

Statement of  
James K. Boyce

Professor of Economics  
University of Massachusetts  
Amherst, MA

Tel: 413.545.0915

Email: [boyce@econs.umass.edu](mailto:boyce@econs.umass.edu)

Auctioning under Cap and Trade:  
Design, Participation and Distribution of Revenues

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**Cap-and-Dividend: Issues and Options**

Chairman Baucus, Senator Grassley, and Members of the Committee, thank you for the invitation to submit testimony to these hearings on auctioning under cap and trade. My remarks are accompanied by “Cap-and-Dividend: How to Curb Global Warming While Protecting the Incomes of American Families,” a working paper of the University of Massachusetts Political Economy Research Institute that I co-authored with Matthew Riddle.

## **1. Why Cap Carbon?**

A cap on carbon dioxide emissions is a crucial element of any serious policy to curb global warming and promote energy efficiency and the transition to renewable energy. A carbon cap will be most efficiently administered “upstream,” requiring permits to be purchased by the first sellers of fossil fuels into the economy. Because the cap will reduce supply, it will raise fuel prices. The resulting market signals will spur investments by firms and households in energy efficiency and clean energy.

## **2. Costs versus Transfers**

While higher prices for gasoline, heating oil, natural gas, electricity are a cost to consumers, these are not a “cost” from the standpoint of the U.S. economy as a whole. Instead, they are a transfer. Every dollar paid in higher fuel prices will be redistributed to the holders of the carbon permits. Unlike the case when oil prices rise due to market forces or supply is restricted by OPEC, the carbon cap will recycle dollars within the United States. From the standpoints of both economic fairness and political durability, the key policy question is: Who will get the money?

## **3. How Would a Cap-and-Dividend Policy Work?**

In a “cap-and-dividend” policy, 100% of the permits will be auctioned by the government, and all or most the auction revenue will be returned to the public as equal payments per person. This is what economists call a “feebate” arrangement: individuals pay fees based on their use of a scarce resource that they own in common, and the total fees collected are rebated in equal measure to all co-owners. In this case, the scarce resource is the U.S. share of the carbon storage capacity of the atmosphere; the fee is set by the carbon footprint of the individual household; and the co-owners are the American people.

The accompanying paper, “Cap-and-Dividend: How to Curb Global Warming While Protecting the Incomes of American Families,” analyzes the distributional impacts of a cap-and-dividend policy. As we document in the paper, the real incomes of low-income and middle-income families will be not only be protected by the policy but will rise. Overall, about six in ten American families come out ahead in purely monetary terms – not counting the environmental benefits that are the main rationale for any carbon policy.

A transparent and efficient way to disburse dividend payments to the public is via an ATM card, similar to the cards now used by many Americans to access Social Security

payments. At the ATM, people can view the auction revenue deposits into their accounts and withdraw available funds at their own convenience.

#### **4. Free Permits to Firms Would Not Protect Consumers**

It is sometimes claimed that free permit allocations to firms would eliminate or mitigate the impact of a carbon cap on consumer prices. This is not true. Elementary economics dictates that when goods become more scarce, their price goes up. A carbon cap makes fossil fuels more scarce.

In housing markets, the price of a dwelling and the rent charged by its owner do not vary depending on whether the owner purchased it or inherited it for free. In the same way, the price of gasoline will not differ if permits are auctioned to companies or handed out free-of-charge. A cap-and-giveaway policy that provides free permits to firms would simply transfer the money paid by consumers in higher fossil fuel prices to the shareholders of the firms as windfall profits.

During last year's election campaign and in his budget proposal submitted to Congress in February, President Obama endorsed the principle that 100% of carbon permits should be auctioned.

#### **5. Free Permits to Electric Utilities or LDCs Would Not Protect Consumers**

It is sometimes claimed that free permit allocations to regulated electric utilities or local distribution companies (LDCs) would eliminate or mitigate the impact of a carbon cap on consumer prices. This claim is a misleading for two reasons.

First, there is no guarantee that public utility commissions across the country will be able to ensure that the full value of the permits is passed to consumers rather than captured by electricity providers via higher prices.

Second, insofar as electricity prices do not rise and electricity consumption does not decrease, other fuel prices will have to rise even more to meet the emission reductions set by the carbon cap. If consumers don't pay higher prices via their electricity bills, they will pay via other purchases.

If the aim is to protect consumers from the impacts of higher fuel prices, there is a far easier and more reliable way to do this: return the money directly to consumers.

#### **6. With 100% Auction There is No Need for Permit Trading**

Most permits in our society are not tradable. Driving permits, gun permits, parking permits, landfill disposal permits, and building permits are cannot be traded in markets. Why should carbon permits be different?

