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**TESTIMONY OF ROBERT GREENSTEIN,  
EXECUTIVE DIRECTOR, CENTER ON BUDGET AND POLICY PRIORITIES**

**HEARING ON “CAP, AUCTION, AND TRADE: AUCTIONS AND REVENUE  
RECYCLING UNDER CARBON CAP AND TRADE”**

**SELECT COMMITTEE ON ENERGY INDEPENDENCE AND GLOBAL WARMING**

Strong measures are needed to reduce greenhouse gas emissions and prevent costly and potentially catastrophic environmental and economic damages from climate change. The Center on Budget and Policy Priorities' area of expertise is not in environmental policy per se, but rather in the impacts that climate change policies can have on the budgets of American families — especially those of modest means — and on the federal budget.

Congress can develop climate change policy that is environmentally and economically sound and fiscally responsible, treats low-income families equitably, and avoids increases in poverty and hardship. To achieve these objectives, however, the policy will have to be well designed. This means generating sufficient resources to address the requirements and challenges of sound climate-change policy and mitigating the impact on vulnerable populations, especially people with low incomes. If Congress decides to adopt a cap-and-trade approach, it will be essential to auction off most or all of the emission allowances, and to devote an adequate share of the proceeds to assisting low- and moderate-income consumers.

**Four Key Numbers on Climate Policy, Low-Income Consumers, and the Budget**

Our analysis of the effects of climate-change policy on the budgets of low-income households and the federal budget can be summed up in four key sets of numbers.

One caveat about these numbers is that they rely on economic models and predictions about the future that are inherently difficult to make with fine precision. The numbers demonstrate, however, the dimensions of the problem to be solved, and our accompanying analysis shows that it indeed can be solved.

**1. \$750 - \$950 per year: the average increase in energy-related costs for the poorest fifth of the population from a modest (15 percent) emissions reduction**

Effective climate-change policies work in part by raising the prices of fossil-fuel energy products to encourage energy efficiency and the substitution of clean energy sources. This is essential to prevent extensive environmental and economic damage from climate change. However, it will raise costs to consumers for a wide array of products and services, from gasoline and electricity to food, mass transit, and other products or services with significant energy inputs.

Households with limited incomes will be affected the most by those higher prices, since they spend a larger share of their incomes on energy-related products and services than more affluent households do. They also are less able to afford investments that can reduce their energy consumption, such as buying a more efficient car or a new heating and cooling system. If nothing is done to protect people of limited means, many more of them will slip into poverty, those who are poor will become poorer, and the trend toward widening income inequality will be aggravated.

\$750 to \$950 per year is our estimate of how much, if left to fend for themselves, average families in the poorest 20 percent of the population would have to come up with to cover the increased costs arising from a 15 percent reduction in emissions.<sup>1</sup> This is a group whose average income is only modestly over \$13,000 a year, and our \$750-\$950 estimate already takes into account increases in cost of living adjustments that they may receive, such as through the annual Social Security COLA, as a result of higher energy costs. Moreover, the 15 percent reduction in emissions, which is what CBO uses in its analysis, is relatively modest by the standards of current proposals. It is 15 percent below business-as-usual levels (what emissions would be if there were no restrictions), *not* 15 percent below the 1990 or 2005 levels that are often used as benchmarks in legislative proposals. Those benchmarks themselves are well below business-as-usual levels.

**2. \$50 billion to \$300 billion per year: resources potentially generated by climate-change policies to help low-income consumers and to address other climate-change-related needs**

Fortunately, the same climate-change measures that generate higher energy-related costs can also generate substantial resources to cover those costs. CBO estimates that various recent proposals to limit greenhouse-gas emissions by establishing a cap-and-trade system would create a valuable resource — emission permits — that would be worth \$50 billion to \$300 billion per year by 2020, depending on the specifics of each proposal. That is how much revenue the government could expect to raise if it auctioned off all of the permits.

**3. Approximately 14 percent: share of auction proceeds needed to fully offset the increased energy-related costs faced by low-income consumers**

The amount of revenue the government could raise by auctioning off all of the permits in a cap-and-trade system is far more than what would be needed to protect low-income consumers from higher energy-related prices arising from climate-change legislation. We estimate that a program

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<sup>1</sup> The Congressional Budget Office has provided a figure of \$680 for the average increase in cost for the bottom 20 percent of *households*. Using CBO's own household-size-adjustment methodology, we have estimated the impact on the poorest 20 percent of *people*. (The bottom fifth of households disproportionately consists of one- and two-person households, and as a result, includes significantly less than one-fifth of the people in the United States.) For a fuller explanation of this adjustment, see <http://www.cbpp.org/10-25-07climate.htm>, footnote 1.

designed according to the principles laid out later in this testimony, which would fully offset the impact on the poorest 20 percent of people and also provide some relief to many hard-pressed working families in the next 20 percent, could be fully funded with approximately 14 percent of the resources that would be generated by auctioning off all the allowances in a cap-and-trade system.

