

# **MAKING SENSE OF CAP & TRADE**

## **AN OVERVIEW AND COMPARISON OF THE HOUSE AND SENATE BILLS TO REGULATE GREENHOUSE GAS EMISSIONS**

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# Overview of Discussion

- Historical and Political Background
- Comparison of Waxman-Markey & Kerry-Boxer legislation
- What's next in Congress?
- Impact on Industry and the Economy



# Overview of Climate Change



- United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as: "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods."
- Greenhouse effect being blamed for global warming

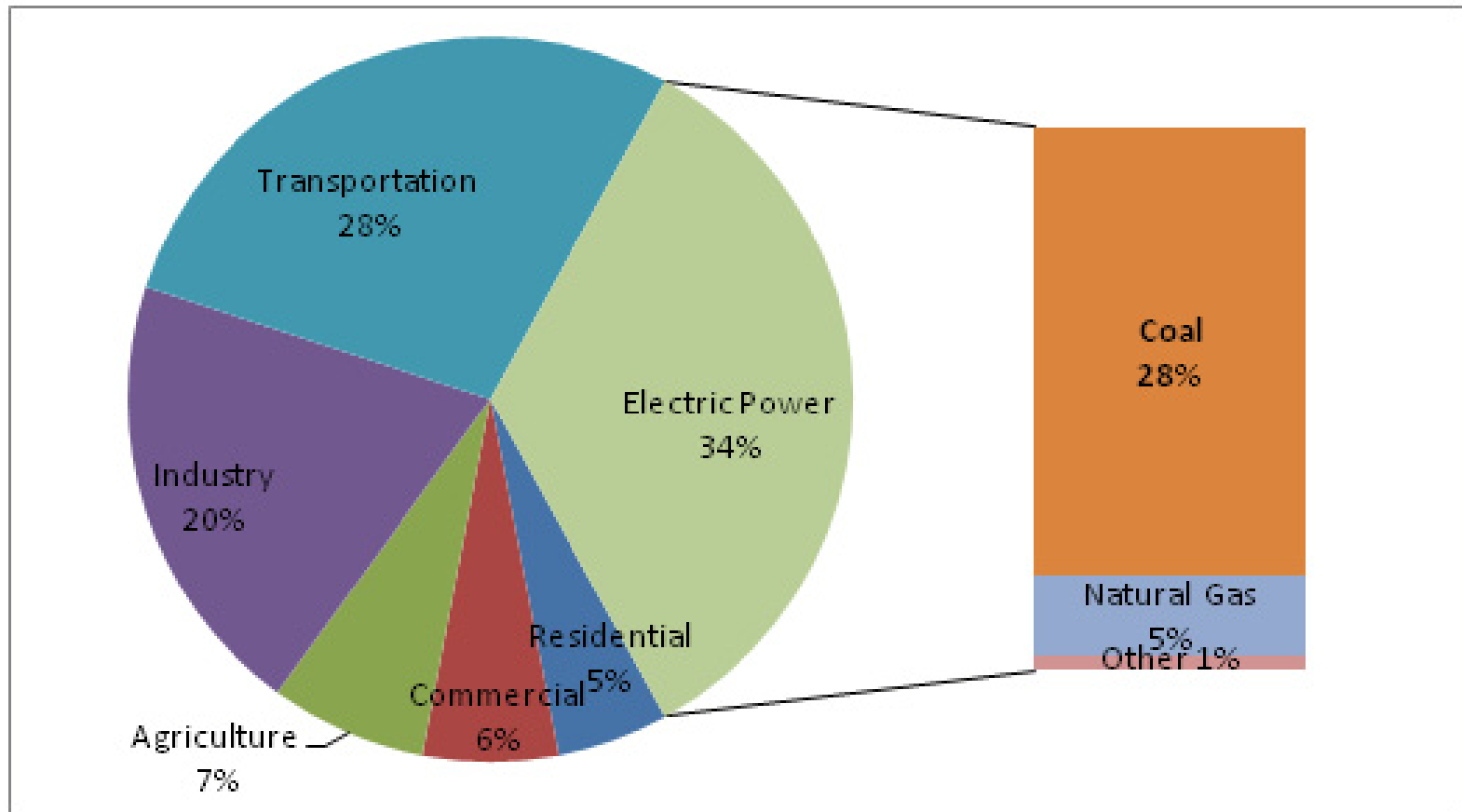


# Overview of Climate Change



- Seven Greenhouse Gases (GHG)
  - Carbon Dioxide (CO<sub>2</sub>)
  - Methane (CH<sub>4</sub>)
  - Nitrous Oxide (N<sub>2</sub>O)
  - Hydrofluorocarbons (HFCs)
  - Perfluorocarbons (PFCs)
  - Sulfur Hexafluoride (SF<sub>6</sub>)
  - Nitrogen Trifluoride (NF<sub>3</sub>)

# Total U.S. Greenhouse Gas Emissions (2007)



Source: EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007*.



# Climate Change Legislation



## Bills Introduced during 110<sup>th</sup> Congress

- Lieberman-Warner-Boxer (S. 2191/S. 4825)
- Bingaman-Specter (S. 1766)
- Sanders-Boxer (S. 309)
- Kerry-Snowe (S. 485)
- Lieberman-McCain (S. 280)
- Markey (HR 6186)
- Doggett (HR 6316)
- Olver-Ghilcrest (HR 620)
- Waxman (HR 1590)

**NONE PASSED**



# Cap & Trade



- Basic concept: Institute “cap” on total allowable GHG emissions
- Allocate, by auction, give-away, or other means, emission allowances
- Allowance = permit to emit 1 ton CO<sub>2</sub> or its equivalent
- Companies with insufficient allowances to cover their GHG emissions must reduce emissions or purchase allowances or offsets
- Total amount of allowances shrinks over time

# CO<sub>2</sub> Equivalents

GHGs are measured in terms of CO<sub>2</sub> equivalents

<u>GHG (1 metric ton)</u>	<u>CO<sub>2</sub> equivalents</u>
CO <sub>2</sub>	1
Methane	25
N <sub>2</sub> O	298
HFC-23	14,800
HFC-125	3,500
CF <sub>4</sub>	7,390
C <sub>2</sub> F <sub>6</sub>	12,200
SF <sub>6</sub>	22,800
NF <sub>3</sub>	17,200



# 111<sup>th</sup> Congress



- H.R. 2454, *American Clean Energy and Security Act* (Waxman-Markey), passed House in June 2009 by a vote of 219 – 212
  - 44 Democrats opposed it
  - 8 Republicans in favor of it
- 1,427 pages long
- 300 new pages/edits on morning of vote
- Estimates of cost to households vary, depending on who you ask
  - \$110 v. \$3,300



# 111<sup>th</sup> Congress



- S. 1733, *Clean Energy Jobs and American Power Act* (Kerry-Boxer), introduced September 30
- Boxer and Kerry say it is not “cap and trade”; rather, it is a “pollution reduction bill”
- Claim bill will create 1.7 million jobs
- 740 Pages
  - Some details left blank; to be worked out in committees
  - Senate Environment and Public Works Committee reported bill out of committee on November 5, 2009



# The Senate Debate



- Senate Bill to receive more scrutiny than House Bill
  - HB 2454 only marked up by House Energy and Commerce Committee
  - Senate bill will be marked up by
    - Environment and Public Works
    - Agriculture
    - Energy and Natural Resources
    - Finance
    - Foreign Relations



# Common Approach



- Cap & Trade
  - Emission reduction targets
  - Allowance allocations
- Offsets
- Market Regulation
- Energy Efficiency
- Cost Containment
- Performance Standards for New Coal Plants
- Trade Protection



