.
- **Less disposable income:** An average family could pay an additional \$1200 a year for energy. That's 3.8 percent of Louisiana's per capita disposable income.
- **Fewer jobs and lower wages:** One analysis projects that nationally up to 2.7 million net jobs would be lost annually. Another analysis projects an annual job destruction total related to the legislation of more than 2.0 million jobs nationwide by 2011. For Louisiana, this could mean a loss of 27,000 jobs just a few years from now.
- **Less wealth:** One analysis projects the bill would reduce aggregate gross domestic product by \$9.4 trillion over the next 26 years. For Louisiana this could mean a reduction of as much as \$124 billion in the state's gross state product.



Source: American Petroleum Institute et al.

Potential Impacts of Cap-and-Trade on Louisiana

How the Waxman-Markey Climate Change Bill Would Affect Louisiana by Congressional District

Congressional District		Gross State Product		Personal Income		Non-Farm Jobs	
		Average	Average	Average	Average	Average	Average
District	Representative	GSP Loss in 2012 (\$million)	GSP loss 2012-2035 (\$million)	Personal Income Loss in 2012 (\$million)	Personal Income Loss 2012-2035 (\$million)	Non-Farm Job Loss in 2012	Non-Farm Job Loss 2012-2035
1	Scalise	-462.69	-921.18	-505.67	-292.87	-3,904	-2,761
2	Cao	-457.49	-910.84	-423.72	-245.41	-3,398	-2,403
3	Melancon	-187.57	-373.44	-239.69	-138.82	-2,030	-1,435
4	Fleming	-319.11	-635.33	-378.71	-219.33	-2,818	-1,992
5	Alexander	-340.24	-677.39	-366.55	-212.30	-3,005	-2,125
6	Cassidy	-304.12	-605.47	-358.88	-207.85	-2,941	-2,080
7	Boustany	-412.78	-821.82	-463.47	-268.43	-3,736	-2,642

Data source: The Heritage Foundation, June 25, 2009.



Macroeconomic Impact of Waxman Markey Bill: Changes in Louisiana Economy Compared to Baseline Forecast

	2020		2030	
	Low Cost Case	High Cost Case	Low Cost Case	High Cost Case
Loss in GSP (million 2007\$)	-\$483	-\$830	-\$5,089	\$6,943
Loss in Jobs	150	-1,069	-26,066	-35,500
Loss in Household Income (2007\$)	-\$68	-\$171	-\$485	-\$874

Source:

Dr. Margo Thorning, Ph.D., Senior Vice President and Chief Economist
American Council for Capital Formation

Macroeconomic Impact of Waxman-Markey Bill: Change in Energy Prices in Louisiana Compared to Baseline Forecast

	2025		2030	
	Low Cost Case	High Cost Case	Low Cost Case	High Cost Case
Rise in Gasoline Prices	12%	16%	20%	26%
Rise in Residential Electricity Prices	2%	12%	31%	54%
Rise in Residential Natural Gas Prices	5%	11%	58%	77%

Source:

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CLIMATE LEGISLATION UPDATE

Will There Be Federal Climate Legislation This Year?

Favoring Factors:

Obama Administration

- Addressing global warming was among the priorities of President Obama's campaign.
- Obama's recently proposed FY2010 budget includes a greenhouse gas (GHG) emissions reduction program.
- Obama's energy and environment team (Lisa Jackson-EPA; Steven Chu-DOE; Nancy Sutley-CEQ; Ken Salazar-DOI; and Carol Browner-Assistant to the President on Energy and Climate Change) all seem dedicated to confronting global warming.
- The State Department has appointed Todd Stern as its Climate Envoy to work with other nations on global warming issues.

Congress

- Both Speaker Pelosi in the House and Majority Leader Harry Reid in Senate are pushing for climate legislation.
- H.R. 2454, the American Clean Energy and Security Act of 2009 (Waxman-Markey) has passed out of the House.
- Barbara Boxer, Chair of the Senate Committee on Environment and Public Works has set a goal of submitting a climate bill prior to the Climate Conference in Copenhagen in December.

