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PROTECTING LOWER-INCOME FAMILIES WHILE FIGHTING GLOBAL WARMING

HEARING

BEFORE THE

SUBCOMMITTEE ON
INCOME SECURITY AND FAMILY SUPPORT

OF THE

COMMITTEE ON WAYS AND MEANS

U.S. HOUSE OF REPRESENTATIVES

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PROTECTING LOWER-INCOME FAMILIES WHILE FIGHTING GLOBAL WARMING

THURSDAY, MARCH 12, 2009

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON WAYS AND MEANS,
SUBCOMMITTEE ON INCOME SECURITY AND FAMILY SUPPORT,
Washington, DC.

The Subcommittee met, pursuant to notice, at approximately 10:10 a.m., in room B–318 Rayburn House Office Building, Hon. Jim McDermott [Chairman of the Subcommittee] presiding.

[The advisory announcing the hearing follows:]

ADVISORY

FROM THE COMMITTEE ON WAYS AND MEANS

SUBCOMMITTEE ON INCOME SECURITY AND FAMILY SUPPORT

FOR IMMEDIATE RELEASE
March 5, 2009 ISFS–1

CONTACT: (202) 225–1025

McDermott Announces Hearing on Protecting Lower-Income Families While Fighting Global Warming

Congressman Jim McDermott (D–WA), Chairman of the Subcommittee on Income Security and Family Support of the Committee on Ways and Means, today announced that the Subcommittee will hold a hearing on protecting low- and moderate-income families while curbing global warming. The hearing will take place on Thursday, March 12, 2009, in B–318 Rayburn House Office Building, immediately after a brief Subcommittee organizational meeting beginning at 10:00 am. In view of the limited time available to hear witnesses, oral testimony at this hearing will be from invited witnesses only. However, any individual or organization not scheduled to appear may submit a written statement for consideration by the Subcommittee and for inclusion in the record of the hearing.

BACKGROUND:

A major international assessment released in 2007 highlighted the clear consensus in the scientific community that the Earth's climate has unequivocally warmed and that most of the observed changes since the 1970s are due to greenhouse gases emitted as a result of human activity. Various proposals have been advanced to curb these emissions and the associated risk of significant and potentially catastrophic environmental and economic damage. Such proposals will likely raise the price of fossil-fuel energy sources, which could present a particular hardship for low-and moderate-income families. The Congressional Budget Office estimates that households in the bottom fifth of income would have their energy costs, as a percentage of their income, rise nearly twice as much as households in the top fifth if greenhouse emissions were cut by 15 percent. This raises the question of how to best mitigate these costs for lower-income households to shield them from enduring increased hardship.

In announcing the hearing, Chairman McDermott stated, **"We must address the dire risks of global warming while also ensuring this effort does not impose additional hardships on families already struggling to get by. We should establish specific mechanisms to help these families, and I look forward to hearing testimony related to that goal."**

FOCUS OF THE HEARING:

The hearing will focus on ensuring effective and efficient protections for low- and moderate-income families while addressing the threat of climate change.

DETAILS FOR SUBMISSION OF WRITTEN COMMENTS:

Please Note: Any person(s) and/or organization(s) wishing to submit for the hearing record must follow the appropriate link on the hearing page of the Committee website and complete the informational forms. From the Committee homepage, http://waysandmeans.house.gov, select "Committee Hearings". Select the hearing for which you would like to submit, and click on the link entitled, "Click here to provide

a submission for the record." Once you have followed the online instructions, complete all informational forms and click "submit" on the final page. ATTACH your submission as a Word or WordPerfect document, in compliance with the formatting requirements listed below, by close of business Thursday March 26, 2009. Finally, please note that due to the change in House mail policy, the U.S. Capitol Police will refuse sealed-package deliveries to all House Office Buildings. For questions, or if you encounter technical problems, please call (202) 225–1721.