# Cap & Trade



- Both would create nationwide cap on carbon emissions that will cover 85% of US GHG emissions
- Both apply to emitters of more than 25,000 tons of GHG annually, although some businesses are covered regardless of emissions
- “Uncapped” sources include: agricultural emissions, residential emissions, commercial buildings, and stationary sources emitting < 25,000 tons GHG/year

## Waxman-Markey

- Goal: Reduce GHG emissions
  - 3% below 2005 levels by 2012
  - **17% below 2005 levels by 2020**
  - 83% below 2005 levels by 2050

## Kerry-Boxer

- Goal: Reduce GHG emissions
  - 3% below 2005 levels by 2012
  - **20% below 2005 levels by 2020**
  - 83% below 2005 levels by 2050



# Cap & Trade



## Under both bills, companies can:

- Comply by purchasing offsets
  - Offsets are GHG reductions achieved by sources not regulated by the Cap & Trade Program
- “Bank” allowances for future use
- Borrow unlimited allowances from calendar year immediately following compliance year without interest
- Borrow up to 15% of emissions from up to five years in the future, with interest
  - Borrowing essentially creates a two-year rolling compliance period



# Cap & Trade – Waxman-Markey



- Emission Allowances (in millions)

2012	4,627
2015	5,003
2020	5,056
2025	4,294
2030	3,533
2035	2,908
2040	2,284
2045	1,660
2050 and thereafter	1,035



