



Congressional Budget Office

## **Distributional and Efficiency Outcomes: Carbon Taxes and Caps**

*Climate Change Legislation  
and Revenue Recycling*

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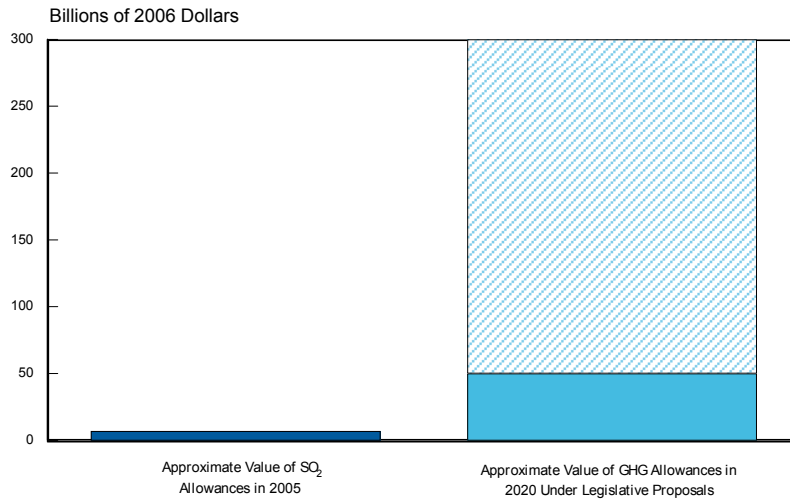


### **Presentation Overview**

- **Efficiency and distributional implications of decisions about allowance allocation in a cap-and-trade program**
- **Similarities to implications of decisions about how to use revenue from a carbon tax**



## Allocation Matters: Amount of Allowance Value (Income) Transferred Likely To Be Large



## Allocation Matters: Program Transfers Allowance Value (Continued)

- **Who would pay for the allowances?**
  - Cost of holding an allowances would become a part of doing business
  - Cost primarily borne by consumers in form of price increases
    - Disproportionate burden on low-income households
    - Workers and shareholders could experience transitional costs
- **Initial incidence of a carbon tax would be similar**



## Allocation Matters: Program Transfers Allowance Value *(Continued)*

- **Policymakers would determine who receives the allowance value**
  - Selling allowances → government captures value
    - Ultimate beneficiaries depend on revenue recycling decision
  - Free allocation → receiving firms or other entities capture value
    - Free allocation to producers will not prevent price increases
- **Likewise, policymakers who would receive the tax revenue**

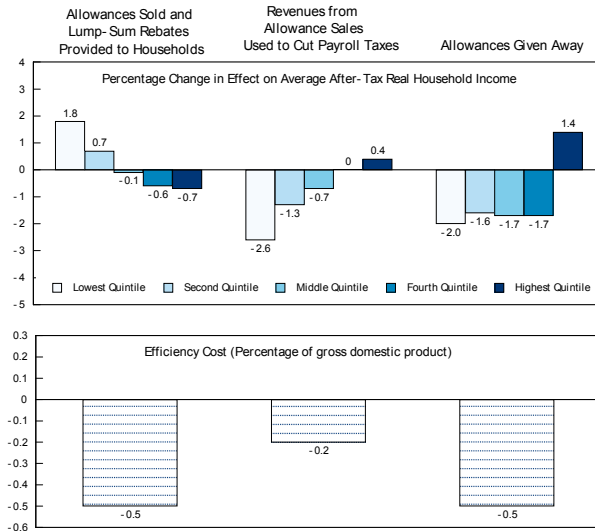


## Use of Allowance Value Would Affect Both the Magnitude and Distribution of Costs

- **Economy-wide cost would be minimized if revenue was used to reduce marginal rates of taxes that discourage productivity**
- **Using the allowance value to reduce tax rates would compete with other objectives, for example**
  - Compensating low-income households, dislocated workers, or shareholders
  - Funding R&D for new technologies
- **Policymakers would face similar trade-offs in deciding how to use revenue from a carbon tax**



## Effects of a 15 Percent Cut in CO<sub>2</sub> Emissions



## Households Covered by Potential Methods of Recycling Revenue

- **Payroll tax rebates would cover**
  - 80% of all households
  - 54% of households in lowest quintile
    - About 75% of low-income households not covered by the rebate would be partially protected by COLA under Social Security or SSI
    - In combination, SSI, SS and payroll tax rebate would cover 85–90% of households in lowest quintile
- **Income tax rebates would cover**
  - Roughly 80% of households if fully refundable (those that file tax returns)
  - A little more than half of all households if not fully refundable (two thirds of the 80% that file)
- **Other methods discussed**
  - EITC
    - Currently covers about 17% of tax filers
  - Food stamps



## Conclusions

- **Either a carbon tax or a cap-and-trade program could generate a significant amount of revenue**
- **Decisions about how to allocate the tax revenue or allowance value will have significant distributional and efficiency consequences**
  - Price increases will be regressive but ultimate impact could be progressive or regressive
  - Policymakers could face equity-efficiency trade-offs
- **Design features could make a cap-and-trade program more, or less, like a tax**



## Where Can You Find More Information About CBO's Work on Climate Change?

- **Visit the special collection area of CBO's website:**

[www.cbo.gov/link/cc](http://www.cbo.gov/link/cc)