FORMATTING REQUIREMENTS:

The Committee relies on electronic submissions for printing the official hearing record. As always, submissions will be included in the record according to the discretion of the Committee. The Committee will not alter the content of your submission, but we reserve the right to format it according to our guidelines. Any submission provided to the Committee by a witness, any supplementary materials submitted for the printed record, and any written comments in response to a request for written comments must conform to the guidelines listed below. Any submission or supplementary item not in compliance with these guidelines will not be printed, but will be maintained in the Committee files for review and use by the Committee.

1. All submissions and supplementary materials must be provided in Word or WordPerfect format and MUST NOT exceed a total of 10 pages, including attachments. Witnesses and submitters are advised that the Committee relies on electronic submissions for printing the official hearing record.

2. Copies of whole documents submitted as exhibit material will not be accepted for printing. Instead, exhibit material should be referenced and quoted or paraphrased. All exhibit material not meeting these specifications will be maintained in the Committee files for review and use by the Committee.

3. All submissions must include a list of all clients, persons, and/or organizations on whose behalf the witness appears. A supplemental sheet must accompany each submission listing the name, company, address, telephone, and fax numbers of each witness.

The Committee seeks to make its facilities accessible to persons with disabilities. If you are in need of special accommodations, please call 202–225–1721 or 202–226–3411 TTD/TTY in advance of the event (four business days notice is requested). Questions with regard to special accommodation needs in general (including availability of Committee materials in alternative formats) may be directed to the Committee as noted above.

Note: All Committee advisories and news releases are available on the World Wide Web at http://waysandmeans.house.gov.

Chairman MCDERMOTT. I would now like to start the hearing itself. Would the panel of witnesses please take their seats. If you'll come up to the table and we'll get you started.

We're here today to discuss helping low- and moderate-income families as we attempt to reduce the harmful greenhouse gas emissions that threaten our planet.

As a medical doctor, I took an oath that says, "When it comes to treating patients, do no harm." There's no doubt in my mind that we can protect the planet from environmental harm and protect low- and moderate-income Americans from economic harm while we do it.

Moving toward greener and cleaner energy will impose costs. There's no question about it, but the long-term cost of inaction is surely much, much higher, and we fail to respond to it at our own peril.

Furthermore, we can mitigate the impact of the higher energy costs resulting from climate change legislation for most households.

This Subcommittee's jurisdiction over many of the primary programs for low-income families and the Full Committee's responsi-

bility for providing tax relief to middle-income Americans provide us the tools needed to achieve this goal.

The world's scientific community has told us in unequivocal terms that our climate is warming and that most of this warming is the result of human activity, primarily the release of greenhouse gases into the Earth's atmosphere.

There's a graph up on the monitor, which is from the National Oceanographic and Atmospheric Administration. It shows a significant change in the mean global temperature over the last 30 years, with eight of the ten warmest years on record occurring since 2001.

Now climate change means more flooding and more droughts, longer and hotter heat waves, and rising sea levels. These trends translate into the growing loss of human life, the extinction of many animal species, and the imposition of extraordinary economic costs.

I don't know how anyone can suggest we could sit on our hands and watch this happen, because such inaction would be the worst kind of generational malfeasance.

Reducing the threat of climate change means reducing the emission of harmful greenhouse gases, such as carbon dioxide. There are various proposals for achieving this goal, but they all ultimately seek to impose some form of limit on those emissions by making the cost reflect their impact on our climate.

Producers of energy will likely pass through much of the costs to their consumers. The good news, however, is that the limits on the greenhouse emissions will generate revenues that can be directly returned to consumers to offset higher energy costs.

Climate control legislation also will generate new employment opportunities in green jobs that produce cleaner energy and promote greater efficiency.

In helping the consumers, we must take particular care to reach out to lower income Americans, since they have less disposable income available to meet the higher energy costs. We saw that in the run-up in gas prices last year.

Furthermore, our ability to offset higher energy costs will be maximized if we comprehensively focus on the consumers, without needlessly diverting resources to energy producers in the vain hope that they'll pass along the savings.

We've seen in the last little while the folly of handing money to banks and expecting them to lend, and giving money to utilities runs the same risk, in my view.

