Climate/Energy Policy and Low-Income Consumers

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Overview Frame

Costs of climate change: Hotter, drier, more severe storms, and rising seas adds up to \$1.9 trillion for the U.S.

**Three big problems: high energy prices, oil addiction, global warming
One solution: Repower America with clean energy**

Practical and affordable solutions exist: What's missing is political will and the policy framework to drive investment

A federal cap and trade with provisions to support energy efficiency and energy technology innovation is the best way to drive the emission reductions we need

Fair distribution of allowance value to consumers (focusing on low-income), technology investment, and adaptation.

Arctic meltdown

Proposed AR4 (2007) Reasons For Concern

Acting now to reduce US global warming pollution is practical and affordable

(We can't afford not to)

- McKinsey concluded no net economic cost to control US global warming emissions if we start now
  - Benefits from reduced energy use cover the cost of cleaning up remaining supply
  - Study considered only proven technologies and assumed uninterrupted improvement in standard of living
- Other studies suggest benefits of stopping global warming range up to 20% of GDP by 2100

Efficiency Can Pay For Supply-side Measures

2030 U.S. abatement potential under mid-range commitment and action

All regions can contribute cost-effective emissions reductions

Cost Real 2005 dollars per ton CO₂e

Cap and trade is the key strategy to control US global warming pollution at least cost

* Putting a price on greenhouse gas emissions helps to encourage energy efficiency and innovation but it is insufficient

McKinsey-inspired NRDC strategy would allow us to cut U.S. global warming pollution 80% by 2050

1 Constant 2007 dollars

2 Billions of tons of CO₂ equivalent eliminated per year relative to business as usual projections

Source: NRDC analysis partially extrapolated from McKinsey report; see www.marketinnovation.org

NRDC Stabilization Wedges: High Efficiency and Renewables Scenario

The Rising Tide for Global Warming Solutions

April 2008

Comparison of Legislative Climate Change Targets in the 110th Congress, 1990-2050

As of September 9, 2008

WORLD RESOURCES INSTITUTE

For a full discussion of underlying methodology, assumptions and references, please see <http://www.wri.org/usclimatetargets>. WRI does not endorse any of these bills. This analysis is intended to fairly and accurately compare explicit carbon caps in Congressional climate proposals and uses underlying data that may differ from other analyses. Price caps, circuit breakers and other cost-containment mechanisms contained in some bills may allow emissions to deviate from the pathways depicted in this analysis.

What is Cap and Trade

5 Simple Steps to Cap and Trade

1. Set the cap: Guided by climate science, the government sets the cap on overall greenhouse gas emissions.
2. Allocate permits : The government assigns “allowances,” with each representing a ton of carbon dioxide emissions, so that their total number equals the cap. Allowances can be distributed to firms for free, or auctioned off.

5 Simple Steps to Cap and Trade cont'd.

3. Measure emissions: Firms monitor and report their emissions. Electric utilities, for example, already have equipment installed on smokestacks of power plants that measures pollution in real time and sends the data to EPA.
4. Ensure compliance: At the end of each year, every regulated firm turns in enough allowances to cover its emissions.
5. Guarantee flexibility: The market provides flexibility in how firms can meet their targets. They can reduce emissions, buy allowances, borrow allowances from the future, use “banked” allowances from earlier years, or purchase offsets from non-covered entities.

Who is regulated?

- Sources of GHG emissions:
  - Electricity Sector
  - Transportation
  - Industrial Emitters/Chemicals
  - Agricultural Sector
- Coverage:
  - Electricity sector
  - Industrial Sector
  - Petroleum at producer/importer
  - Natural gas residential/commercial
  - Other GHG produce/importer

What are “allowances”

- Allowances are permits to emit GHGs
- Number of allowances created is same as tonnage limit of cap, 1 ton of emissions = 1 allowance
- Allowances have monetary value in cap and trade system

The Distribution of Emissions Allowances and Allowance Value under a Federal Cap-and-Trade Program

Mitigation for Unrecoverable Compliance Costs and Competitiveness Concerns

i.e., allocations to regulated entities for unrecoverable compliance costs; allocations to energy intensive industries with limited cost-pass through ability; allocations to industries facing international competition

Incentives for GHG-Reducing Actions and Behaviors

e.g., incentives for the adoption of building codes and standards, incentives for renewable energy deployment, incentives for CCS deployment, incentives for land use planning and mass transit, recognizing and encouraging early action, incentives for states to implement necessary regulatory changes

Equity Concerns for Consumers, Communities and Workers

e.g., mitigate end use energy consumer costs, worker retraining/assistance for dislocated workers, low-income energy assistance; adaptation assistance for communities affected by physical climate impacts

Technology and Adaptation Investment

e.g., Large scale RDD&D in low and zero-emitting technologies, such as low carbon and zero carbon fuels, low and zero carbon generation technologies, low and zero carbon vehicle technologies, advanced energy infrastructure; RDD&D in climate mitigation and adaptation measures and strategies

Purpose/Objectives > Recipients > Methodology

Two basic allocation approaches

- Grant pollution permits to various entities
- Auction pollution permits and redistribute revenues to various entities
- Either way, the value of permits are expected to be large: ~\$50-\$200 billion/yr.