The specific dollar amounts in our first two sets of numbers — \$750 to \$950 per year of added costs for low-income consumers and \$50 to \$300 billion per year of potential revenue are tied to specific emissions targets, but the 14 percent figure is not. When the emissions target is looser (and hence the emissions reduction is smaller) — as it would be in the early years of most proposals — the dollar amount of revenue that could be raised would be lower, but so too would be the increase in energy prices and the amount of added costs that households would face. As the cap tightens and larger emissions reductions are called for, the added costs to households increase, but so too does the potential revenue that would be available to offset those costs. But no matter what the point in time, the amount needed to protect low-income consumers would always be about 14 percent of the revenue that could be generated.

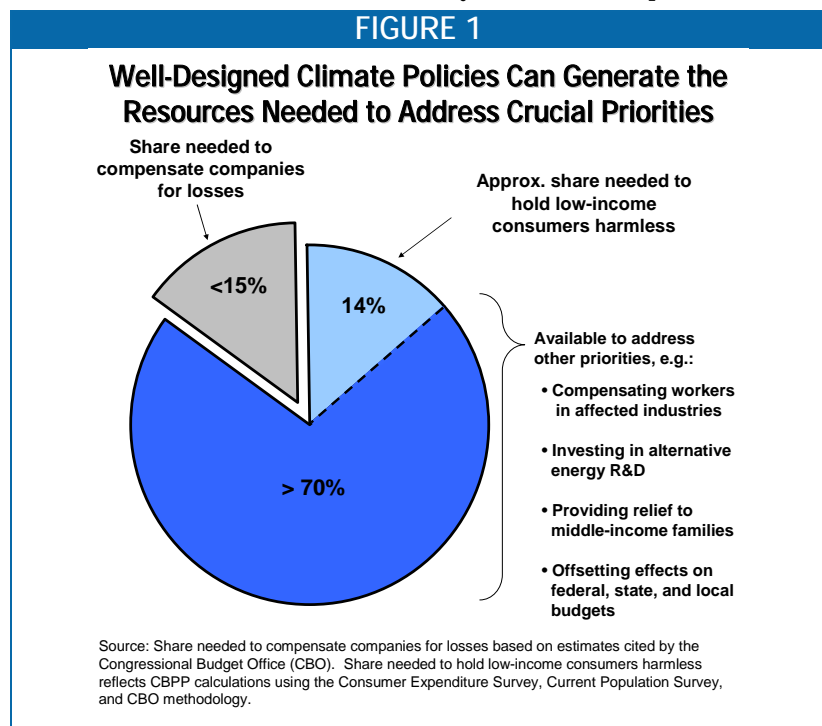
In other words, Congress does not need to guess at what the right amount to provide to assist low-income consumers will be; by setting aside 14 percent of the allowance value in a cap-and-trade system in perpetuity, it can be sure to have shielded these consumers from whatever the price impacts on them are in any given year.

If Congress wanted to assist middle-income consumers as well, that could be accomplished, if a sufficient share of the allowance value from a cap-and-trade regime were set aside for that purpose.

For example, with approximately half of the allowance value, Congress could fully compensate 60 percent of American households and provide significant compensation to the next 20 percent, leaving out only the wealthiest 20 percent of households, who have the most disposable income, consume the most energy, and are the most able to make adjustments to their own consumption patterns in order to reduce their carbon footprints.

**4. Less than 15 percent: share of potential budget resources needed to fully compensate energy companies and other emitters for financial losses due to climate-change policies**

Although the resources that can be generated by sound climate-change policies are substantial, so too are the budget claims arising from those policies. Besides the need to protect vulnerable populations, those claims include basic research into alternative energy sources, assistance for



workers and communities that depend on the coal industry and other industries most affected by the shift to a less carbon-intensive economy, and other needs. In addition, higher energy prices will drive up the cost to federal, state, and local governments of providing many important services and benefits. Unless these costs are offset, government services will have to be reduced or taxes raised, or the federal deficit will rise.

In a cap-and-trade system, making sure there are adequate budget resources requires that most of the emission allowances are auctioned off, not given away for free to energy companies and other emitters due to misconceptions about the financial losses they would incur. One misconception is that those losses would be very large. CBO's review of the evidence, however, concludes that less than 15 percent of the total value of the allowances would be sufficient to offset the net financial losses of companies affected by policies to restrict emissions. More than that would simply create what CBO has called "windfall profits" for companies receiving the free allowances.