The Obama Administration has proposed that some of the revenues from climate control legislation be used to continue the Making Work Pay credit, which provides a refundable tax credit of $400 a year for individuals and $800 for couples.

This may be a useful start, but there may need to be additional tax relief for low- and moderate-income households in the future to ensure that higher energy costs are fully offset.

Additionally, we should consider providing further assistance to large families, given the fact that more children usually mean higher energy costs.

Finally we need to recognize that some Americans don't have earnings—senior citizens, the disabled, the unemployed—but they still need help in addressing higher energy costs.

If you're living on SSI, and your electric rates go up, you are participating in this whole process.

Any proposed assistance that excludes needy households is incomplete and inadequate, in my view.

In short, we can protect low- and middle-income families while also protecting our planet.

I look forward to hearing from our witnesses on how best to pursue this goal.

The leadership of the House has suggested that we are going to move on this issue rather quickly. So, we called this hearing because we wanted to deal with what is undoubtedly one of the impacts of this process. We need to get our thinking clear about how we're going to mitigate the impacts on the society.

I now yield to my Ranking Member, Mr. Linder.

Mr. LINDER. Thank you, Mr. Chairman.

In your announcement for this hearing, you began with this statement. "A major international assessment released in 2007 highlighted the clear consensus in the scientific community that the Earth's climate has unequivocally warmed as a result of human activity."

Not so fast. Science is not a democracy. The head count fallacy has been recognized as irrational since Aristotle. Even if science were a democracy, for every scientist who supports the notion of human-caused global warming, there are more than ten who consider that notion pure vanity, and they have made their names public.

Our Committee has been told that water vapor is the overwhelming heat-producing gas. CO^2 is a bit part player. The UN's climate panel has exaggerated its effect on temperature tenfold as satellite data show.

In the 1995 IPCC report, a UN bureaucrat removed five statements in the scientist's final draft that there was no basis to blame human activity, and replaced them with a contrary statement that humans were to blame.

That is not science, but it has been the official line ever since. No science, just bureaucratic conclusions contrary to science, an excuse for a brand new tax.

In the scientific world, only two conditions obtain. One is theory and the other is fact. Areas are studied for centuries, and then are proven by facts to be correct or incorrect. Both Galileo and Einstein were famous deniers of centuries-old theories. They were right. The consensus was wrong.

In this rather recent discussion, the whole notion of proving or disproving the theory is not only ignored, it is considered heretical.

Parenthetically, let me note that to question science is called "scholarship"; to question religion is considered heresy.

Since the mid 1970s when some of the same scientists were warning of a coming ice age, and then felt comfortable going after some of the research grant money on the global warming side, we have not yet heard a single fact adduced proving humans to be responsible.

The entire case for panic is based on computer games. I want to remind you that the other multi-trillion-dollar debacle we are witnessing around the world today is because risk managers with gray

hair were replaced by computers. The computers got it spectacularly wrong, yet the financial consensus relied upon them.

Today predictions of future weather calamities are being made by computer games that do not take into consideration scientific observations of the Earth's natural temperature modulations.

Every computer predicting calamity requires for its accuracy a growing hot spot high above the equator. We have had years to measure that hot spot with scientific instruments. It doesn't exist.

How do the modelers respond? "You must have misread your thermometers for 50 years, because the computer guesses that it should be there."

So, we prepare to attack this erroneous conclusion with the one thing our government does best: Raise taxes on the rich and give that money to the poor. There! That fixes that!

Have we forgotten the testimony before this Committee that showed us that because of entitlements, our Nation's total revenue stream will be insufficient to pay just the interest on the debt in 31 years? So, we'll just add another entitlement.

Let me show you a slide. Whether you select the minimum plan or the maximum plan put forth by the experts, this program will dwarf our current welfare program. Turning the vast majority of our citizens into supplicants is as futile as it is cruel.

Assuming you satisfy yourselves that you have taken care of the poor and fixed the climate, a vanity at which I just cringe, who is going to be hurt? Well, just 2 billion of the world's most vulnerable people.