Free Allocation vs. Auction of Allowances

Auction: most efficient/transparent approach—can recycle revenue.

- Argument—raises costs—answer—recycle revenue to appropriate parties

Free Allocations:

- Free Allocation—to anyone including emitters.
  - Free allocation to emitters: Transition assistance vs. Windfall profits
  - Free allocation to non-covered sources: Competitiveness/Clean technology deployment/emission reductions

Grandfathering to Emitters; Auction and Reduce Income Taxes

- Both mechanisms hurt all but the top 10% of the income distribution
- Are the most regressive
- Of all of the options, grandfathering is the most expensive approach per unit of CO₂ reduced

Auction and Reduce Payroll Tax

- After grandfathering or reducing income taxes, the next most regressive
- Everyone bears a net cost, but the poorer you are, the larger the percentage of your income spent on carbon costs

Auction and Expand EITC;
Auction and Return Lump Sum;
Auction and Spend on Energy Efficiency

- Are the most progressive, with the bottom 1-2 deciles coming out slightly *ahead*
- If implemented carefully, energy efficiency is the least-cost way to allocate revenues

Example: LW Allocation

Example: LW Auction Revenue

Distribution of Auction Revenue
(% of total available allowances, 2012-2050)

Dingell Boucher Draft Proposal

Allocation Option A

(Does not include 2012-13 or natural gas local distribution companies for commercial/ residential use, which come under the cap in 2017/2021)

Percentage of total emissions

Dingell Boucher Draft Proposal

Allocation Option B

(Does not include 2012-13 or natural gas local distribution companies for commercial/ residential use, which come under the cap in 2017/2021)

Percent of total allowances

Dingell Boucher Draft Proposal

Allocation Option C

((Does not include 2012-13 or natural gas local distribution companies for commercial/ residential use, which come under the cap in 2017/2021))

Percentage of total allowances

Dingell Boucher Draft Proposal

Allocation Option D

((Does not include 2012-13 or natural gas local distribution companies for commercial/ residential use, which come under the cap in 2017/2021))

Percentage of total allowances

Green Recovery

- Invest \$100 billion over 2 years in
  - Building retrofits
  - Mass transit and freight rail
  - Wind Energy
  - Solar Energy
  - Advanced biofuels
  - Smart grid electrical transmission systems
- Creates 2 million new jobs
  - Nearly 4 times more jobs than spending the same amount of money within the oil industry
  - Roughly **triple the number of good jobs** —paying at least \$16 dollars an hour—as spending the same amount of money within the oil industry
- Reduce the unemployment rate from 5.7% to 4.4%
- Funded by a cap and trade program

Source: Report by the University of Massachusetts Political Economy Research Institute

Green jobs use skills many workers already have

GREEN INVESTMENTS AND JOBS

STRATEGIES FOR GREEN ECONOMIC INVESTMENT

REPRESENTATIVE JOBS

Building Retrofitting

Electricians, Heating/Air Conditioning Installers, Carpenters, Construction Equipment Operators, Roofers, Insulation Workers, Carpenter Helpers, Industrial Truck Drivers, Construction Managers, Building Inspectors

Mass Transit/Freight Rail

Civil Engineers, Rail Track Layers, Electricians, Welders, Metal Fabricators, Engine Assemblers, Bus Drivers, Dispatchers, Locomotive Engineers, Railroad Conductors

Smart Grid

Computer Software Engineers, Electrical Engineers, Electrical Equipment Assemblers, Electrical Equipment Technicians, Machinists, Team Assemblers, Construction Laborers, Operating Engineers, Electrical Power Line Installers and Repairers

Wind Power

Environmental Engineers, Iron and Steel Workers, Millwrights, Sheet Metal Workers, Machinists, Electrical Equipment Assemblers, Construction Equipment Operators, Industrial Truck Drivers, Industrial Production Managers, First-Line Production Supervisors

Solar Power

Electrical Engineers, Electricians, Industrial Machinery Mechanics, Welders, Metal Fabricators, Electrical Equipment Assemblers, Construction Equipment Operators, Installation Helpers, Laborers, Construction Managers

Advanced Biofuels

Chemical Engineers, Chemists, Chemical Equipment Operators, Chemical Technicians, Mixing and Blending Machine Operators, Agricultural Workers, Industrial Truck Drivers, Farm Product Purchasers, Agricultural and Forestry Supervisors, Agricultural Inspectors