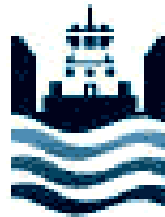


Federal Cap & Trade 101



WATERWAYS
COUNCIL, INC.

Overview

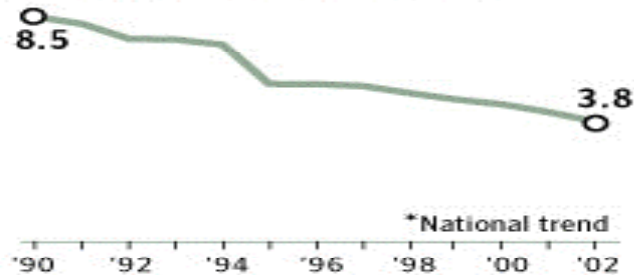
- I. How Does Cap & Trade Work?
- II. House Climate Change Legislation
- III. Senate Climate Change Legislation
- IV. EPA Regulatory Process
- V. Conclusion

Cap and Trade: Past & Present

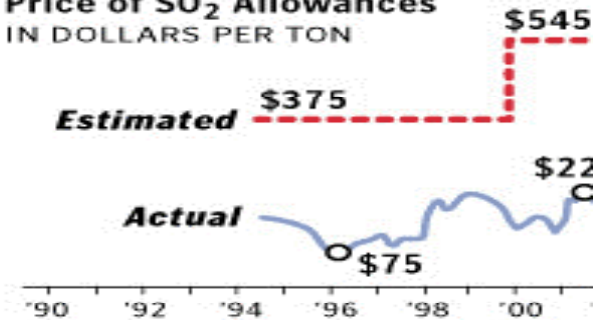
The Sulfur Dioxide Success Story

The cap-and-trade system developed under the 1990 Clean Air Act Amendments effectively reduced emissions of SO₂, which contributes to acid rain. Initial estimates for the market prices of SO₂ allowances were much higher than actual costs.