We've enjoyed a living standard in the last 100 years, which is the envy of the world. India and China are now going through what we went through. One byproduct of that success is CO^2. Why do we want to deny that same opportunity to the most vulnerable, whom we will consign to a lifetime of hunger and poverty.

As Dr. John Christy told us just last week, having lived among the world's poor, their lives there are brutal and short. Those who kick the poor in the teeth while pretending to soak the rich do not merit the votes from either.

Thank you, Mr. Chairman.

Chairman MCDERMOTT. We will now turn to our first witness. Everyone has 5 days to put things in the record, if they wish to make statements.

I will turn to Dr. Dinan.

STATEMENT OF TERRY DINAN, PH.D., SENIOR ADVISOR FOR CLIMATE ISSUES, CONGRESSIONAL BUDGET OFFICE

Dr. DINAN. Chairman McDermott, Congressman Linder, and Members of the Subcomittee, thank you for the invitation to testify on the effects that a Cap and Trade Program for carbon dioxide emission might have on low-income households.

Global climate change poses one of the nation's most significant long-term——

Mr. LINDER. Excuse me, Doctor. Is your microphone on?

Dr. DINAN. It is. Should I move it closer?

Mr. LINDER. Thank you.

Dr. DINAN. Can you hear me? Okay.

Global climate change poses one of the nation's most significant long-term policy challenges. While the potential damage from climate change is large, the potential cost of avoiding it is large too.

Policy makers could help minimize that cost by using a tax or well-designed cap and trade program to motivate reductions and emissions.

Either a tax or a cap would inevitably cause prices of goods and services to increase, with larger increases for goods that entail greater emissions, such as home heating.

Those price increases are essential to the success of the program, but they would impose a larger financial burden on low-income households than on higher income households.

Lawmakers could choose to reduce the burden created by prices by selling the allowances and giving the money back to households. As depicted on the left-hand side of this figure, low-income households would actually be made better off under a cap-and-trade policy if the government sold all of the allowances and used the proceeds to provide the same lump-sum rebate to each household in the United States

In that case, the size of the rebate is likely to be larger than the average increase in expenditures that low-income households would face as a result of the policy.

In contrast, the same size rebate would not fully offset higher income households for the increased expenditures. Lawmakers could use the revenue gained by selling allowances in many ways. The middle section of the figure shows the distributional outcome of using that revenue to fund a decrease in corporate taxes. Higher-income households bare most of the burden of corporate taxes, they would actually be made better off under this policy.

Their decreased taxes would more than compensate them for their higher expenditures. Lower income households, however, would gain little as a result of the corporate tax cut.

Determining how to distribute the allowance value could entail tradeoffs. As depicted by the middle bar in the figure now showing, decrease in corporate taxes could lower the overall cost of the policy, even though it would provide little benefit for low-income households.

That cost reduction stems from the increase in economic activity that a tax cut would encourage.

In contrast, distributing the allowance value in the form of lump-sum rebates would have higher economy-wide cost. Giving the allowances away, which was depicted at the right hand side of both figures would score low on both measures. It would have relatively high economy-wide cost, and would do little to offset the cost for lower income households.

If lawmakers wanted to use a more targeted approach for offsetting cost incurred by low-income households, they could choose from a variety of different strategies.

Using existing transfer programs or providing rebates for the income tax system would avoid creating new institutional structures for administering payments.

No single existing system would reach all households, however. For example, as shown in this figure, only 54 percent of households

in the lowest fifth of the income distribution receive earnings, and thus would be likely to file an income tax return.

Providing rebates through the income tax system would require the participation of households that would not otherwise have an incentive to file.

The response to the recent stimulus rebate suggests that such an approach can work, but that 100 percent participation is unlikely.

Delivering rebates through a combination of the income tax system and existing transfer programs would do a better job of reaching low-income households than would relying on either approach by itself.

However, it is not easy to coordinate among existing programs to avoid compensating the same household twice. For example, 10 percent of households in the lowest income quintile both had earnings and received Social Security benefits. Those households would receive some automatic compensation for higher prices through the Social Security COLA.

