



# Climate Change

Legislative, Regulatory, and  
Economic Forces at Work

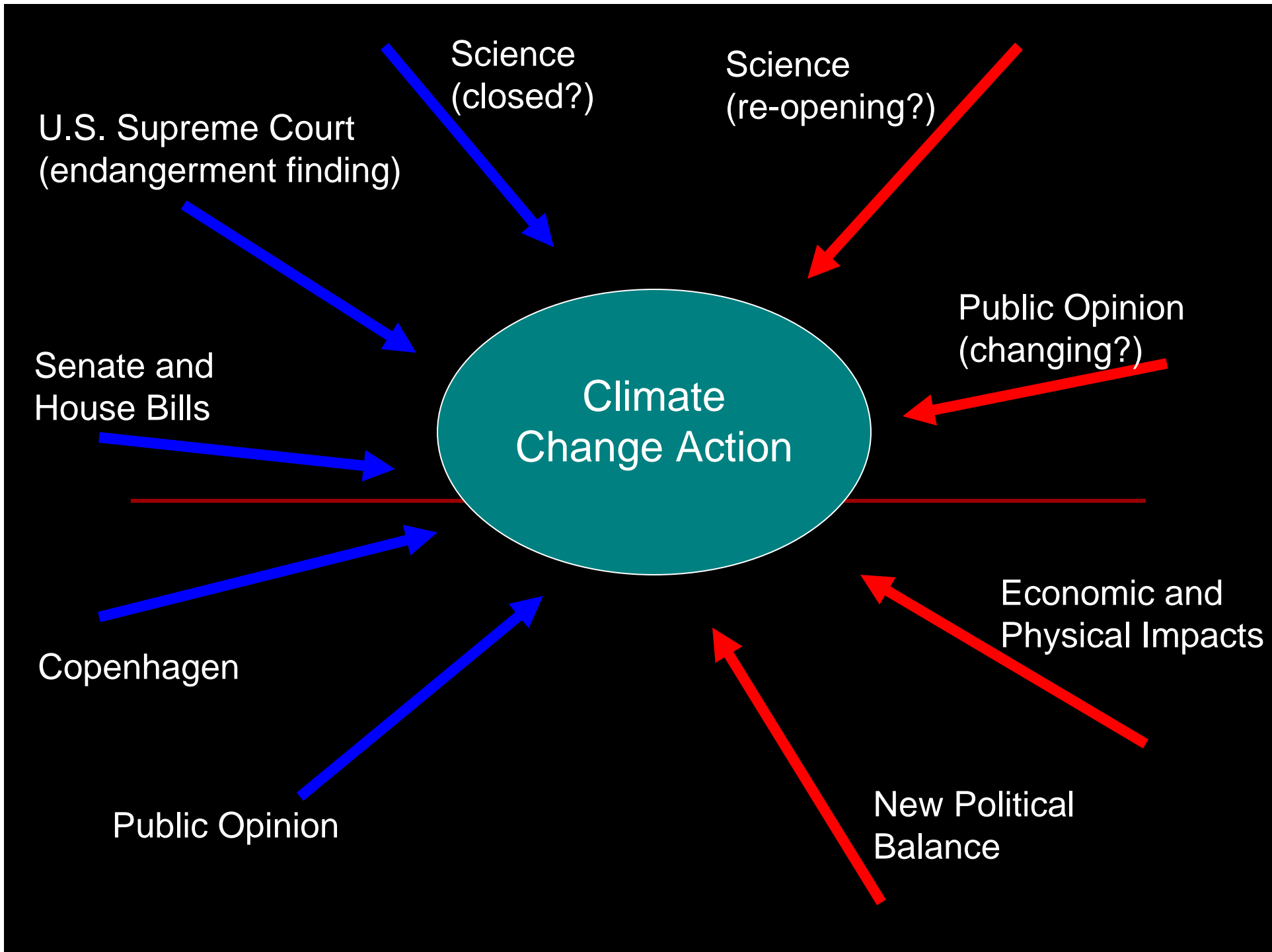
*Emerging Issues: Climate Change Legislation  
AHC Group Corporate Affiliates Workshop January 28th  
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# The Climate Change Debate