Sulfur Dioxide Concentration
IN PARTS PER BILLION IN AIR

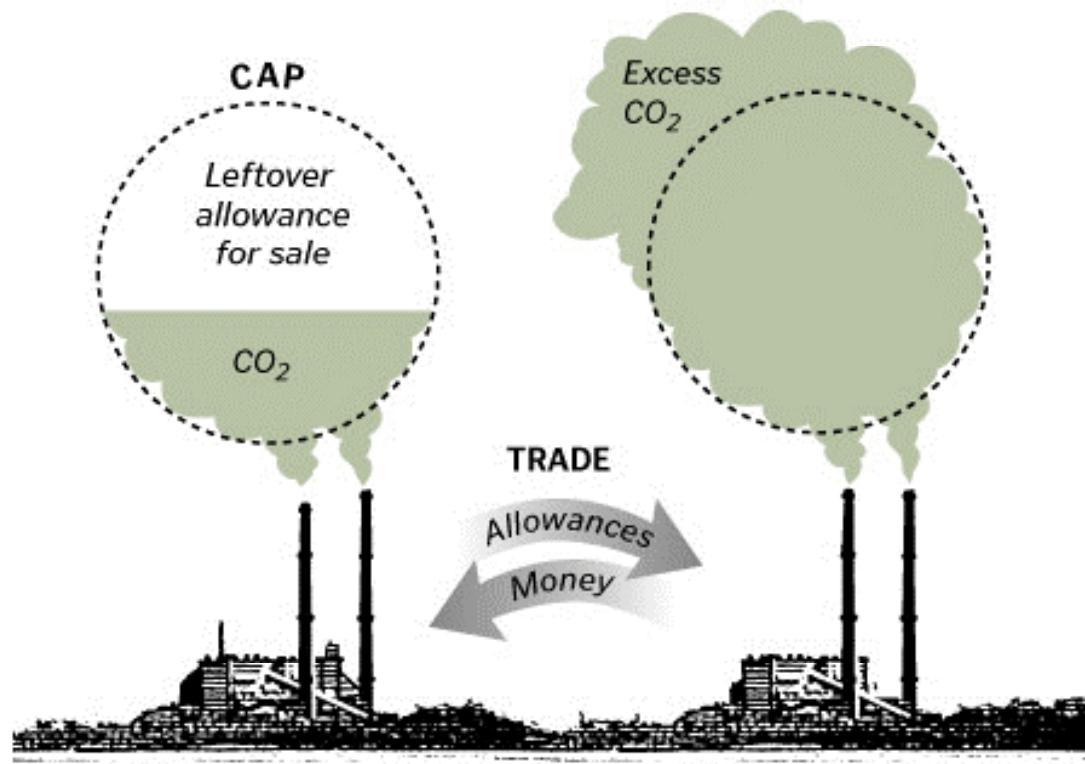


Price of SO₂ Allowances
IN DOLLARS PER TON



- The 1990 Clean Air Act focused on air quality, the health effects from acid rain, and enacted new emission standards.
- Current cap and trade not only focuses on greater pollution reduction, but it is a complete overhaul of how energy is consumed in the U.S. There is an emphasis on transitioning to renewable energy, job creation, investment, and energy independence.

- Industries would annually be allowed to emit a certain amount of CO₂.
- Plants that emitted less than the cap would be able to sell their leftover allowances to industries that exceed caps.
- The government would gain revenue by auctioning allowances permitting industries to discharge a set amount of greenhouse gases.



Innovative companies that develop ways to reduce emissions earn income by selling unneeded allowances.

Economic pressure encourages companies that exceed caps to find ways to cut emissions.

Approaches to Carbon Control

1. Legislative - Congress: Market Based System

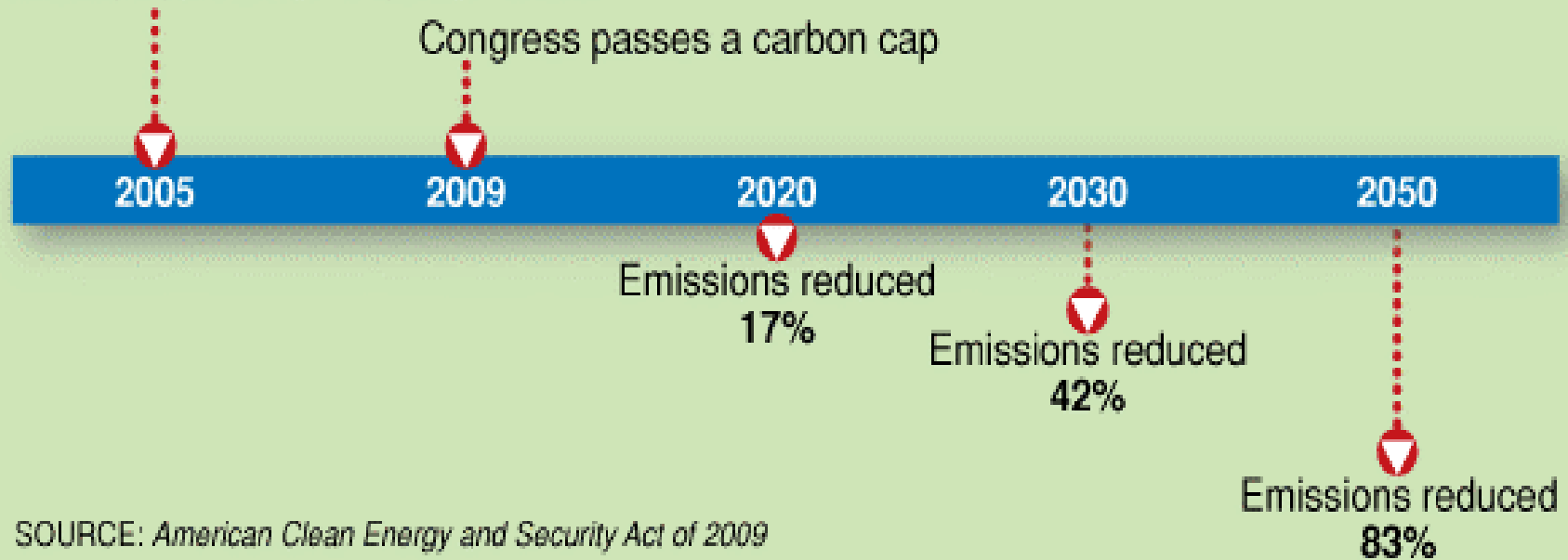
- Focus has been on cap and trade, but carbon tax is favored by some
- Impose industry-wide restrictions on greenhouse gasses (GHG's)
- Should be comprehensive and preempt Clean Air Act command and control approach