Finally, no program or set of programs could account for all of the regional and household-specific circumstances that would cause the cost burden created by a cap-and-trade program to vary among low-income households.

That concludes my prepared statement. I'd be pleased to answer any questions that you might have.

Thank you.

[The prepared statement of Dr. Dinan follows:]

Statement of Terry M. Dinan, Senior Advisor

The Distributional Consequences of a Cap-and-Trade Program for CO_2 Emissions

This document is embargoed until it is delivered at 10:00 a.m. (EDT) on Thursday, March 12, 2009. The contents may not be published, transmitted, or otherwise communicated by any print, broadcast, or electronic media before that time.

Chairman McDermott, Congressman Linder, and Members of the Subcommittee, thank you for the invitation to testify this morning on the implications for low-income families of cap-and-trade programs that are designed to reduce U.S. emissions of carbon dioxide (CO_2).

Global climate change poses one of the nation's most significant long-term policy challenges. Human activities are producing increasingly large quantities of greenhouse gases, particularly CO_2. The accumulation of those gases in the atmosphere is expected to have potentially serious and costly effects on regional climates throughout the world. The magnitude of such damage remains highly uncertain, but there is growing concern about the risk that the damage may be extensive and perhaps even catastrophic.

A risk of such magnitude can justify actions to reduce that possible harm in much the same way that the hazards we all face as individuals motivate us to buy insurance. Although the potential damage from climate change is large, the potential cost of avoiding it is large too, because it would entail making large reductions in global emissions over the coming decades. U.S. emissions currently account for roughly 20 percent of global emissions. As a result, substantially reducing global emissions would probably entail large reductions in U.S. emissions. Achieving such reductions would be likely to involve transforming the U.S. economy from one that runs on CO_2-emitting fossil fuels to one that relies on nuclear and renewable fuels, improvements in energy efficiency, and the large-scale capture and storage of CO_2 emissions.

One option for reducing emissions in a cost-effective manner is to establish a carefully designed cap-and-trade program. Under such a program, the government would set gradually tightening limits on emissions, issue rights (or allowances) consistent with those limits, and then allow firms to trade the allowances among themselves. The net financial impact of such a program on low- and moderate-income households would depend in large part on how the value of emission allowances was

allocated. By itself, a cap-and-trade program would lead to higher prices for energy and energy-intensive goods. Those price increases would impose a larger burden on low- and moderate-income households than on higher-income households, relative to either their income or total spending. Lawmakers could choose to offset the price increases experienced by low- and moderate-income households by providing for the sale of some or all of the CO_2 emission allowances and using the revenues to compensate such households.

My testimony makes the following key points about those issues:

- A cap-and-trade program, like a tax on CO_2 emissions, could raise a significant amount of revenue because the value of the allowances created under such a program would probably be substantial. As the cap specified in legislation became more stringent over time, the value of the allowances would grow. A key decision for policymakers is whether to sell all of the emission allowances, thereby capturing their value in the form of Federal revenue that could be used in various ways, or to give some of them away (for example, to companies that produce or use fossil fuels).
- Under a cap-and-trade program, firms would not ultimately bear most of the costs of the allowances but instead would pass them along to their customers in the form of higher prices. Such price increases would stem from the restriction on emissions and would occur regardless of whether the government sold emission allowances or gave them away.
- Price increases would be essential to the success of a cap-and-trade program because they would be the most important mechanism through which businesses and households would be encouraged to make investments and behavioral changes that reduced CO_2 emissions. Those increases, however, would impose a larger burden, relative to their income, on low-income households than on high-income households.
- Policymakers would face tradeoffs in deciding how to use the value of the allowances. For example, they might sell the allowances and use the revenue to reduce existing taxes that discourage the productive use of capital and labor. That strategy could lessen the overall cost that a cap-and-trade program would impose on the economy but would do little to offset the burden that the price increases would impose on low-income households. Alternatively, policymakers might choose to use the revenue raised by selling allowances to provide support for low-income households—a strategy that would lessen the burden on low-income households but that could have somewhat higher economywide costs. Thus, policymakers will face tradeoffs in deciding how to best use the value of the allowances. A policy of giving the allowances away to companies would preclude either reducing the economywide costs or lessening the burden on low-income households.
- Designing programs that protect low-income households could be challenging: No program could address all the region- and household-specific circumstances that could affect families' costs. A variety of policy instruments might be necessary to effectively target most low-income households. Although a significant fraction of those households have earnings (and, thus, are likely to file tax returns), many do not. Some mechanisms already in place, such as cost-of-living adjustments for Social Security and other entitlement programs, would automatically compensate households for some or all of the increased energy costs.