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- Whether or not climate change due to anthropogenic activity is a reality or is a debate for the scientific community
- In contrast, climate change legislation and policy *is a reality* that industry will need to address in the upcoming decades

# Overview – Competing Legal Drivers

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- Massachusetts v. EPA
- U.S. EPA “endangerment finding”
- Congressional legislation
  - Waxman-Markey GHG bill
  - Kerry-Boxer GHG bill
- International GHG accords
- Cost factors

## Massachusetts v. EPA (U.S. 2007)

- Holding (5-4 decision): GHG could be regulated under CAA 202(a)(1)
  - “any air pollution agent or combination of such agents, including any physical, chemical ... substance or matter which is emitted into or otherwise enters the ambient air”
- Implications – Expand Clean Air Act Title V and NSR Programs

# EPA Endangerment Finding

- Final rule: December 15, 2009
  - Six GHG are air pollutants
    - Carbon dioxide    Hydrofluorocarbons
    - Methane            Perfluorocarbons
    - Nitrous oxide     Sulfur hexafluoride
  - Allows EPA to set emission standards for GHG for new motor vehicles

# EPA Endangerment Finding

- The next step to stationary sources?
  - CAA 108(a)(1): “[T]he Administrator shall ... revise ... air pollutant – ... emissions of which ... [result] from mobile or stationary sources ...”
- EPA could avoid a CAA 108 determination for GHG if Congress adopts comprehensive climate change laws (the pressure on legislative action)

# GHG Legislation

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- Waxman-Markey Bill\* (H.R.2454):  
passed House June 26, 2009 by a  
vote of 219-212
  - First comprehensive legislation enacted to  
limit the growth of GHG
- Kerry-Boxer Bill (S.1733): Reported  
by committee on Nov. 5, 2009

\*More comprehensive than Kerry-Boxer Bill



# GHG Legislation

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- Renewable energy standard\*
  - Large utilities must derive a percentage of electricity from renewable energy
    - 2012: 6%
    - 2025: 25%
  - Renewable: Wind, biomass, solar, geothermal, hydropower, landfill gas
  - Facilities will receive one energy credit for each megawatt of renewable energy
- Develop a strategy and regulations for the sequestration of CO<sub>2</sub>

