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# Federal Climate Change Policy: Allowance Distribution

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- How we think about allowance value
- Waxman-Markey: “I ask unanimous consent to revise and extend my remarks”

- Decision over how emissions allowances will be initially distributed under a cap-and-trade program
- Does ***not*** affect the overall environmental result (the emission reductions achieved by the program)
- Forum for dealing with equity issues in a cap-and-trade system; affects how the program's costs are distributed
  - Can be used to compensate affected firms, workers and consumers, and ease transition to a new program
- Both a challenge, and an opportunity

- Basic approaches:
  - Free allocation/Auction/Hybrid (combination of both)/  
Shift from one to another over time
- Regardless of which method is chosen, either free allocation or auction revenue can be used for a variety of purposes, e.g.,
  - Mitigate the economic impacts of the program (e.g., by granting allowances or tax breaks to competitively disadvantaged emitters)
  - Drive innovation (by using allowances or revenues to fund/incentivize RD&D)
  - Fund adaptation efforts
  - Address broader fiscal issues

# What is Allowance Value?

- The economic worth of the allowances
- Can be in the form of allowances themselves, or revenues from the sale of allowances at an auction

- For what purpose?
- What public policy goal do you want to achieve?
- Who do you want to help?
- Over what time period?
- How is the goal accomplished?

- Distributing allowances is like handing out money – an inherently political task
  - Auctions face an identical problem, with revenue distribution taking the place of allowance distribution
- Think about ends first, and means second
  - Debate has thus far emphasized means over ends
- Different kinds of “costs”
  - Transition
  - Competitiveness
  - Inequities
  - Other
- To achieve a specified purpose, the questions are:
  - Who/what entity should receive the allowances?
  - Over what time period?
  - Through what mechanism?

- **Share burdens and benefits equitably**  
States/affected sectors/workers/communities/low-income consumers/new entrants
- **Address economic impacts of the policy**  
Consumer/worker/community/industry  
Revenues/GDP  
Transitional/long-term
- **Improve on effectiveness and cost-effectiveness of policy**  
Achieve co-benefits  
Advance specific solutions that may not be adequately incentivized by the carbon price alone
  - Advance technology RD&D
  - Fund mitigation outside or under the capEnsure smooth-functioning market (including minimizing price spikes, encouraging early allowance price discovery)

- **Address impacts of climate change**  
Fund climate adaptation
- **Reduce or eliminate distortions in the economy**  
E.g., provide for tax cuts on labor, income and capital
- **Contribute to general revenues**
- **Support international efforts**
- **Other**

- Obscuring price signal, minimizing program cost-effectiveness
- Creating perverse incentives or market barriers
- Allocations to entities capable of passing through rising prices - windfalls

- Coverage: 85% of U.S. emissions through cap-and-trade
- Cap: 17% below 2005 levels by 2020; 83% below by 2050
- Threshold: Cover entities >25K tons CO<sub>2</sub>e; EPA may lower to 10K after 2020
- Offsets: 2 billion tons domestic & international
- Quarterly auctions with \$10 reserve price.
- Cost containment: Strategic reserve of 2.7 billion allowances available if allowances prices rise above trigger price
- Clean Air Act limitation: GHGs not regulated as criteria pollutants or hazardous air pollutants under CAA
- State role: GHG cap-and-trade programs on hold for 5 years; other state programs unaffected
- Allowance distribution: Used for consumer protection, industry and worker transition assistance, technology innovation, and adaptation (initially mostly free allocation; shift to mostly auction over time)
- Many USCAP Recommendations in Waxman-Markey Bill

- **Covers 7 GHGs:** Carbon dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous oxide (N<sub>2</sub>O), Sulfur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFCs) emitted as a byproduct, perfluorocarbons (PFC), nitrogen trifluoride (NF<sub>3</sub>), and any other anthropogenic gas EPA finds has GWP equal to or greater than CO<sub>2</sub>.
- **Coverage is phased**
  - 2012: Electricity and transportation
  - 2014: Industrial processes and combustors
  - 2016: Residential/commercial/small industrial natural gas consumption at LDC
- **Separate cap and trade program for HFCs**



- Consumers (~38% cumulative; ~55% in early years): To electric and gas LDCs; to states for heating oil and propane; federal rebates for low & moderate income families
- Competitiveness (~8% cumulative; ~15% in early years): EITE industry, workers
- Technology (~15% cumulative): ARPA-E; CCS (~4% cumulative); EERE (~5.5%); advanced autos (~1%); international (~2.5%)
- Adaptation (~7.5% cumulative; ~3% initially)
- Supplemental reductions: 10% (720 mtCO<sub>2</sub>e) below 2005 levels by 2020 (cumulatively 6 btCO<sub>2</sub>e by 2025) thru sale of ~3.7% (cumulative) of allowances to fund REDD.
- Supplemental Agriculture and Renewable Energy program (~0.14% 2012-2016) to incentivize GHG reductions, sequestration, and adaptation in the ag sector.