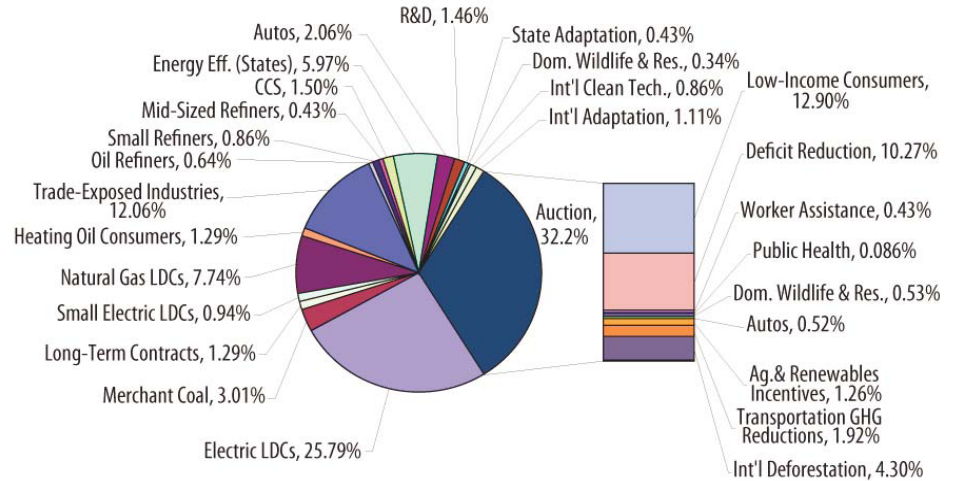
# Phase-in Schedule



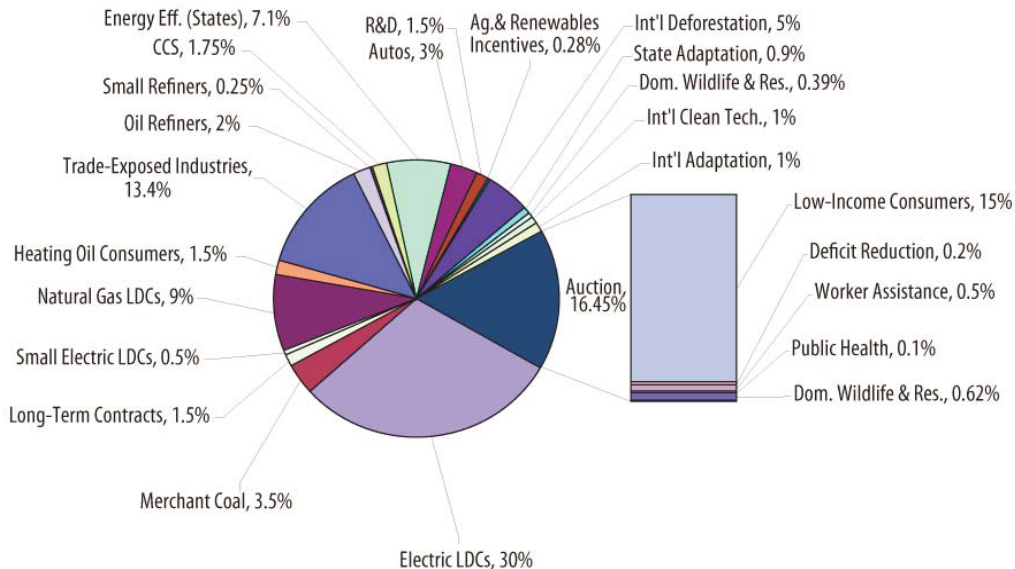
- 2012: 67% of 2005 emissions covered
- 2014: Cap extended to most industrial emissions; Roughly 78% of emissions covered