\*Waxman-Markey Bill Only

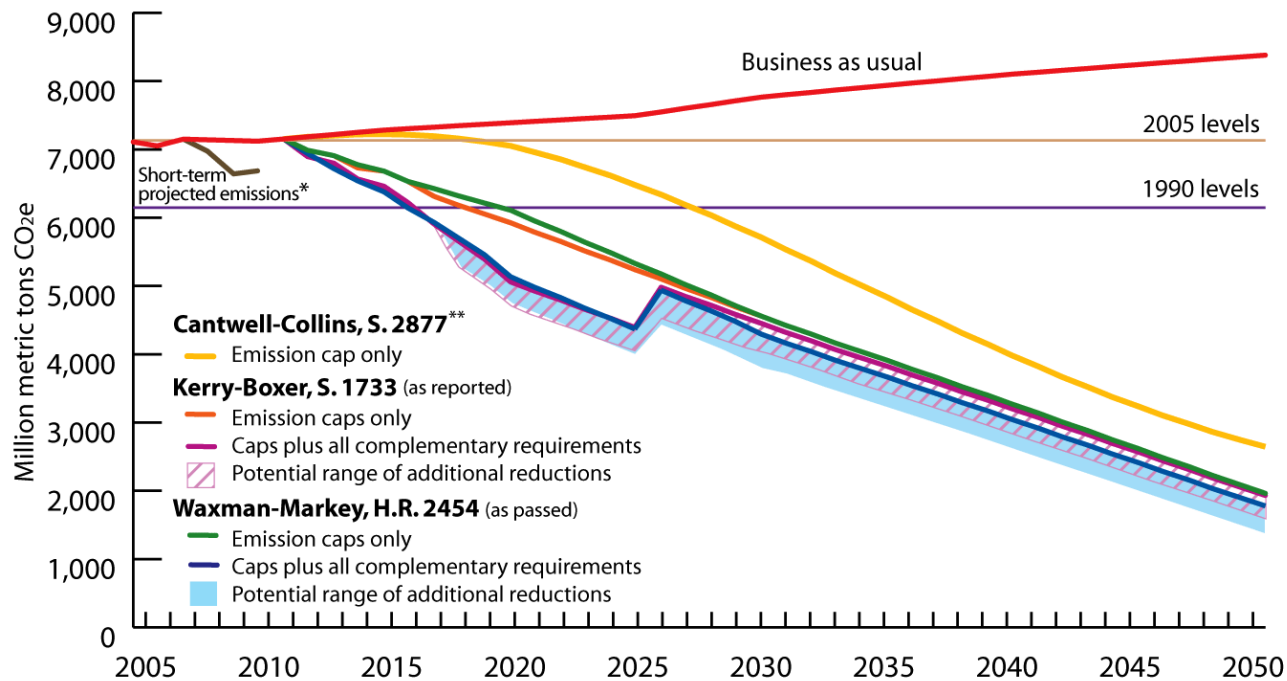
# GHG Legislation

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- Regulations to reduce emissions of covered sources to
  - 97% of 2005 levels by 2012
  - 80% of 2005 levels by 2020
  - 58% of 2005 levels by 2030
  - 17% of 2005 levels by 2050

# Net Emission Reductions Under Congress Cap-and-Trade Proposals

Net Emission Reductions Under Cap-and-Trade Proposals in the 111th Congress, 2005-2050  
December 17, 2009



# GHG Legislation

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- Allows allowance trading (no restrictions, foreign allowances)
- Unlimited banking of allowances
- May borrow a percentage of future allowances
- Strategic reserve allows government to withhold of allowances and auction them off quarterly
- No state action; no regulation under Title V, NSR

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- Aim of legislation is to reduce average 5.5 tons of carbon per person to 0.63 tons per person

# What Would It Take to Achieve these Reductions by 2050?

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- To achieve these reductions, the U.S. would have to:
  - Add 30,000 megawatts of new wind turbines every year
  - Add 35,000 megawatts of solar photovoltaic capacity every year
  - Multiply the nuclear reactor fleet by fivefold
  - Retrofit all existing coal-fired power plants with carbon capture and storage technology
  - Build twice as many new plants with carbon capture and storage technology
  - Substitute natural gas for coal
  - Require 2/3 of cars and trucks to be electricity powered and 1/3 run on advanced biofuels

# The Copenhagen Accord - Toothful or Toothless?

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- Developed countries agree to provide quantified emission targets for 2020 by January 31, 2010
- Developing countries agree to provide voluntary mitigation actions by January 31, 2010 – No cap
- Developed countries agree to create a fund of 100 billion dollars a year by 2020 to address needs of developing countries