- LDC allocation for electricity consumers
  - Based 50/50 on emissions/sales
  - ~30% of total allowances in early years (~18% cumulative)
  - Allocation to small electricity LDCs (~0.5% in early years)
  - LDC must certify that allowances used for consumer benefit; EPA must audit
- Merchant coal: ~5% in early years (~3% cumulative)
- LDC allocation for gas consumers (~9% in early years; ~4% cumulative)
  - Based on sales
  - LDC must certify that allowances used for consumer benefit; EPA must audit
  - At least 1/3 of allowances must be used for efficiency
- Consumers include industrial consumers
- No windfalls allowed

- State allocation for home heating consumers of oil and propane
  - Goes to states proportionately based on carbon content
  - ~1.5% in early years; ~1% cumulative
- Low-income consumers
  - 15% of allowances auctioned (cumulatively)
  - Distributed through cash payments to low-income households
  - Similar to other low-income payment mechanisms

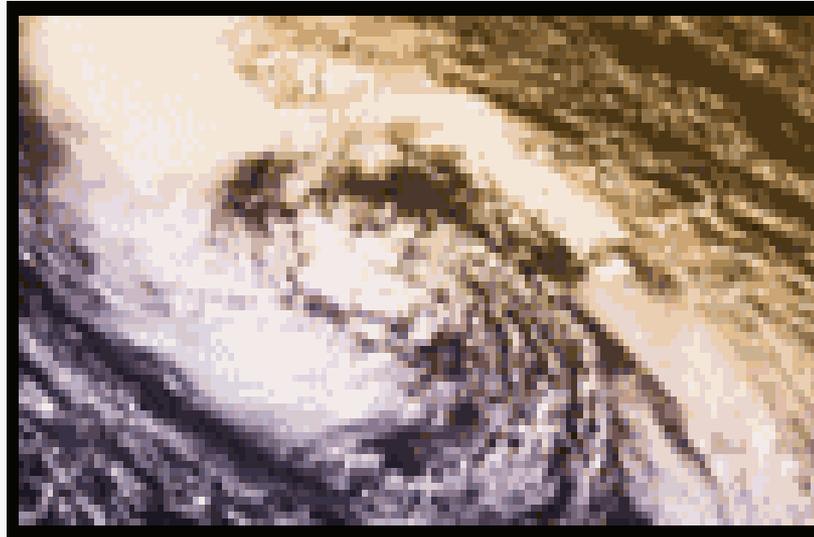
- Output-based allowance distribution approach is primary mechanism to deal with competitiveness, w/ International Reserve Allowance program—requiring allowances for imported goods' embodied GHG emissions – as a backstop.
- Distributes emission allowances to energy-intensive, trade-exposed industries. Sets criteria which would make sectors and subsectors presumptively eligible, and allows the EPA to designate more.
- Allowances compensate for direct and indirect carbon costs; firms do not have to be covered to qualify.
- Distribution would begin phasing out by 10% each year starting in 2026 (pending Presidential review).
- In 2020, the International Reserve Allowance program is triggered unless the President finds that a treaty meeting U.S. negotiating objectives is in force, or Congress grants a waiver.

- Adjustment and training assistance
- 0.8% cumulative (0.5% until 2021; 1% 2022-2050)

- Renewables and energy efficiency: starts at 9.5%; 4.5% after 2021
- Home heating oil and propane users: starts at 1.875%, declining to 0.3% in 2029.
- Other purposes if eligibility requirements met:
  - Building efficiency codes: 0.5% initially
  - Adaptation: Starts at 0.9% for domestic adaptation; 0.385% for natural resources adaptation; increases over time.
  - Building retrofits: 0.5% initially
- Holders of allowances issued by California, RGGI or WCI before 12/31/11 may exchange these for federal allowances.
- Other funds for states: Funds raised through the federal ERES are given directly to states for use in renewable energy and energy efficiency programs.
- States can set up State Energy & Environment Development (SEED) Funds to combine allowance value

- Requires President to develop and implement Natural Resources Climate Change Adaptation Strategy.
- Requires states and federal agencies to develop natural resource adaptation plans.
- Establishes Natural Resources Climate Change Adaptation Fund in the Treasury. States could apply for these funds if they have prepared a natural resources adaptation plan.
- Provides 2% of allowance value increasing over time for domestic adaptation (much of that goes to states)
- Provides 1% of allowance value increasing over time for international adaptation.

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- All electricity sources
- Producers and importers of liquid fuels whose combustion will emit more than 25,000 tons of CO<sub>2</sub>e
- Producers and importers of fluorinated gases (except HFCs)
- Geological sequestration sites
- Electricity sources not required to submit allowances for emissions resulting from the use of petroleum-based or coal-based liquid fuel; biomass; petroleum coke; or HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>, or any other fluorinated gas that is a GHG.