- 2016: Natural gas LDCs added; Approximately 85% of 2005 emissions capped

# 2016 Allowance Allocation

## H.R. 2454



## S. 1733

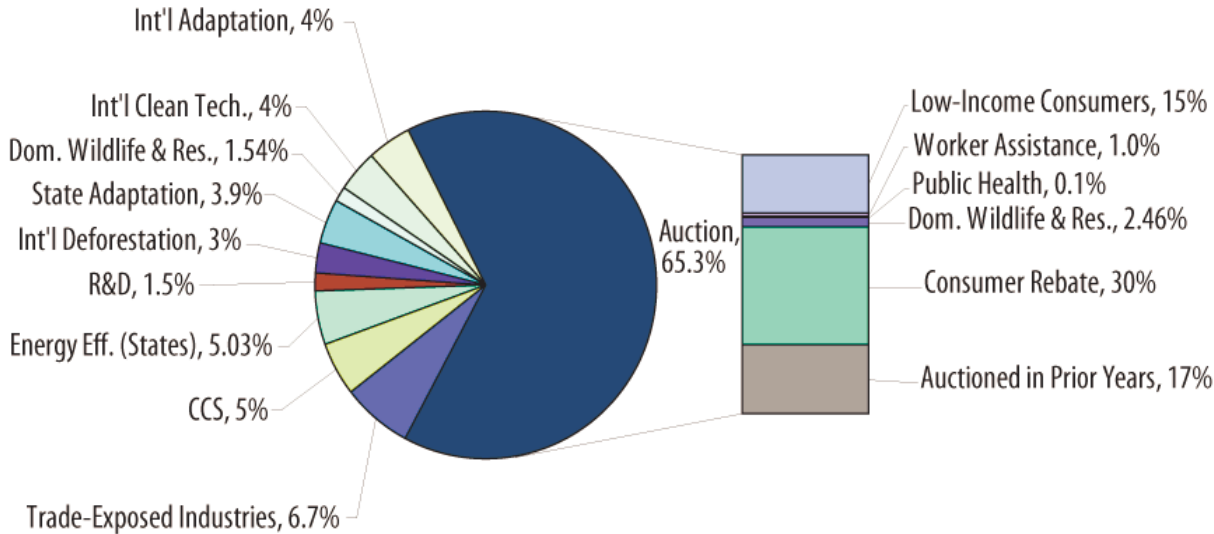
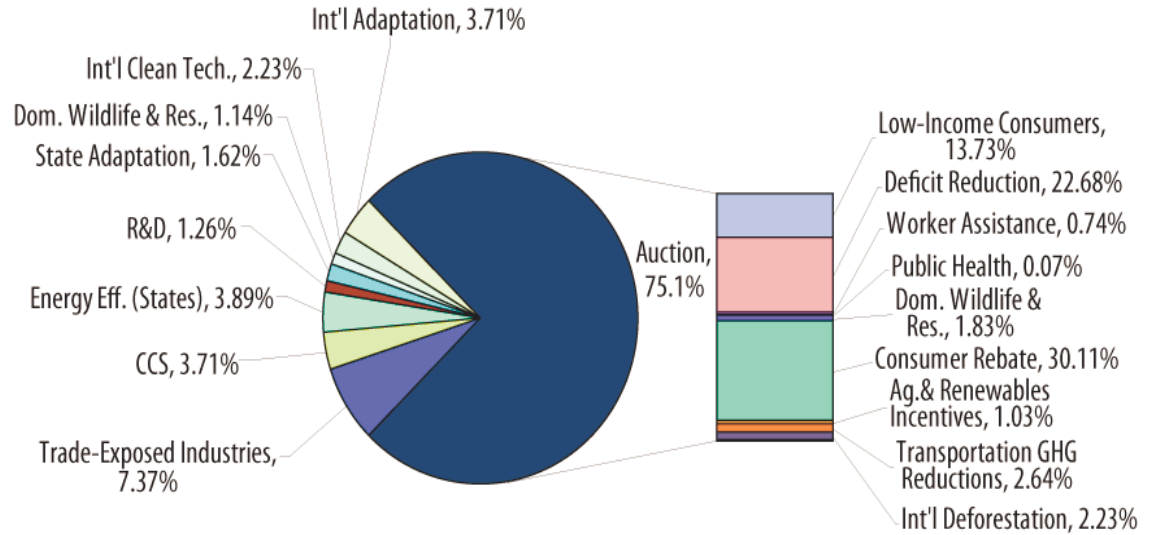