2. Regulatory – EPA: Command & Control

- Adapt existing Clean Air Act provisions to regulate energy use
- Micro-sector-specific approaches
- Control energy by requiring technology redesign and workplace standards
- *Argument Against* - Will lead to unintended consequences under Clean Air Act

CARBON CAP TIMELINE

Baseline for carbon emission levels



SOURCE: *American Clean Energy and Security Act of 2009*

House Climate Change Legislation

American Clean Energy & Security Act

- H.R. 2454 - Co-Sponsors: Rep. Henry Waxman & Rep. Edward Markey
- **May 21, 2009:** Passed by the House Energy & Commerce Committee
- **June 26, 2009:** Passed by the full House 219-212
 - Yes: 211 Democrats; 8 Republicans
 - No: 168 Republicans; 44 Democrats
 - Not Voting: 2 Republicans; 1 Democrat
- This bill focuses on climate change, energy independence, and transitioning to a clean energy economy.

Notable House Provisions

Carbon Capture:

- Sets up a \$1 billion annual funding mechanism to aid utility deployment of Carbon Capture and Storage (CCS). Utilities would create and pay into a new Carbon Storage Research Corporation, and would be authorized to recover costs from ratepayers. Payments into the fund would be based on amount of coal-, gas- and oil-fired power.
- Amends Clean Air Act to require carbon dioxide performance standard for new coal-fired power plants. Applies to new plants permitted after 2020, which would have to meet at least a 65 percent reduction. Also creates a 50 percent capture standard that plants permitted after Jan. 1, 2009, would have to meet by 2025.