- Producers and manufacturers of: adipic acid; primary aluminum; ammonia; cement, excluding grinding-only operations; HCFCs; lime; nitric acid; petroleum refining; phosphoric acid; silicon carbide; soda ash; titanium dioxide; coal-based liquid or gaseous fuel production
- Manufacturers of acrylonitrile, carbon black, ethylene, ethylene dichloride, ethylene oxide, or methanol; or manufacturers of a petrochemical product not manufactured as of the date of enactment, if EPA determined that manufacturing that product results in annual process emissions of 25,000 or more tons of CO<sub>2</sub>e in 2008 or after.
- Producers and manufacturers of ethanol, ferroalloy, glass, hydrogen, iron and steel, lead, kraft pulp and paper, zinc, and food processors that have emitted 25,000 or more tons of CO<sub>2</sub>e in 2008 or any subsequent year.
- **Any fossil fuel-fired combustion device or grouping of such devices that is all or part of an industrial source not specified above; and has emitted 25,000 or more tons of CO<sub>2</sub>e in 2008 or any subsequent year.**

- **In 2016:** Emissions from the combustion of **natural gas for residential, commercial and small industrial use** would also be covered at **local distribution companies (LDCs)** which deliver 460,000,000 cubic feet or more of natural gas annually.
- **In 2012.** **HFCs covered by separate cap-and-trade program and a tax.** The draft would set an emissions baseline derived from the average annual importation and production of HFCs from 2004-2006, and a target range of reducing HFC emissions to 85% below the baseline by 2032.
- **EPA to promulgate regs to reduce domestic black carbon emissions**

- Full trading and banking of allowances; unlimited next-year borrowing; limited borrowing for 2-5 years in the future w/8% interest.
- Domestic & international offsets are permitted; 2 billion tpy system-wide
  - Up to 1bn dom/1bn int'l; if < 1bn dom; EPA can increase int'l up to 1.5 billion
  - Domestic can be used 1:1 for compliance; international can be used 1:1 until 2018 and then discounted 20%
  - Firm-level limits set by formula; % compliance w/ offsets increases over time.
  - President may recommend Congress alter total # of offsets up or down.
  - EPA will list w/in 1 yr accepted project types based on recommendations from Offset Integrity Advisory Board
  - Methane emissions (other than from agriculture) may be covered by performance standards and thus ineligible as offsets unless below standard. EPA must assess impact on offset supply.
- International emission allowances from countries with absolute caps, subject to approval from the EPA, are permitted without limit.

- Strategic allowance reserve created from future year allowances:
  - 1% each year from 2012-2019; 2% from 2020-2029 ; 3% from 2030-2050.
- EPA conducts quarterly strategic reserve auctions (SRAs) open only to covered entities.
- Minimum SRA price:
  - 2012: \$28/ton; 2013-2014: the previous year's auction price increased by inflation plus 5%; after 2014: 60% above 36-month rolling average.
- Maximum number of SRA allowances:
  - 2012-2016, no more than a quantity equal to 5% of annual allowances issued for a given year ; 2017 onwards: 10%
- No entity may purchase from SRA more than 20% of its obligation.
- Forest carbon tons sold on consignment by private entities if SRA tons exhausted and 80% of allowed system offsets to be utilized that year.
- SRA proceeds used to purchase international forest carbon tons to replenish the reserve at a 20% discount

- Efficiency and Renewable Portfolio Standard (20% by 2020)
- Coal measures (CCS deployment strategy and funding, performance standards for new plants, etc.)
- Energy efficiency measures: building efficiency codes, energy efficiency resource standard, etc.
- Transportation: PHEV planning and incentives, states and MPOs to develop GHG reduction plans
- GHG performance standards
- Transmission planning, smart grid advancement, green jobs and worker transition, etc.

- Federal agencies to develop national strategy for CCS deployment
- EPA Administrator ordered to develop regulations for geologic sequestration sites
- Boucher CCS trust fund for early stage deployment
- Performance standard for new coal power plants and financial incentives for CCS deployment
  - Similar but not identical to USCAP *BLA*
  - New facilities permitted in 2020 must reduce annual CO<sub>2</sub> emissions by 65% compared to operation without CCS. Plants permitted between 2009 and 2019 subject to 50% reduction
  - Plants permitted 2009-2019 must comply by the earlier of January 1, 2025 or 4 years after deployment of at least 4 GW of CCS in the U.S.
  - Authorizes rebate for early large scale deployment (and specifies rebate values for first 6 GW of CCS capacity)
  - After initial 6 GW of CCS, bonus allowances to be awarded via reverse auction or via first-come, first-served program, if the Administrator deems the latter to be more effective.

- Combined Efficiency and Renewable Electricity Standard
  - Standard starts at 6% of sales in 2012 and rises to 20% in 2020
  - Up to one quarter of the requirement can be automatically met with electricity savings. Upon petition by a state's governor, FERC can allow a state's utilities to use electricity savings to meet up to two fifths of the standard
  - New nuclear and CCS generation do not increase requirements for efficiency and renewables
- Promotes energy efficiency in new and retrofitted buildings
  - Establishes national building energy efficiency codes
  - Establishes a building retrofits program
  - Establishes a program to upgrade inefficient manufactured homes
  - Establishes a model building energy performance labeling program
- New efficiency standards for lighting and other appliances, including financial incentives to retailers who sell high volumes of "Best-in-Class" appliances.

Targets beyond cap and trade: same as cap and trade except 20% below 2005 levels in 2020