A related misconception about cap-and-trade may also contribute to the belief that large numbers of emission allowances should be given away to energy companies and other industrial emitters. This is the mistaken belief that energy prices will not rise (or not rise as much) if the allowances are given away. That belief is *not* correct; it flies in the face of the basic law of supply and demand. A cap on emissions will limit the supply of energy produced from fossil fuels. When supply is restricted, prices rise — just as when there is a banana shortage, the price of bananas goes up. Regardless of whether the government gives away or sells the allowances, energy companies will be able to sell their products at the higher price. If companies receive allowances for free, they will still be able to charge the higher price — they will be able to charge what the market will bear — and will reap what CBO has termed "windfall profits." Indeed, Harvard economist Greg Mankiw, who served as Chairman of President George W. Bush's Council of Economic Advisers, has characterized a cap-and-trade mechanism under which the allowances are given away as "corporate welfare."<sup>2</sup> (As an analogy, if a distributor has purchased large quantities of a product at one price but some external event then causes the supply of future quantities of that product to fall — and the market price of the product to rise correspondingly — the distributor will not keep his prices low just because he purchased the products before their price climbed. He will charge what the market will bear. In the same way, energy companies will charge what the market will bear whether they obtain the permits for free or purchase them through an auction.)

## **Avoiding Regressive Outcomes While Meeting Other Climate-Related Priorities**

The policies needed to reduce greenhouse-gas emissions would, by themselves, result in regressive changes in energy prices. But they also can generate substantial revenue that could be used to offset those regressive impacts. Our analysis, like that of CBO, shows that the potential revenue from auctioning off emission allowances under a cap-and-trade system could yield more than enough revenue to offset the losses likely to be experienced by low- and moderate-income families and by workers in the industries hit hardest by the adjustment to a less carbon-intensive economy. The revenue could be sufficient both to address these issues and to meet various other legitimate purposes arising from the legislation as well (see figure 1).

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<sup>2</sup> Greg Mankiw, "Greg Mankiw's Blog: Random Observations for Students of Economics," August 2, 2007.

In contrast, giving away a substantial fraction of emission allowances to existing energy producers would do almost nothing to compensate low- and moderate-income families for their losses. A very large percentage of the benefits of such a giveaway would go to shareholders of the energy companies, most of whom have high incomes, while little revenue would be available to mitigate the effects on those least well-off.

Addressing regressivity and adjustment costs would not be the only claims on the resources that could be generated by a cap-and-trade system. Governments at all levels would pay more for the energy and energy-related products that they consume directly. For example, the Defense Department is the single largest consumer of energy in the United States. In addition, there would be impacts on living costs and economic activity, which, while modest in the overall economy, could nevertheless trigger increases in automatic cost-of-living adjustments in Social Security and other benefit programs and some modest reductions in tax revenues. These issues can be addressed — and any increases in deficits and debt avoided — by using a share of the allowances to offset such tax and expenditure changes. (Note: action to reduce the damages from climate change should have positive effects on the budget over the longer run, by reducing government expenditures for such things as natural disasters, crop failures, and disease epidemics. In other words, in the absence of effective climate-change policies, natural events are likely to occur sooner or later that entail large federal costs and throw the budget farther out of whack.)

In addition, although higher energy prices would create strong incentives for energy conservation and for investment in clean-energy technologies, there will be claims for additional subsidies to encourage a wide variety of activities in the name of combating climate change. In many cases (including various types of basic alternative energy research), such investments can be a valuable complement to the market incentives provided by a cap-and-trade system. Such spending will be wasteful, however, if it merely subsidizes activity that would take place anyway or that is not well focused on reducing greenhouse-gas emissions.

If lawmakers capture the necessary revenue and make wise choices among competing claims in designing climate-change policy, they can achieve the economic and environmental benefits from reducing greenhouse-gas emissions while addressing the impact of higher prices on low-income consumers and other legitimate new claims on available resources. (It might even be possible to achieve some modest deficit reduction, which would be valuable at a time when, as this Committee well knows, the pressures on the federal budget will be increasing.)

If, however, lawmakers give away too many emissions rights to existing emitters, as a number of the bills currently pending in Congress would do, they will fail to capture sufficient resources to meet these needs, while conferring windfall profits on energy companies and other emitters. This latter course would risk large increases in deficits and debt (already on course to reach unsustainable levels in future decades), significant increases in poverty and hardship, and a further widening of the gap between rich and poor.