# 2030 Allowance Allocation



## H.R. 2454



## S. 1733





# Offsets



## Waxman-Markey

- 2 Billion tons annually
- Covered entity can use known % to meet its compliance obligation
  - 27% in 2016
  - 36% in 2030
  - 66% in 2050
- 50% domestic/50% international
  - Up to 1.5 billion tons international offsets

## Kerry-Boxer

- 2 Billion tons annually
- % offsets allowed based on actual emissions and other factors; EPA estimates
  - 35% in 2016
  - 41% in 2030
  - 48% in 2050
- 75% domestic/25% international
  - No more than 1.25 billion tons international offsets

# Summary of key offset provisions

	H.R. 2454	S. 1733
Overall Offset Limits	2 billion tons	2 billion tons
Source Level Offset Limits	Does not aggregate to the overall limit	Aggregates to the overall limit
Domestic & International Offset Limits	International: 1 billion tons Domestic: 1 billion tons	International: 0.5 billion tons Domestic: 1.5 billion tons
Criteria for Adjusting International Offset Limit	Domestic offset usage below 0.9 billion tons	Domestic offset usage below 0.9 billion tons
Revised International Offset Limit	1.5 billion tons	1.25 billion tons
Performance standards	Landfill and coal mine CH <sub>4</sub> covered by performance Standards, reducing there ability to supply offsets.	Landfill and coal mine CH <sub>4</sub> are not covered by performance standards.