Notable House Provisions

Renewable Electricity & Efficiency Standard

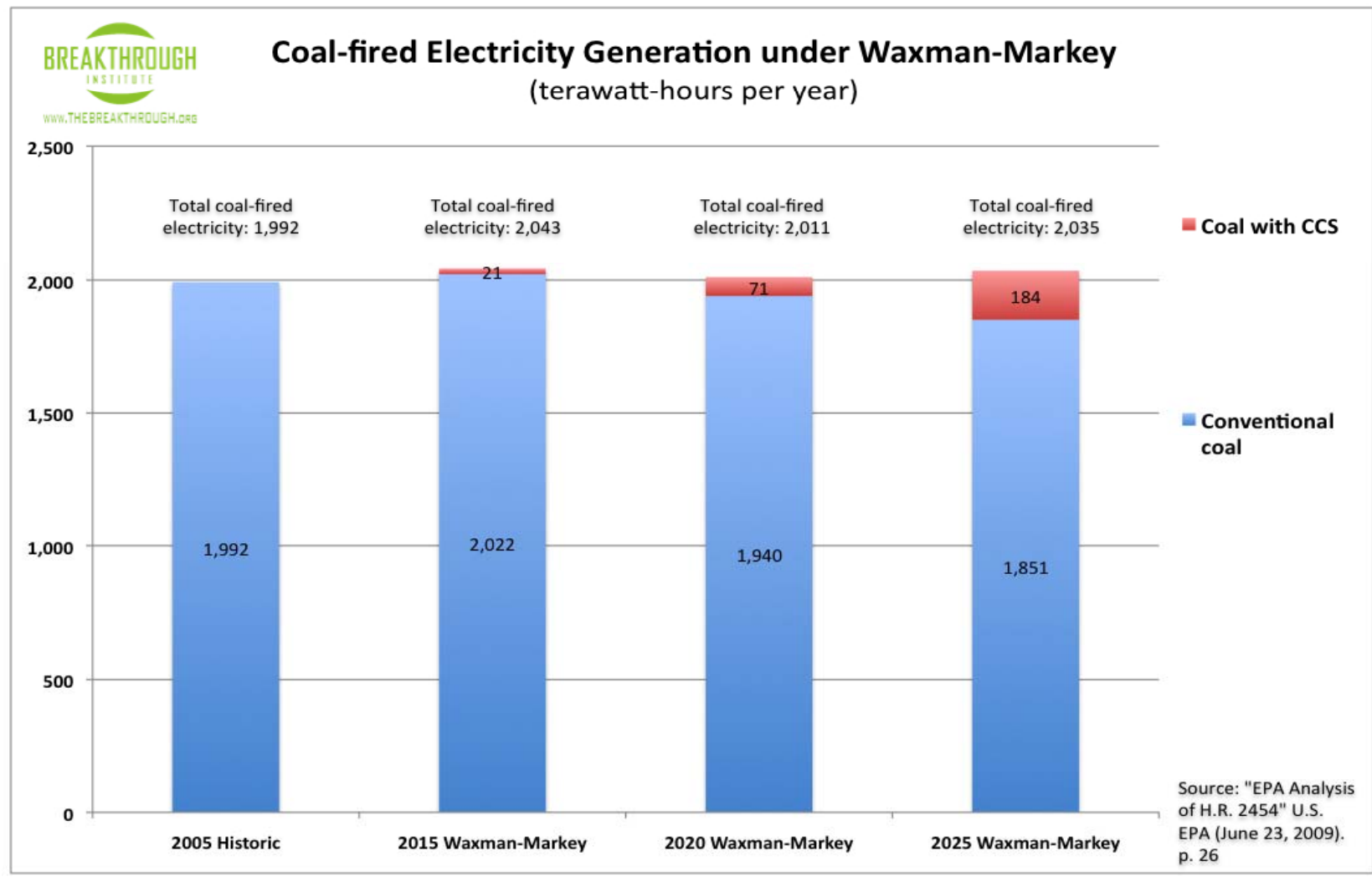
- Sets a combined 20 percent renewable electricity and efficiency standard by 2020 overseen by the Federal Energy Regulatory Commission.
- Requires utilities to supply 15 percent of their power sales from qualified renewable sources of electricity by 2020. Requires 5 percent energy savings through efficiency measures. Applies to utilities with at least 4,000 megawatts of annual sales.
- Qualified renewable sources are wind, solar, geothermal, biomass, biogas, biofuels, increased hydropower capacity since 1992, waste-to-energy, landfill gas, wastewater treatment gas, coal mine methane used to create power at or near the mine mouth, marine renewables such as wave and tidal power.

Notable House Provisions

Renewable Electricity & Efficiency Standard

- EPA projects a modest (3%) increase in total annual electricity generation from renewable sources in 2025 despite the decrease in new cumulative renewable energy capacity additions, as the result of “greater reliance on biomass co-firing at existing coal plants.”
- While biomass fuels reduces carbon emissions it may also extend the profitable life of aging conventional coal-fired power plants.
- Electricity generation from conventional coal-fired power plants (without carbon capture and sequestration) will be slightly higher in 2015 under the Waxman-Markey bill than in 2005 and will remain roughly constant through 2020.
- By 2025, conventional coal-fired power plants will be just a few percentage points lower than 2005 levels. After including EPA’s projections for new coal plants with CCS technology, electricity generation from coal actually *increases* between 2005 and 2025 under the Waxman-Markey bill. (See Graph on next page).

Coal-fired Electricity Generation Under House Bill (Terawatt-hours per year)



Senate Legislation: Energy & Natural Resources Committee

American Clean Energy Leadership Act

- **June 17, 2009:** The Senate Committee on Energy & Natural Resources voted 15 to 8 to approve the ACELA.
- Based on 6 major bills with bipartisan sponsorship, and 5 other bills with either Republican or Democratic sponsorship.
- Primarily focuses on financing clean energy technologies, energy efficiency, and energy independence. Require electric utilities nationwide to meet 15% of their electricity sales through renewable sources
- Leader Harry Reid's preference is to combine the ACLA with a climate change bill, and then forward the Senate package to the House for conference.

