



Climate Change and Port Authorities

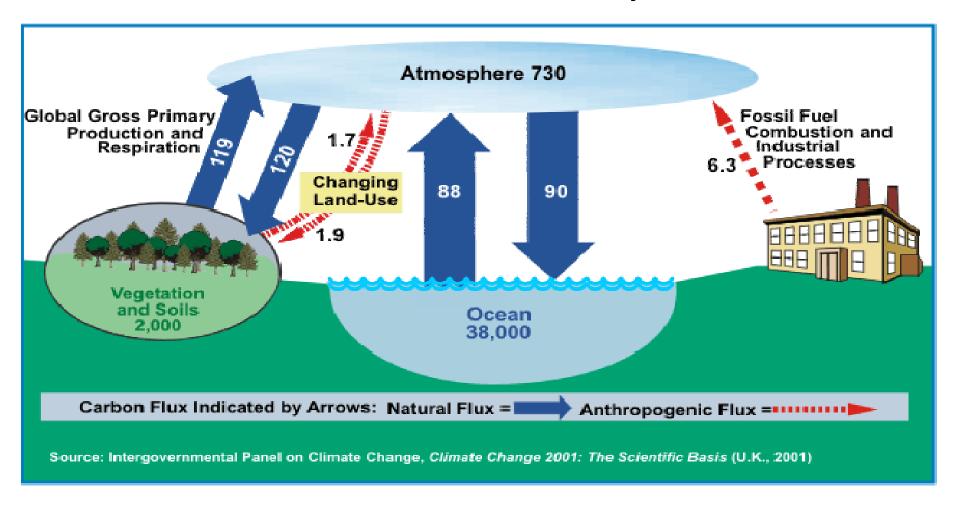
November 2008

AAPA Climate Change Workshop





Global Carbon Cycle (Billion Metric Tons Carbon)





U.S. Federal Legislation

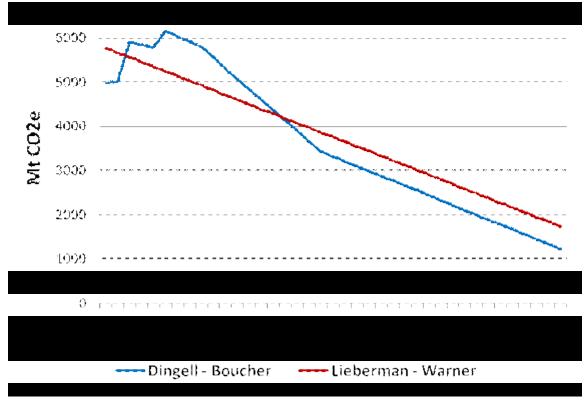
- Discussion and debate about GHG legislation and programs was at an all-time high in 2008 and consensus is building on how carbon should be regulated
 - Both the Lieberman-Warner (LW) and Dingell-Boucher (DB) bills outlining cap-and-trade programs were released in 2008
 - The Dingell-Boucher bill will provide a starting place for a draft bill in the next Congress
 - The EPA released its Advanced Notice for Proposed Rulemaking (ANPR), which would regulated GHGs under the Clean Air Act in the absence of federal legislation
- Some rhetoric around a disaggregated approach to GHG legislation
 - A power sector bill only + National RPS is possible
- > 2010 may be optimistic for a GHG bill given state of the economy, unless
 - State programs are in danger of starting companies want a centralized approach
 - > EPA's ANPR moves forward, forcing Congress to attempt action before implementation
 - Congress can successfully frame the bill as dealing with energy security and creating domestic jobs (Obama and the Democrats have already started to do this)
 - International negotiations for post-Kyoto serve to propel discussion forward



Dingell Boucher Overview

This bill seeks to reduce GHG emissions to 6% below 2005 levels by 2020 and 80% below 2005 levels by 2050

- Many sectors across the economy are regulated, either categorically or by emissions level
- Proposes multiple options for allocating versus auctioning allowances
 - All options phase in more auctioning relative to free allocations over time and all options auction 100% of allowances post-2025
- Offsets allowed
 - > Ranging from 5% to 35% over time
 - > International offsets allowed