# Market Regulation

## Waxman-Markey

- FERC to oversee cash allowance market
- CFTC to oversee allowance derivatives
  - Position limits will set ceiling on number of energy contracts any one person could hold



## Kerry-Boxer

- Original proposal left oversight issue for committees to determine
- EPW has revised draft to give all authority to CFTC
- Remains to be seen what other committees may do



# EPA Oversight



## Waxman-Markey

- Removes EPA authority to regulate GHG emissions from stationary sources
  - NSR PSD not triggered solely because of GHG emissions
  - No Title V permit required solely because of GHG emissions

## Kerry-Boxer

- EPA retains authority to regulate large GHG emitters
  - NSR PSD threshold would be revised from 100 or 250 tons to 25,000 tons GHG
  - Title V permit required if GHG emissions equal to or greater than 25,000 tons



# Performance Standards



## Waxman-Markey

- New coal-fired plants permitted after 2020 must use CCS
- Plants permitted between 2009 and 2019 must use CCS by 2025
- EPA to promulgate NSPS for categories of uncapped stationary sources emitting more than 10,000 tons CO<sub>2</sub>e

## Kerry-Boxer

- New coal-fired plants permitted after 2020 must achieve 65% reduction in CO<sub>2</sub>
- Plants permitted between 2009 and 2019 must achieve 50% reduction in CO<sub>2</sub>
- No NSPS before January 1, 2020 for any stationary source that emits uncapped GHG and that qualifies as an eligible offset project



# Trade Protection



## Waxman-Markey

- Allocates 15% of allowances to trade-sensitive industries
- May require international reserve allowance program (border tariffs) beginning in 2020

## Kerry-Boxer

- Placeholder for language to be drafted by Senate committees
- Most likely will be some sort of “border measure”



# Renewable Energy Standards



## Waxman-Markey

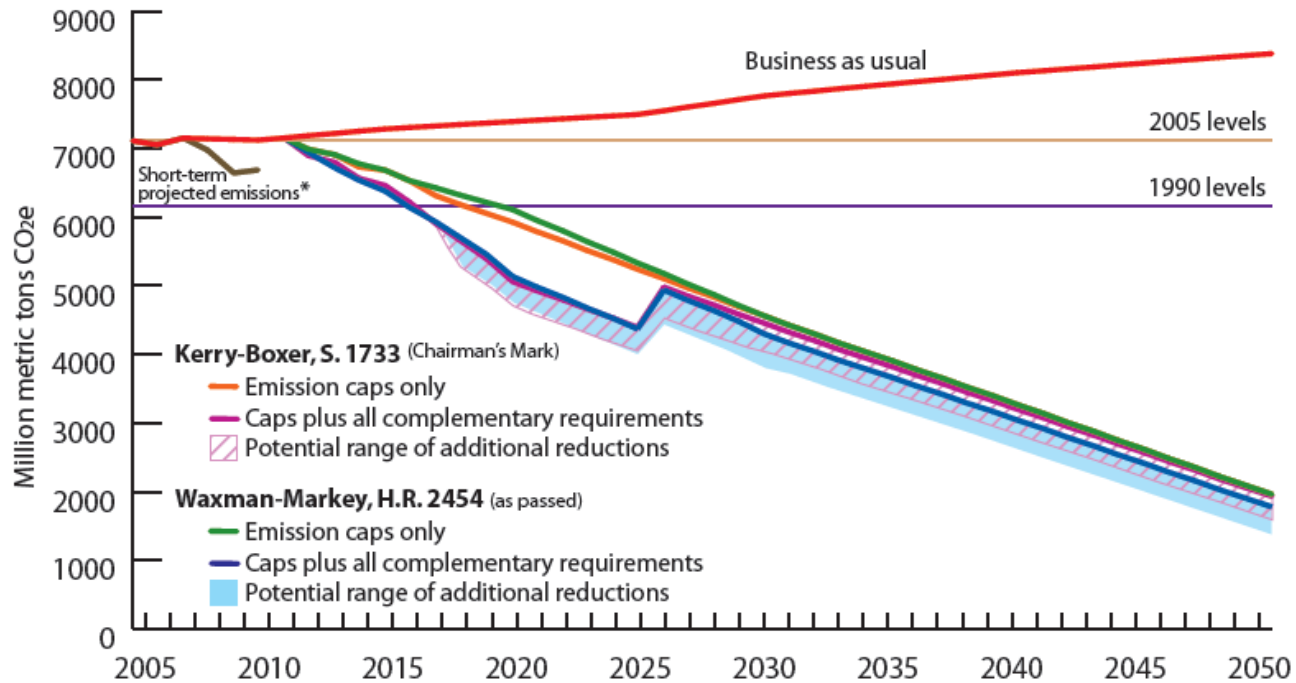
- Creates 20% federal Renewable Portfolio Standard by 2020
  - 15% renewable energy
  - 5% efficiency improvements
- Renewable Resources include
  - Solar •Biomass
  - Hydro •Wind
- Federal RECs can be sold, exchanged, traded, or banked for up to 3 years

