Climate Change: Federal Legislation Western Climate Initiative

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Overview

- Potential timing and form of federal GHG legislation
- Potential impacts on hydropower
  - Market impacts
    - Higher prices for fossil fuel-fired generation
  - Allowance impacts
    - On the basis of load
  - Funding impacts
    - For new zero-carbon generation
- Western Climate Initiative -- Draft Recommendations

Emerging Federal Legislation

- Question has shifted from *if* to *when* and *how*
- Drivers
  - Science
  - Public opinion
  - Democratic takeover of Congress
  - Supreme Court decision in *Massachusetts v. EPA*
  - State and regional action
- Possible timing
  - Enactment: 2009, 2010, 2011
  - Effective date: 2012, 2013, 2014

Status of Legislation

- House of Representatives
  - Focal point
    - Energy and Commerce Committee
      - Chairman John Dingell
    - Air Quality and Energy Subcommittee
      - Chairman Rick Boucher
- Senate
  - Lieberman-Warner Climate Security Act of 2007 [2008?]
    - Reported out of the Environment & Public Works Committee in December 2007
    - Boxer Substitute Amendment May 21, 2008
    - Possible Senate vote in June
    - ***Not clear that it will pass, but L/W as revised in the Boxer substitute is current template for consideration.***

Cap-and-Trade Basics

- Set a cap on emissions for group of sources
  - Can decline over time
- Distribute allowances equal to the cap
  - Each allowance equals a right to emit one ton
- Sources must submit allowances for their emissions
- Sources can buy and sell allowances
  - High cost sources buy allowances from low cost sources
  - Cap is met through lowest-cost combination of actions

Design of Lieberman-Warner

- Cap-and-trade with annually declining cap
  - 2012 = 2005 level of emissions
  - 2020 = 1990 level of emissions
  - 2050 = 70% below 2005 level of emissions
- Points of regulation
  - Consumers of coal (submit allowances for direct CO_2 emissions)
  - Natural gas processors and importers (submit allowances for CO_2 emissions imputed to use of product)
  - Petroleum refiners (submit allowances for CO_2 emissions imputed to use of product)
  - Sources and producers of non-CO_2 gases
  - ***No allowance submission requirements for hydropower***
- Distribution of allowances
  - Mix of auction / free allocation
- Trade sanctions for imports from uncapped countries

Cost Containment Under Lieberman-Warner

- Trading of allowances
  - Banking
  - Borrowing
- Limited credit for pre-program emission reductions
- Ability to use "offsets" for compliance
  - Emission reduction projects at sources not reached by the cap
    - Can use reductions from domestic projects to meet up to 15% of compliance obligation
      - Under Lieberman-Warner definition, hydropower capacity additions would not generate offset allowances
    - Can use international allowances to meet up to 15% of compliance obligation
- Carbon Market Efficiency Board
  - Can intervene if allowance prices turn out to be higher than expected

Impacts of Lieberman-Warner on Electric Power Sector

- DOE EIA study of Lieberman-Warner
  - Allowance Prices estimated between
    - \$30 to \$76/tonCO_2e in 2020
    - \$61 to \$156/tonCO_2e in 2030
  - Electricity prices
    - 5% to 27% higher than the reference case in 2020
    - 11% to 64% higher than the reference case in 2030
  - Average annual household energy bill, excluding transportation
    - \$30 to \$325 higher than the reference case in 2020
    - \$76 to \$723 higher than the reference case in 2030

Allowance distribution

- The $120 billion question
  - Assume approx. 6 billion tons at approx. $20/ton
- "Old school"
  - Acid Rain program
    - Distribute ~ 90% of allowances for free to regulated generators
- "New School"
  - Emphasis on auction
    - Phase-down free allocation in favor of auction over time
  - Use of allowances like money
    - Transitioning fossil generators
    - Promotion of clean energy
    - Moderate impacts on rate payers

Allowance Allocations in Lieberman-Warner Proposal

- 2012 – 73.5% Allocation and 26.5% Auction
- 2030 – 30.5% Allocation and 69.5% Auction
  - Allowances Allocated to
    - Electric Power Generators
    - Geologic Carbon Sequestration
    - Rural Electric Coops
    - Natural Gas Distributors
    - States
    - Manufacturers
    - US Farmers & Foresters
    - Landfills/Coal Mines
  - Auction Proceeds to
    - Energy Technology Deployment
    - National Security Program
    - Worker Training
    - Energy Assistance
    - Wildlife Adaptation