The Risk of Damage from Climate Change

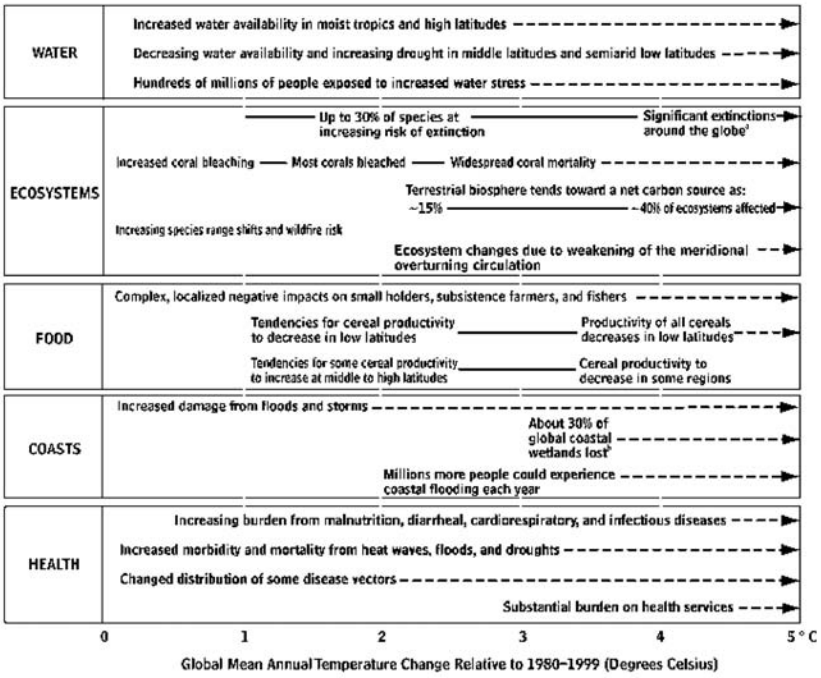
Shifts in climate resulting from the accumulation of greenhouse gases in the atmosphere will have many different effects, including impacts on regional and seasonal weather patterns; the amount and type of precipitation; large storms and hurricanes; oscillations in temperature and precipitation; sea level; ocean acidity; ecosystems and biodiversity; agriculture, forestry, and fishing; water supply; and human health.

Although linking particular effects to specific changes in global temperature is extremely difficult, those effects are expected to become increasingly severe as the climate warms. According to the most recent major report of the Intergovernmental Panel on Climate Change (IPCC), even 1 degree Celsius of additional warming could result in increasing drought and decreasing water availability in arid regions such as the Mediterranean and the American Southwest; increasing damage from storms, flooding, and rising sea level in several regions; substantial bleaching of corals and a significant fraction of the world's species being placed at increasing risk of extinction; shifts in agricultural productivity, with degradation in some regions and improvement in others; and changes in the geographic distribution of some diseases. Figure 1, which is drawn from the IPCC report, summarizes the research about the types of environmental and economic changes that might accompany varying

changes in the climate.[1] The potential for a rapid, abrupt change in climate to occur if global temperatures pass a critical, but uncertain, level is of most significant concern. Such rapid change would entail substantial damage because it would not allow time for species and ecosystems to adjust. For reasons similar to why individuals insure themselves against risks they face, policymakers might want to cut CO_2 emissions in order to reduce the potential for substantial damage.