## Kerry-Boxer

- None

## Emission Reductions Under Cap-and-Trade Proposals in the 111th Congress, 2005-2050

October 28, 2009



 WORLD RESOURCES INSTITUTE

For a full discussion of underlying methodology, assumptions and references, please see <http://www.wri.org/usclimatetargets>.

\* "Business as usual" emission projections are from EPA's reference case for its analysis of the Waxman Markey Discussion Draft. "Short-term projected emissions" represent EIA's most recent estimates of emissions for 2008-2010.



# The Senate Debate



- Health Care is taking center stage
- Financial Industry Reforms still high on agenda
- Current head count comes up short of 60 votes needed to pass a bill
  - Original goal was to have a Senate bill at start of September
  - Introduction delayed due to Health Care debate
  - Now appears full Senate won't vote on bill before mid-2010 at the earliest



# The Senate Debate



- Moderate Democrats Not Guaranteed to Support a Senate Bill
  - 10 Democrats sent letter to President Obama indicating they would not support any climate change bill that doesn't protect US industry from competition from countries without similar constraints
- Waxman-Markey included protectionist language targeting imports from emerging economies that do not control GHGs
  - India and China named explicitly



# The Senate EPW



- Contentious process to say the least
- Republicans urged additional analysis by EPA before voting on bill
- Republicans boycotted proceedings, including the vote
- Democrats proceeded on their own
- Passed bill 11 -1 with only Democrats voting



# What's Next in the Senate?



- Finance Committee

- Chaired by Max Baucus (D-Mont)

- Sole Democrat to vote against bill in EPW committee
    - From a coal state
    - Has expressed concerns over steep emission cuts
      - Has signaled he will change allocation approach in EPW version of bill
    - Has indicated desire to protect US manufacturers

- Energy and Natural Resources Committee

- Chaired by Jeff Bingaman (D – N.M.)



# Public Opinion



Poll conducted by the Pew Research Center  
for the People and the Press

Q: Are you willing to pay higher prices to  
protect the environment?

- 1992: 62% said Yes
- 1997: 55% said Yes
- 2009: 49% said Yes



# What to Believe?



## Supporters

- “NAM Study Grossly Exaggerates Costs of House Climate Bill”
- “Waxman-Markey’s Benefits Far Outweigh Costs”
- Only the cost of a postage stamp per day

## Opponents

- “CBO Grossly Underestimates Cost of Cap and Trade”
- “Cap and Trade: All Cost, No Benefit”
- The largest tax ever imposed by the federal government



# CBO's Cost Analysis



- CBO estimates net annual economy-wide cost in 2020 of \$22 billion
  - \$175 per household
- Cost analysis does not include losses in GDP resulting from cap and trade
- CBO admits that GDP losses would include “general equilibrium effects, such as changes in the labor supply resulting from reductions in real wages and potential reductions in the productivity of capital and labor.”