Fine Print on Lieberman-Warner
Power Sector Allocations

- Fossil-fired generators receive a 20% allocation that declines to zero in 2031
  - Rural electric coops are **first in line** to receive allowances, specifically a 1% allocation with a special set aside for Virginia and Montana coops
  - New entrants (including coops) are **second in line** to receive allowances based on a national CO_2 rate achieved by all fossil-fired generators during 5-year period
  - Existing generators (including coops) **are last in** line to receive allowances based on historic CO_2 emissions achieved during 3-year period
  - ***Hydropower does not qualify***
- Load-serving entities (LSEs) receive a permanent 9% allocation (revised and possibly eliminated in Boxer substitute)
  - Allocation is based on electricity delivered (similar to output standard)
  - Allowances must be used to mitigate rate impacts for low- and middle-income consumers or promote energy efficiency among consumers.
  - ***Hydropower might qualify***

Subsidies for Zero/Low-Carbon Energy Technology

- Climate Change Credit Corporation receives and distributes allowance auction revenues
- Share of revenues for "production of electricity from new zero- or low-carbon generation"
  - Defined as a unit placed into service after enactment of the Act
    - ***Appears to exclude capacity additions at existing units***
- Award is a contract to provide annual production payment for first 10 years of service
  - Based on competitive bidding process / reverse auction

Western Climate Initiative

- Established in February 2007 by 5 State Governors
- Partners
  - Arizona, California, New Mexico, Oregon, Washington
  - Montana, Utah, British Columbia, Manitoba, Quebec
- Observers
  - Alaska, Colorado, Idaho, Kansas, Nevada, Wyoming
  - Ontario and Saskatchewan
  - Baja California, Chihuahua, Coahuila, Nuevo Leon, Sonora, and Tamaulipas

Western Climate Initiative

- Specific Directives
  - Set a regional emissions reduction goal
    - 15% below 2005 by 2020
  - Join a multi-state registry to track, manage and credit reductions
    - The Climate Registry
  - Design a regional multi-sector market-based mechanism
- Joint Work
  - Promote clean and renewable energy in the region
  - Increase energy efficiency
  - Advocate for regional and national climate policies that are in the interest of western states
  - Identify measures to adapt to climate change impact

WCI Draft Recommendations

- Regional Cap-and-Trade Program
  - Reporting
  - Scope
  - Electricity
  - Allocations
  - Offsets
  - Regional Organization
- Workshop May 21
- Comments due June 6

WCI Draft Recommendations Regional Cap-and-Trade

- Reporting - - robust and transparent
  - Capped sectors at the outset, non-capped sectors may be phased in later
- Scope:
  - First round: Industrial and Commercial Sources
    - Electricity sector
    - Large stationary combustion sources
    - Industrial processes and waste management emissions
    - Fossil fuel production and processing
    - Threshold – 90% of non-power plant sources
  - To be added in later rounds
    - Transportation Fuels
    - Residential and Commercial Fuel Combustion

WCI Draft Recommendations Regional Cap-and-Trade

- Electricity – point of regulation
  - Maximize coverage and minimize emissions leakage
  - Generator-based approach is preferred
- Allocations – regional cap that declines over time
  - Each Partner has an allowance budget within the cap
  - Partners distribute their allowances, no regional organization
  - Set a minimum auction amount (25 to 75%) and Partners have flexibility to issue remaining allowances
  - Phased increased use of auction

WCI Draft Recommendations Regional Cap-and-Trade

- Offsets
  - Reduce compliance costs for the cap-and-trade system
  - Offer greater environmental benefits
  - Encourage innovation, co-benefits and GHG emission reductions from sources that are not covered
- Regional Organization
  - Coordinate Partner activities and improve efficiency by centralizing administrative tasks
  - Continuing to identify suitable roles

Questions?

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- Tracking Climate Developments
  - Van Ness Feldman publishes a weekly Climate Change Update, available at www.vnf.com.