The need for tradable permits is premised on the assumption that some or all of the permits will be given away for free rather than sold by auction. With giveaways based on some formula (like historic emissions), some firms will get more permits than they need, while others will get fewer; trading is required to redistribute them. If instead 100% of the permits are auctioned, say monthly or quarterly, firms can make their own real-time decisions as to how many permits they acquire. The need for permit trading disappears.

With non-tradable permits, none of the carbon revenue will be siphoned off by trading firms who need to earn a profit. In addition, non-tradable permits will safeguard the policy from the perception or reality of market manipulation by speculators or other players seeking to game the system.

## **7. Regional Differences in Consumer Price Impacts are Small**

The main systematic differences in the impacts of higher fossil fuel prices on households arise from differences in income. Higher-income households typically consume more energy (and more of most other goods and services) than lower-income households. They will therefore pay more under a cap-and-dividend policy (or any other policy that caps carbon emissions). For example, as shown in Table 7 of our paper, at a permit price of \$200/ton carbon (or \$54/ton carbon dioxide), the “carbon charge” paid by individuals in the top 10% of the consumer expenditure distribution is \$1475/year, almost seven times greater than the \$215 paid by individuals in the bottom 10%.

By comparison, inter-state differences in the impacts of higher fossil fuel prices on consumers are modest. Taking into account inter-state differences in income and the carbon intensity of electricity consumption, the impact of this permit price on the median household across the states ranges from \$502/year to \$771/year. These are roughly 20% below and above the national median of \$649/year, with most states considerably closer to the national median.

A number of states with coal-intensive electricity supply have below-average incomes. In West Virginia, for example, the average income is 24% below the national average. In such cases, the effect of the carbon intensity of the electricity mix is partially or wholly offset by the effect of inter-state income differences. In West Virginia, the income effect dominates: the median West Virginian would pay \$625/year in higher prices, somewhat less than the national median; under a cap-and-dividend policy, the majority of West Virginians would receive more in dividends than they would pay in higher prices.

## **8. Mitigating Regional Differences in Employment Impacts**

Any policy to cut U.S. carbon emissions will have impacts on employment, apart from the impacts on consumers described above. In some sectors (for example, coal mining), jobs will be lost; in others (for example, retrofitting of buildings and the manufacture of renewable energy technologies) jobs will be created.

Insofar as investment in renewables and energy efficiency is more labor-intensive than investment in the fossil fuel sector, job gains will exceed job losses. But no automatic mechanism ensures that job creation will occur in the same communities and for the same workers who are adversely impacted by job losses.

To protect these communities and workers, a fraction of the carbon revenues initially could be allocated the states as block grants dedicated for this purpose. In the first year of the cap-and-dividend policy, for example, 10% of permit auction revenues could be directed to block grants and the remaining 90% distributed to households as dividends, with the block-grant share phasing out over a 10-year horizon. As shown in the accompanying paper, as long as the proportion of revenues dedicated to this purpose is modest, the majority of families will continue to be “made whole” by the cap-and-dividend policy.

Block grants would allow the states to tailor transitional adjustment assistance policies to their own needs. In coal-mining states, for example, funds could be invested in the ecological restoration of landscapes degraded by mountaintop removal, strip mining, and disposal of mine tailings and coal ash. In manufacturing-intensive states, funds could be invested in job training and support to “green” industries such as the production of wind-energy and solar-energy equipment.

## **9. Conclusion**

The principal political challenge confronting any policy to curb carbon emissions in the United States is how to protect American families from the impacts of higher fossil fuel prices – and how to protect the policy itself from the political fallout that otherwise will result.

What is needed is a policy in which the majority of Americans will not only be willing to pay higher prices at the gasoline pump and in their home heating and electricity bills, but will be positively enthusiastic about doing so, secure in the knowledge that they themselves are on the receiving end of the resulting transfers of money.

Neither a cap-and-giveaway policy in which permits are given free to firms, nor a cap-and-spend policy in which permits are auctioned and the revenues flow into the government budget, will yield this desirable result.

In short, a cap-and-dividend policy will not only address squarely the pressing problems of global warming and energy independence, but also strengthen the economic well-being of American families. By achieving these goals in a way that is fair and transparent, it will maximize the prospects for securing durable public support for a policy that weans the U.S. economy from dependence on fossil fuels.

The energy transition that is needed to avert the worst of climate change is certainly feasible. But it cannot happen overnight. This historic change will take decades, and for

this reason it will require durable support. The time to launch the transition is now. The policies that undergird it must be built to last.