# EPA's Cost Analysis



- \$140 per household per year
- Assumes 150% growth in nuclear power by 2050
- Assumes commercial deployment of CCS
  - 25 gigawatts by 2020 (equal to approx. 50 average size coal plants);
  - 60 gigawatts by 2050 (approx. 109 coal plants)
- Assumes 2 billion tons offsets the first year
- Assumes allowance proceeds rebated directly to consumers



# Department of Treasury Analysis



- Cap & Trade could cost taxpayers up to \$200 billion per year
  - Equivalent to a 15% increase in personal income tax
  - As much as \$1,761/year per household



# Waxman-Markey: Impact on Economy

- The Heritage Center for Data Analysis estimates:
  - Gasoline prices will rise 58% above the baseline forecast
  - Natural gas prices will rise 55%
  - Electricity prices will rise 90%
  - Family of four will pay \$1,241\* more for energy per year
  - Aggregate GDP losses will be \$9.4 trillion\*
  - Job losses will be nearly 2.5 million

\*2009 dollars



# Waxman-Markey: Impact on Region

## – Jobs

- NAM Study calculated impacts state-by-state
- By 2030, NAM predicts job losses:

OH: between 79,700 and 108,600

PA: between 71,200 and 97,500

VA: between 41,400 and 56,400

KY: between 25,710 and 35,010

WV: between 8,200 and 11,100



# Waxman-Markey: Impact on Region

## – GSP

- By 2030, NAM predicts loss in GSP:
  - OH: between \$13.9 and 19 billion
  - PA: between \$15.2 and 21 billion
  - VA: between \$10.8 and 14.8 billion
  - KY: between \$4.4 and 6 billion
  - WV: between \$1.6 and 2.2 billion

\*2007 dollars



# Waxman-Markey: Impact on Region

## – Coal

- By 2030, NAM predicts coal production to fall significantly:

PA: 85 – 86%

WV: 72 – 85%

KY: 77 – 78%

OH: 70 – 77%

VA: 72 – 85%

# Waxman-Markey: Impact on Region

## – Energy Prices

### Gasoline

PA: +25%

OH: +25%

WV: +26%

KY: +27%

VA: +26%

### Electricity

PA: +41%

OH: +60%

WV: +53%

KY: +64%

VA: +53%

### Natural Gas

PA: +68%

OH: +79%

WV: +64%

KY: +73%

VA: +64%

\*By 2030



# Role of Coal



- Coal is most GHG-intensive fuel
  - Provides 50% of US power
  - Employs 80,000 in mining jobs
  - Each mining job creates 3.5 jobs elsewhere
- 34 states rely on coal as economic driver
- Democratic Senators from coal states are key
- 14 coal state Senators sent letter to Sen. Majority Leader Harry Reid urging protection for coal utilities



# President's Role



- President Obama has said the US will propose near-term targets for reducing GHG before the UN Climate Change meeting in Copenhagen in early December
- Has decided to make an appearance in Copenhagen
- Unclear what Obama will propose
  - Don't want to promise what you can't deliver
  - No guarantee that Senate will pass anything



# Copenhagen Convention



- Kyoto expires in 2012
- EU has pledged 20 percent reduction from 1990 levels by 2020
- US law, if enacted, not likely to be as stringent
- Protectionist measures, like those in HR 2454, may cause trade problems if adopted
- Senate bill clearly will not be approved by then



# A parting thought



- In hearing before Senate EPW Committee, EPA Administrator Lisa Jackson confirmed an EPA analysis showing that unilateral action by US to reduce GHG emissions would have no effect on climate.



**Thank you for attending**

**MAKING SENSE OF  
CAP & TRADE**

**Chat lines are now open for questions**

# Mark Your Calendars

## December 8, 2009



# Cap & Trade vs. the Energy Industries

We will discuss the impact of cap & trade legislation on the U.S. economy.

We'll also break down carbon offsets vs. carbon reduction credits, and cap & trade vs. carbon taxation.

Plus, you'll learn how cap & trade affects the natural gas and the coal industries.

## December 15, 2009

# *The U.S. EPA's Proposed Regulation of CO<sub>2</sub>*

**Both presentations – Noon to 1:00 PM**

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## **January 2010 – Marcellus Shale**

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