Senate Climate Change Legislation: Environment & Public Works Committee

The Clean Energy Jobs & American Power Act

- S. 1733 – Co-Sponsors: John Kerry (D-MA) and Barbara Boxer (D-CA)
- **September 30, 2009:** Introduced and referred to the Environment & Public Works (EPW) Committee.
- **October 2009:** EPW Committee Chair Barbara Boxer is set to preside over hearings on the bill.
- **October/November 2009:** Markup on the bill is expected.
- **January/February 2010:** Target for the full Senate to vote on the bill.
- Overall this bill will seek to cut carbon dioxide emissions by 20% from 2005 levels by 2020, and 83% by 2050.

Notable Senate Provisions

Coal:

- \$10 billion over ten years for R & D of new carbon capture and sequestration technology to advance next generation of coal fired power plants.
- Additional funding to reward first-movers who implement carbon capture and sequestration technology on new or retrofitted plants – higher level of capture = greater level of funding.
- Performance standards for Coal Fueled Power Plants

Natural Gas/Nuclear Energy: Provisions are in place to include new incentives, but specific allocations are to be determined.

Committees of Jurisdiction

Six committees will participate in crafting the final bill:

- Agriculture
- Commerce
- Energy & Natural Resources
- Environment & Public Works
- Finance
- Foreign Relations

House & Senate Differences

Carbon Dioxide Emissions:

- *Senate* – 20% cut from 2005 levels by 2020
- *House* – 17% cut from 2005 levels by 2020

Allocations/Allowances:

- *Senate* – Allocation specifics are TBD
- *House* – Outlines specifics for electric utilities, energy-intensive industries, natural gas, oil refiners, and the states.

EPA Authority:

- *Senate* – Wider authority to set limits on GHG's even if a federal cap & trade plan takes effect.
- *House* – Firm boundaries on EPA authority. Restrictions from regulating GHG under the Clean Air Act are kept in place.

Goals for Copenhagen

- U.N. Climate Change Conference to convene on December 7th.
- The purpose is to strike a new pact to reduce global CO2 emissions by 25%-40% over 2005 levels by 2020.
- The Obama Administration's original goal was to have Congress pass a new Cap & Trade bill prior to the conference.
- New goal is for at least the Senate to be through the markup process.
- The administration announced plans in early October for new rules regulating GHG's from large factories. This gesture is intended to signal the U.S.'s commitment to cutting CO2 emissions, which could be crucial to the Conference's success.

EPA Regulatory Process

- EPA intends to enact first GHG rules in March 2010.
- First GHG rules apply to cars and light duty trucks, but trigger regulation for almost all sectors.
- Currently laying regulatory foundation for Clean Air Act regulation.
- Mandatory GHG reporting rule to take effect January 1, 2010.

Timeline:

GHG Command & Control Rule

- **June 23, 2009:** Close of comment period on endangerment finding
- **September 2009:** Section 202 proposal for GHG rule for cars and light duty trucks released
- **September 2009:** Proposal to increase PSD threshold to GHG's to 25,000 tons/year CO₂
- **January 1, 2010:** Mandatory GHG reporting rule takes effect
- **March 2010:** Final endangerment determination
 - Final 202 Rule for cars/light duty trucks
 - Final PSD threshold rule

Effects of a Final Rule

1. Final endangerment determination will satisfy other Clean Air Act provisions including:
 - **Mobile Sources** – Section 213 (Marine Shipping Vessels/Non-road Vehicles)
 - Section 213 of the 1990 Clean Air Act created a mandatory duty for the EPA to regulate large ocean going marine vessels, also known as “Category 3” vessels.
 - **Stationary Sources** – Sec. 111 New Source Performance Standard (NSPS)
 - EPA would use NSPS to regulate energy efficiency for different sources
 - NSPS for Electric Generating Units is likely the highest priority
 - NSPS for Industrial Boilers could be path to regulate manufacturing sector
 - NSPS applies to new and existing permits at time of proposal unless under continuous construction

Effects of a Final Rule

2. Final endangerment determination will trigger mandatory duty to regulate many sources
 - Many provisions say EPA “shall regulate” once endangerment
3. Final GHG rule will trigger permitting requirements for 1 million+ sources under PSD program:
 - EPA likely to raise threshold from 250 tons per year to 25,000 tons per year, but legal authority is in question
 - PSD would require Best Available Control Technology

Thank You!

**Bob Hickmott
Senior Vice President
The Smith-Free Group
Washington, DC**