Figure 1.

Key Effects of Climate Change as a Function of an Increase in Global Average Temperature



Source: Neil Adger and others, "Summary for Policymakers," in M.L. Parry and others, eds., *Climate Change 2007: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Cambridge, U.K.: Cambridge University Press, 2007), p. 16.

Note: Effects will vary by extent of adaptation, rate of temperature change, and socioeconomic pathway.

a. "Significant" is defined as more than 40 percent.

b. Based on an average rise in sea level of 4.2 millimeters per year from 2000 to 2080.

How a Cap-and-Trade Program Would Work

As part of a global effort to reduce CO_2 emissions, the United States is considering a cap-and-trade program that would seek to mitigate those changes by setting a limit on total emissions during some period and requiring regulated firms to hold rights, or allowances, to the emissions permitted under that cap. (Each allowance would entitle companies to emit one ton of CO_2 or to sell fuel that would release one ton of CO_2 when it was burned.) After the allowances for a given period were distributed, firms would be free to buy and sell the allowances among themselves.

[1] Neil Adger and others, "Summary for Policymakers," in M.L. Parry and others, eds., *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge, U.K.: Cambridge University Press, 2007).

Firms that were able to reduce emissions most cheaply would profit from selling allowances to firms that had relatively high abatement costs. The trading aspect of the program would lead to substantial cost savings relative to command-and-control approaches—which would mandate how much entities could emit or what technologies they should use—because it would provide more flexibility in where and how emission reductions necessary to meet any given target were achieved.

A cap-and-trade program has been implemented at the Federal level in the United States to limit emissions of sulfur dioxide (which contribute to acid rain). That program has been in effect since 1995 and is widely judged to have reduced emissions at a significantly lower cost than would have been the case if lawmakers had chosen to rely on a command-and-control approach. A cap-and-trade program for CO_2 emissions is currently in effect in the Northeast region of the United States, and several states outside that region are considering following suit. The European Union has a cap-and-trade program for CO_2 emissions as part of its effort to comply with emission limits under the initial phase of the Kyoto Protocol, which spans the period from 2008 to 2012.

Distributional Consequences of a Cap-and-Trade Program

In establishing a cap-and-trade program, policymakers would create a new commodity: the right to emit CO_2. The emission allowances would have substantial value. On the basis of a review of the existing literature and the range of CO_2 policies now being debated, CBO estimates that by 2020, the value of those allowances could total between $50 billion and $300 billion annually (in 2006 dollars). The actual value would depend on various factors, including the stringency of the cap, the possibility of offsetting CO_2 emissions through carbon sequestration or international allowance trading, and other features of the specific policy that was selected.[2]

Policymakers would need to decide how to allocate the allowances that corresponded to each year's CO_2 cap. One option would be to have the government capture the value of the allowances by selling them, as it does with licenses to use the electromagnetic spectrum. Another possibility would be to give the allowances to energy producers or some energy users at no charge. The European Union has used that second approach in its cap-and-trade program for CO_2 emissions, and nearly all of the allowances issued under the 14-year-old U.S. cap-and-trade program for sulfur dioxide emissions are distributed in that way. Whether policymakers decided to sell all of the allowances or give some of them away would have significant implications for the distribution of gains and losses among U.S. households and for the overall cost of the policy.

Market Forces Would Determine Who Bore the Costs of a Cap

Obtaining allowances—or taking steps to cut emissions to avoid the need for such allowances—would become a cost of doing business for firms that were subject to the CO_2 cap. However, those firms would not ultimately bear most of the costs of the allowances. Instead, they would pass those costs along to their customers (and their customers' customers) in the form of higher prices. By attaching a cost to CO_2 emissions, a cap-and-trade program would thus lead to price increases for energy and energy-intensive goods and services, the production or use of which contributes the most to those emissions. Such price increases would stem from the restriction on emissions and, except in limited circumstances (for electricity in states with price regulations, for instance), would occur regardless of whether the government sold emission allowances or gave them away. Indeed, the price increases would be essential to the success of a cap-and-trade program because they would be the most important mechanism through which businesses and households would be encouraged to make economically motivated changes in investment and consumption that reduced CO_2 emissions.