Vested Interests

- Alternative energy interests, environmental organizations, financial institutions (carbon markets), green businesses, law firms, research scientists, etc.

CLIMATE LEGISLATION UPDATE

Will There Be Federal Climate Legislation This Year?

Impeding Factors:

- The severe recession has pushed global warming aside as a major public concern and has focused attention on the cost of GHG regulation.
- Anthropogenic global warming (AGW) is an important issue, but it is not an immediate crisis.
- Climate science has now caught up with global warming alarmism.
- There are large numbers of well respected scientists who question various aspects of the AGW hypothesis and, after years of being marginalized and vilified as “skeptics” or “deniers”, have found their voice (outside mainstream media).
- After years of global warming alarmism, hyperbole, and catastrophic predictions about global warming, polls show that a growing percentage of the American public believes the threat of global warming is being exaggerated.
- Mother Nature is not cooperating with the climate modelers who have predicted increasing global temperatures with increasing atmospheric CO₂ levels.

CLIMATE LEGISLATION UPDATE

Will There Be Federal Climate Legislation This Year?

Public Opinion

- *The O'Leary Report*/Zogby poll conducted April 24-27 found only 30% support cap-and-trade.
- According to Gallup's 2009 Environmental Survey, more Americans say the (global warming) problem is exaggerated rather than underestimated.
- In a recent poll conducted by the Pew Research Center, global warming ranked last among 20 concerns preselected for the poll by Pew.
- A recent national poll conducted by Lauer Johnson Research on behalf of the National Rural Electric Cooperatives Association found 58% of American are opposed to pay any more that they currently pay in their electricity bills to combat climate change, a 23% increase in those unwilling to pay more since 2007. Not one of 807 poll respondents indicated a willingness to pay over 20% more on their monthly electricity bill to combat climate change.
- A poll of likely voters conducted in late July for NPR asked what concerns the President and Congress should be giving most attention – around 1% said climate change.

CLIMATE LEGISLATION UPDATE

Will There Be Federal Climate Legislation This Year?

Mother Nature Not Cooperating

- Mother Nature is not cooperating with the climate modelers who have predicted increasing global temperature with increasing atmospheric CO₂ levels.
- Even though CO₂ levels continue to climb, global temperature data reported by NASA satellite-based temperature measurements show a decade-long trend of declining global temperatures.
- The year 2008 was significantly cooler than 2007 and well below the average global temperatures over the past 30 years.
- An international weather service recently reported that the North Atlantic and North Pacific Oceans are now both cooler than normal for the first time in 15 years.
- Global sea-ice extent has recovered from recent lows.
- There have recently been a number of scientific studies pointing to continued climate cooling over the next 15-20 years.
- NASA reports we are entering a very deep solar minimum – the quietest the sun's been in over a century. In 2008, the sun set a number of records: a 50-year low in solar wind pressure; a 12-year low in solar irradiance, and a 55-year low in solar radio emissions. A number of scientists suggests that a quiet sun leads to a cooling climate.



CLIMATE LEGISLATION UPDATE

Will There Be Federal Climate Legislation This Year?

- There is still strong political pressure to produce climate legislation this year, although the probability for success seems to have fallen recently (especially the cap-and-trade element).
- Interest in healthcare reform legislation seems to have eclipsed interest in climate legislation at this time.
- Growing public concern about Federal spending and the Federal deficit has cooled interest in major new federal initiatives.
- Anxiety about increased costs in fuel, electricity, and goods predicted for the cap-and-trade program is exacerbated during this prolonged recession.
- What happens when Congress returns from the August recess will be telling.