Reduction Schedule

No safety valve as discussed in the bill, but a Strategic Reserve Auction Pool would be limited to compliance entities and allowances would have floor of between \$20 - \$30 in the initial years

Dingell and Boucher Discussion Draft (Oct. 7, 2008)

- Amends the Clean Air Act
 - Title VII, "Greenhouse Gas Cap and Trade Program"
 - Title VIII, "Greenhouse Gas Standards"
 - Excludes GHGs from most other CAA regulation
- Cap and trade program covering 88% of US GHG emissions
 - All electricity generators
 - Entities emitting greater than 25K tons CO2e
 - Industrial operations
 - Fuel producers, importers, and distributors
 - Geological sequestration sites
 - Smaller GHG producing entities are covered by industry specific standards



Emission Caps

- 6% below 2005 levels by 2020
- 44% below 2005 levels by 2030
- 80% below 2005 levels by 2050

Allowance Allocation

- Initially distributed on percentage basis to covered sectors and specific complementary programs (i.e. energy efficiency, clean technology, economic support)
- Allowances distributed to programs will be auctioned
 - Auction proceeds used to support that specific program
- Discussion draft contains 4 options for allowance distribution



Option 1

Heavy initial distribution to covered sectors

Option 2

- Fewer allowances distributed to covered sectors percentage decreasing over time
- More allowances distributed to complementary programs

Option 3

• Similar to option two, but with additional allowance distributions to adaptation and international programs

Option 4

- 100% initial distribution to complementary programs
- A majority of allowances distributed to programs designed to provide economic support to consumers



Energy Efficiency and Clean Technology

- Several provisions encourage state initiated energy efficiency
 - Improvement in building codes 30% by 2010 & 50% by 2020
 - Encouragement of CCS implementation and renewable energy sources

New coal fired power plants

- Specific performance standards
- CCS requirements within timeframe based on commercial availability

Offset Credits

- May be used to cover compliance obligations
 - Up to 5% for 2013-17, then up to 35% by 2024
- International and domestic credits may be used



Freight Sector Efficiency Technologies and Strategies Program

• This section allows a state to provide assistance from its SEED Fund to a private or public entity for the installation of, or to finance the installation of, energy-efficient technologies certified by the EPA's Smart Way program and to promote heavy-duty vehicle energy efficiency technologies.

Support in the House for Climate Change Bill is likely to be strong

• Oct. 2 More than 150 members of Congress signed a letter stating that a comprehensive climate change bill should be economy wide and use an emissions trading scheme to cut GHG emission 80% below 1990 levels by 2050.



Federal Program: Regulated Entities

> Petrochemical Plants

- Dingell Boucher: Categorically regulates plants that produce acrylonitrile, carbon black, ethylene, ethylene dichloride, ethylene oxide, and methanol
- ➤ Lieberman Warner: Plants would be regulated if using more than 5,000 tons of coal per year

> Industrial Stationary Sources

- Dingell Boucher
 - Categorically regulates chosen sectors such as adipic acid, primary aluminum, ammonia, cement, HFC, lime, nitric acid, petroleum refining, phosphoric acid, silicon carbide, soda ash, and titanium dioxide
 - > Source emissions or downstream emissions > 25,000 tons CO2e per year
 - Sectors: Ethanol, ferroalloy, food processing, glass, hydrogen, iron and steel, lead, pulp and paper, zinc, and others unmentioned
- Lieberman Warner
 - > If the plant uses more than 5,000 tons of coal per year

> Refiners and Fuel Importers

- Dingell Boucher: If providing interstate markets with petroleum-based or coal-based liquid fuels and source or downstream emissions exceed 25,000 tons CO2e per year
- Lieberman Warner: Any entity that manufactures or imports into the U.S. petr liquid or gaseous fuel, petroleum coke, or coal-based liquid or gaseous fuel



EPA's GHG ANPR and Port-Related Concerns

- Use of the Current SIP Process to Address Greenhouse Gas Emissions from the Port/Maritime Sector
- Marine vessel approach should be through the IMO
 - Approximately 91% of all the vessels calling on the Port of Houston for example are foreign flagged
- Shore power raised in ANPR—probably best implemented internationally if mandatory
- If CAA is used to regulate offroad sources, traditional engine/fuel standards are preferable to use-restrictions or a more administratively cumbersome hybrid approach
- Preemption is key to administrative efficiency