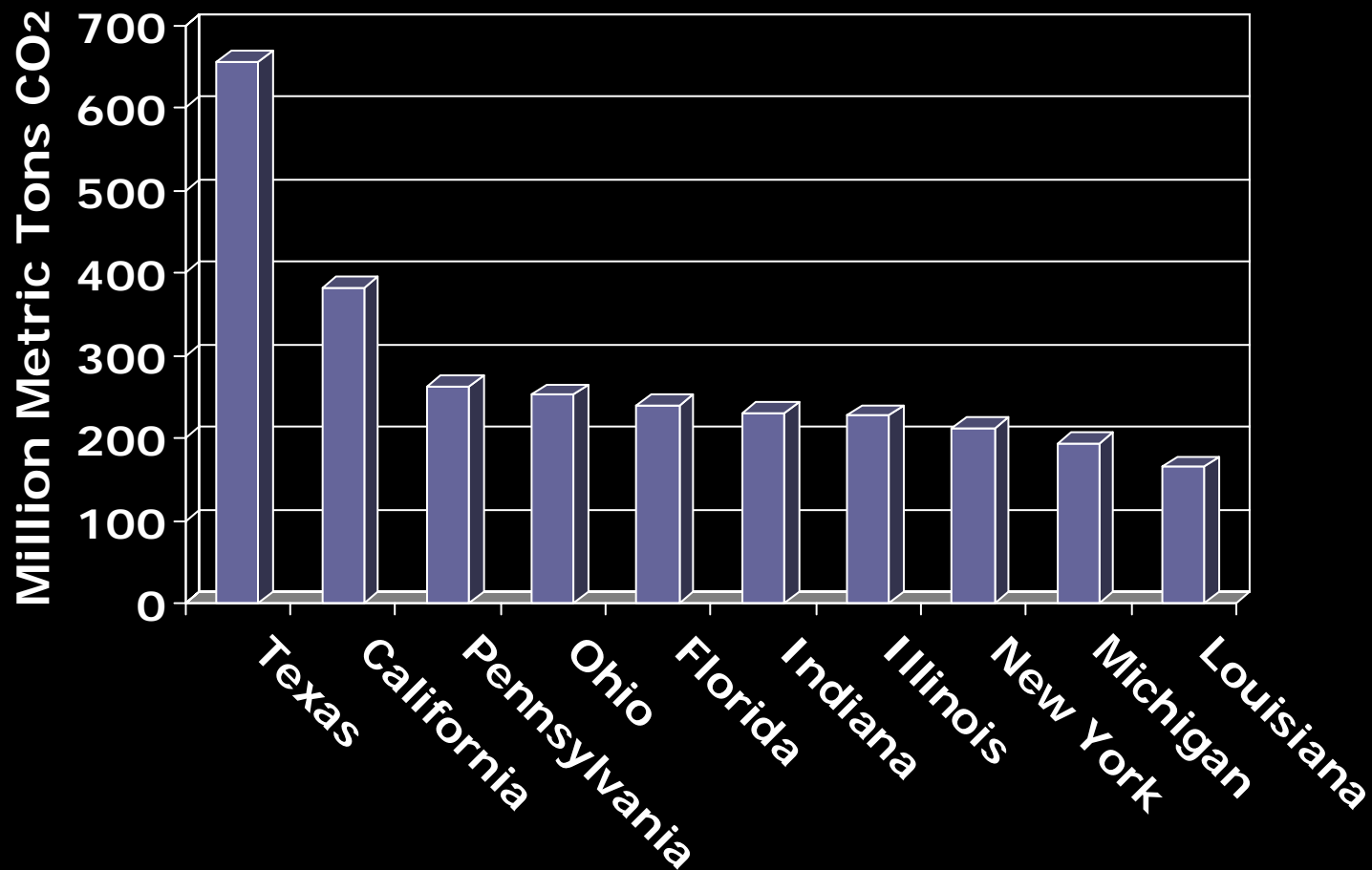
# China – Reduce Rate of Growth of Emissions