POTENTIAL EPA REGULATION OF GREENHOUSE GASES

- In July, 2008, EPA released a *draft rule for carbon sequestration*. The rule spells out requirements for the location, construction, testing, and monitoring of wells used for underground injection. It also prescribes rules for the eventual closing and sealing of these underground sites. Another goal is to create a new series of injection wells under the Safe Drinking Water Act's underground injection control program.
- On March 10th, 2009 *EPA proposed federal GHG reporting requirements* that will require data from an estimated 13,000 sources. In general, EPA proposes that suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions submit annual reports to EPA. The gases covered by the proposed rule are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF₆), and other fluorinated gases including nitrogen trifluoride (NF₃) and hydrofluorinated ethers (HFE).
- In April, EPA issued its *proposed Endangerment Finding* – In response to a 2007 court order (Mass. v. EPA) the Administrator is proposing to find that the current and projected concentrations of the mix of six key greenhouse gases—carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)—in the atmosphere threaten the public health and welfare of current and future generations. If this is successful, it paves the way for EPA regulation of GHG.

POTENTIAL EPA REGULATION OF GREENHOUSE GASES (Continued)

- A nominee for a key post in EPA testified to lawmakers recently that *federal greenhouse gas regulation could expose a raft of smaller emitters to litigation*. The potential for smaller emitters to be regulated under the Clean Air Act is one reason why business groups warn that EPA regulation of greenhouse gases could create a cascade of legal and regulatory challenges across a much broader array of sectors.
- According to recent news stories, the Obama administration considered a *push to amend the ozone reducing Montreal Protocol* to include mandatory reductions in hydrofluorocarbons (HFCs). The man-made chemical is one of six greenhouse gases that EPA determined earlier in April were a danger to public health and welfare.
- According to an April 16th news article EPA indicated it would *consider using the Clean Water Act to address ocean acidification*. Opening another front in the Obama administration's efforts to address climate change: the nation's coastal waters.
- *Next?*

POTENTIAL EPA REGULATION OF GREENHOUSE GASES (Continued)

Dow Jones Newswires, 12 May 2009. OMB Memo: Serious Economic Impact Likely From EPA CO₂ Rules

WASHINGTON (Dow Jones)--U.S. regulation of greenhouse gases such as carbon dioxide "is likely to have serious economic consequences" for businesses small and large across the economy, a White House memo warned the Environmental Protection Agency earlier this year.

The nine-page document also undermines the EPA's reasoning for a proposed finding that greenhouse gases are a danger to public health and welfare, a trigger for new rules.

The memo, an amalgamation of government agencies' comments sent from the Office of Management and Budget to the EPA, is in stark contrast to the official position presented by President Barack Obama and his Cabinet officials.

Take Away Points and Conclusions

Waxman-Markey Climate Legislation will result in:

- Significant increases in the cost (price) of all forms of energy.
- Significant redistribution of wealth between sectors, income classes, and even various regions and countries around the world.
- High near and intermediate term reliance on natural gas particularly for power generation.
- Very large increases in the price of electricity.
- Policies are outpacing technological and institutional capabilities.
- Ability of policy capability to meet goals is questionable.
- Full implementation of Waxman-Markey would have negligible impact on global CO₂ levels.

[US Chamber of commerce wants trial on global warming issue. Reader poll inside](#)

24 08 2009 [Excerpts from The LA Times story:](#)

[U.S. Chamber of Commerce seeks trial on global warming](#)

By Jim Tankersley

August 25, 2009

Reporting from Washington



The nation's largest business lobby wants to put the science of global warming on trial.

The [U.S. Chamber of Commerce](#), trying to ward off potentially sweeping federal emissions regulations, is pushing the Environmental Protection Agency to hold a rare public hearing on the scientific evidence for man-made climate change.

Chamber officials say it would be “the Scopes monkey trial of the 21st century” — complete with witnesses, cross-examinations and a judge who would rule, essentially, on whether humans are warming the planet to dangerous effect.

Questions