### **Designing Climate-Change Legislation That Shields Low-Income Households From Increased Poverty And Hardship**

Making sure that sufficient resources are available to shield low-income households from increased poverty and hardship is crucial in the design of climate-change policies. But it is only the first step needed to avoid increases in poverty. It also is vital to use the resources made available for

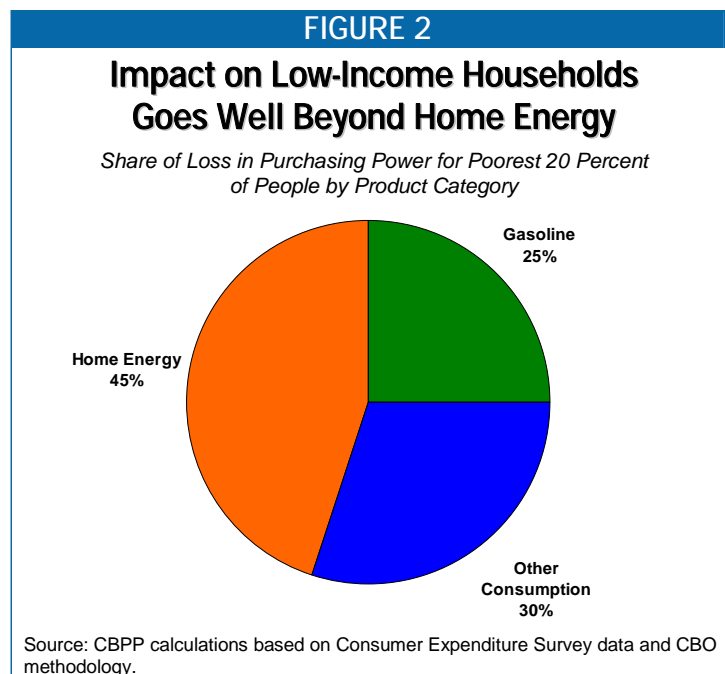
this purpose in a way that is effective in reaching low-income households, efficient (with low administrative costs), and consistent with energy conservation goals. At this early stage of the debate, no climate-change legislation introduced on Capitol Hill meets this goal, although there is a growing interest among a number of lawmakers in finding effective ways to protect low-income people from increased costs.

To shield vulnerable households from higher energy costs in a manner that is both effective and efficient, we recommend that policymakers follow these five basic principles.

1. **Fully protect the most vulnerable households.** Climate-change legislation should not make poor families poorer or push more people into poverty. To avoid that outcome, climate rebates should be designed to fully offset higher energy-related costs for low-income families. A good place to start is by fully protecting households in the bottom fifth of the income spectrum — those with average incomes of \$13,000 — or less than \$27,000 for a family of three. Families at modestly higher income levels that struggle to make ends meet will need some help, as well, in coping with higher bills.
2. **Use mechanisms that reach all or nearly all low-income households.** Some low-income households work for low wages and could receive their climate rebate through the tax code, such as through an increase in the Earned Income Tax Credit. But others are elderly, unemployed (especially during recessions), or have serious disabilities. Climate rebates need to reach all of them.

Fortunately, policymakers can tap existing mechanisms to reach the large number of low-income households that cannot be reached through a tax rebate mechanism because their incomes are so low they are not required to file a federal income tax return. For example, “climate rebates” could be provided through the electronic benefit transfer (EBT) systems that state human service agencies use to provide assistance to many poor people. Policymakers could fill any remaining gaps, and provide weatherization assistance, through some increases in the Low Income Home Energy Assistance Program.

3. **Minimize red tape.** Funds set aside for low-income consumers should go to intended beneficiaries, not to administrative costs or profits. Accordingly, policymakers should provide assistance as much as possible through existing, proven delivery mechanisms rather than new public or private bureaucracies.
4. **Don't focus solely on utility bills.** For households in the bottom fifth of the population,



higher home energy prices will account for *less than half* of the hit on their budgets from a cap-and-trade system. And about 20 percent of the households in the bottom fifth have their utility bills reflected in their rent, so they pay for utilities only indirectly, through the rents their landlords charge. Policymakers should structure “climate-change rebates” so they can also help low-income families with these rent increases, as well as higher prices for gasoline and other products and services that are sensitive to energy costs.

5. ***Adjust for family size.*** Larger households should receive more help than smaller households because they have higher expenses. Families with several children will generally consume more energy, and consequently face larger burdens from increased energy costs, than individuals living alone. Many other forms of assistance vary by household size; this one should as well.

## **Conclusion**

Well-designed climate-change policy that auctions most or all of the permits can generate resources that can be used to avoid regressive outcomes and address other legitimate budgetary claims that arise from the new policy. Policymakers should recognize the importance both of generating adequate revenue and of addressing concerns regarding equity and fiscal responsibility, so that they avoid ending up with a policy that increases poverty and further widens gaps between rich and poor, increases deficits and debt, or both.