IMO Efforts

- IMO estimates that international shipping contributes approximately 2.7 percent of global CO2 emissions.
- In the absence of future regulations, IMO predicts that CO2 emissions from shipping will increase by as much as a factor of three by 2050.
- IMO's Marine Environmental Protection Committee met recently to discuss the development of new technical and operational measures to reduce emissions, including:
 - Development of design and operational measures to increase energy efficiency for new ships
 - Efficiency management plan for ships
 - Voluntary code of best practice to increase energy efficiency of ship operations.
- MEPC also approved draft interim guidelines for calculating the energy efficiency of new ships.



Other GHG Issues for Port Authorities to Watch, Consider, and Potentially Act Upon

- Marine Vessel and Offroad Rule Petitions
- EPA's emission inventory requirements
- State developments—especially those in California
- Litigation
- Federal legislation on Cap & Trade
 - Preemption discussions
 - Potential direct inclusion of marine vessels/port operations
- Federal legislation to regulate ship emissions Boxer
- Critical that Port Authorities place pressure on Federal Government to work through IMO (similarly, critical for Port Authorities to place pressure on IMO to present the pressure of IMO to present the present that Port Authorities to place pressure on IMO to present the present that Port Authorities to place pressure on IMO to present the present that Port Authorities place pressure on Federal Government to work through IMO (similarly, critical for Port Authorities to place pressure on IMO to present the present that Port Authorities to place pressure on IMO to present the present that Port Authorities to place pressure on IMO to present the present that Port Authorities to place pressure on IMO to present the present that Port Authorities to place pressure on IMO to present the present that Port Authorities to place pressure on IMO to present the present that Port Authorities to place pressure on IMO to present the present that Port Authorities to place pressure on IMO to present the present that Port Authorities to place pressure on IMO to present the present that Port Authorities to place pressure on IMO to present the present the present that Port Authorities the present that Port Authorities the present the present that Port Authorities the present that Port Authorities the present the present that Port Authorities the Port Authorities the present that Port Authorities the Port Authorities

Big Picture U.S. Considerations Going Forward

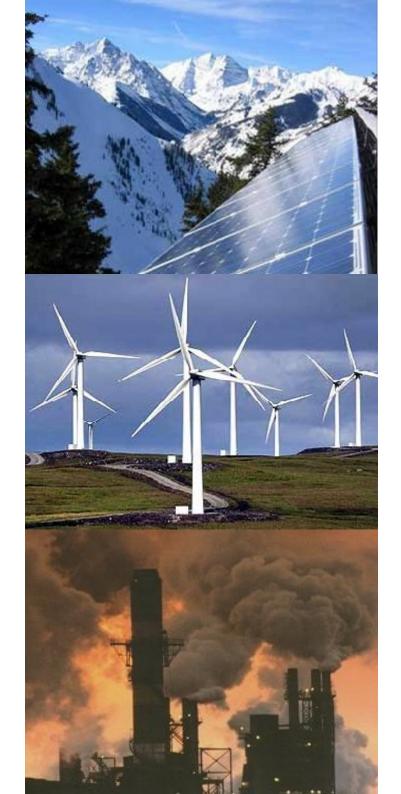
> Future of carbon legislation is hard to ascertain – strong leadership from the next president will likely determine where legislation and federal markets will go

Obama's plan

- 2050 target: 80% below 1990 levels
- 100% allowances auctioned
- Auction proceeds to be used to fund clean technologies, energy efficiency and workers compensation
- Limited use of offsets
- Addresses deforestation
- Co-sponsored Boxer-Sanders bill

- > The regional and voluntary markets are already underway, with no signs of slowing down
- The voluntary markets for carbon are seeing strong growth





Proactive GHG Measures for Ports to Consider

- Energy Efficiency Measures
- CHP
- Emissions Inventories
- Renewable Energy Opportunities
- Efficiencies in Goods Movement