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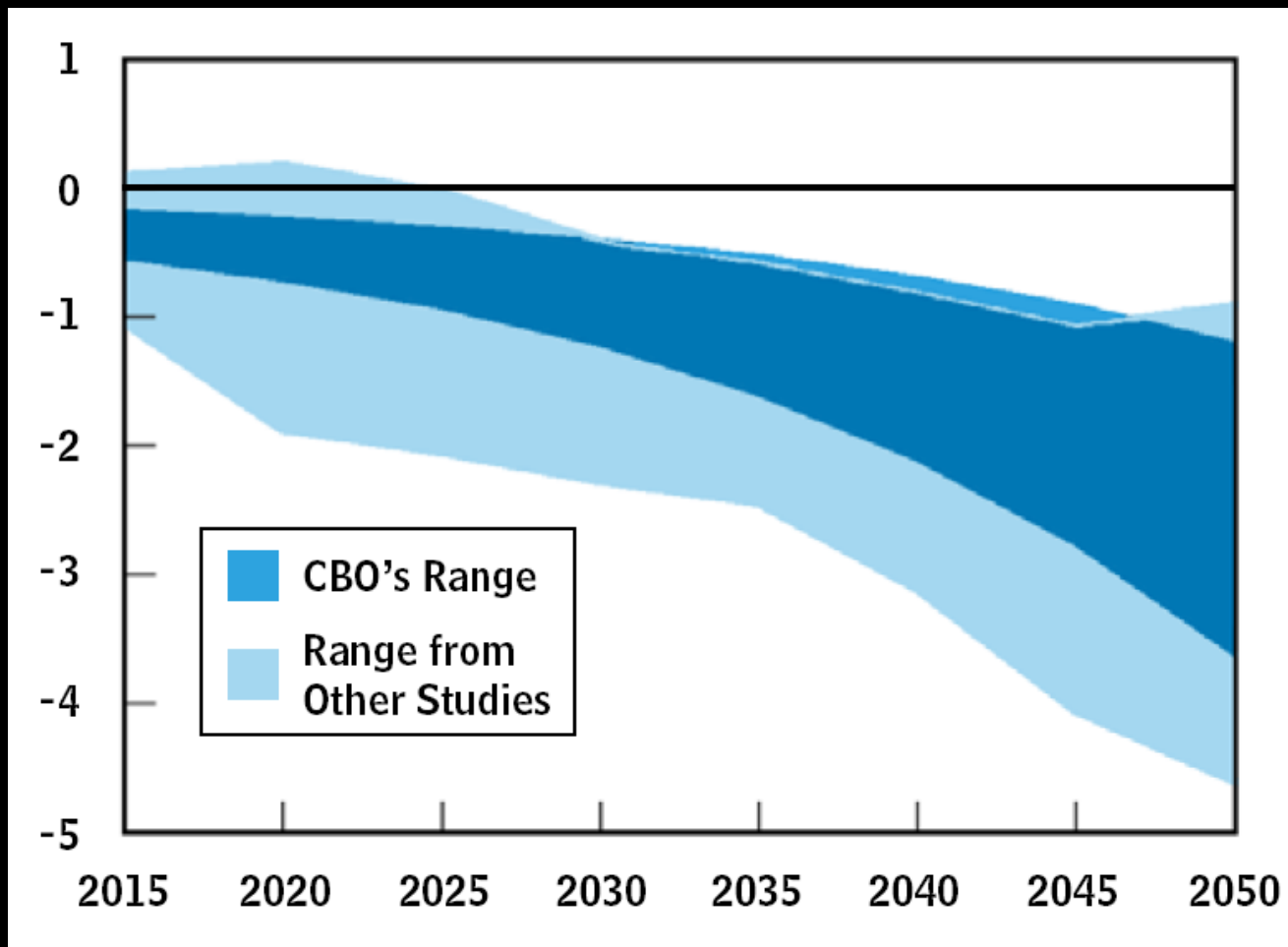
- China's approach:
  - Economy-wide energy efficiency targets that mandate a reduction in energy intensity
  - Renewable energy law mandates 16% of energy from wind, biomass, solar, and hydro-power energy by 2020
  - Promotes nuclear power
  - Improve power sector energy efficiency
  - National building codes
  - Appliance efficiency standards
  - Fuel economy standards and motor vehicle taxes
  - Close inefficient industrial facilities



# Top Ten CO2 Emitting States



# GHG Legislation Impact on the U.S. GDP



Congressional  
Budget Office  
(Nov. 2009),  
The Cost of  
Reducing  
Greenhouse-Gas  
Emissions.

# Conclusions

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- Massachusetts v. EPA opened the door to regulating GHG emissions under the Clean Air Act
- The current Administration and Congress are moving forward through various rulemakings and legislation to regulate GHG emissions
- These regulations and laws will have an economic impact on the U.S. and will be more detrimental in states that heavily rely on coal-fired power plants for electricity
- Stay tuned after Massachusetts election!