The rise in prices would impose a larger burden, relative to income, on low-income households than on high-income households for two reasons. First, low-income households spend a much larger fraction of their income than do high-income households. In addition, energy-intensive items compose a greater share of low-income households' total expenditures. Data collected by the Bureau of Labor Statistics indicates that, measured as a share of income, spending on energy-intensive items by households in the lowest income quintile averages more than five times that by households in the highest income quintile (see Table 1).

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[2] Carbon sequestration is the capture and long-term storage of CO_2 emissions underground (geological sequestration) or in vegetation or soil (biological sequestration). For more information, see Congressional Budget Office, *The Potential for Carbon Sequestration in the United States* (September 2007).

Table 1.

Average Annual Household Expenditures on Energy-Intensive Items, by Income Quintile, 2007
(Dollars)

	Quintile					All
	Lowest	**Second**	**Middle**	**Fourth**	**Highest**	**Households**
Utility Expenditures	1,203	1,596	1,840	2,181	2,847	1,934
Gasoline Expenditures	1,046	1,768	2,418	2,988	3,696	2,384
Total Spending on Energy-Intensive Items	2,249	3,364	4,258	5,169	6,543	4,318
Total as a Percentage of Income	21.4	12.2	9.2	7.1	4.1	6.8

Note: Energy-intensive items include natural gas, electricity, fuel oil, other heating fuels, gasoline, and motor oil.
Source: Congressional Budget Office based on data from Bureau of Labor Statistics, *Consumer Expenditure Survey, 2007* (www.bls.gov/cex/2007/Standard/quintile.pdf).

Although the price of energy-intensive items such as electricity, natural gas, home heating fuels, and gasoline would increase the most, the price of most items would rise in response to the imposition of a cap-and-trade program (because energy is an input for almost all goods and services). The price increases (as a percentage of income) for items that were not energy-intensive would account for approximately 40 percent of the total price increases for households.

The price increases caused by a cap-and-trade program would impose additional costs on households. For example, without incorporating any benefits to households from lessening climate change, CBO estimates that the price increases resulting from a 15 percent cut in CO_2 emissions could cost the average household roughly $1,600 (in 2006 dollars), ranging from nearly $700 in additional costs for the average household in the lowest one-fifth (quintile) of all households arrayed by income, to about $2,200 for the average household in the highest quintile.

The higher prices that would result from a cap on CO_2 emissions would reduce demand for energy and energy-intensive goods and services and thus create losses for some current investors and workers in the sectors of the economy that supply such products. Investors might see the value of their stocks decline, and workers could face higher risk of unemployment as jobs in those sectors were cut. Stock losses would tend to be widely dispersed among investors because shareholders typically diversify their portfolios. In contrast, the costs of unemployment would probably be concentrated among relatively few households and, by extension, their communities. The magnitude of those transitional costs would depend on the pace of emission reductions, with more rapid reductions leading to larger transitional costs.

Policymakers Would Determine Who Received the Value of the Allowances

Although the price increases triggered by a cap-and-trade program for CO_2 emissions would have a greater impact, relative to income, on lower income households, the program's ultimate distributional effect would depend on policymakers' decisions about how to allocate the emission allowances. Those allowances would be worth tens or hundreds of billions of dollars per year. Who received that value would depend on how the allowances were distributed.

Lawmakers could choose to offset the price increases experienced by low-income households or the costs imposed on workers in particular industrial sectors by providing for the sale of some or all of the allowances and using the revenue to pay compensation. For example, CBO previously examined the distributional effects of a cap-and-trade program that would reduce CO_2 emissions in the United States by 15 percent. That study concluded that lower income households could be better off as a result of the policy (even without including any benefits from reducing climate change) if the government chose to sell the allowances and use the revenue to pay an equal lump-sum rebate to every household in the United States.[3] In that case,

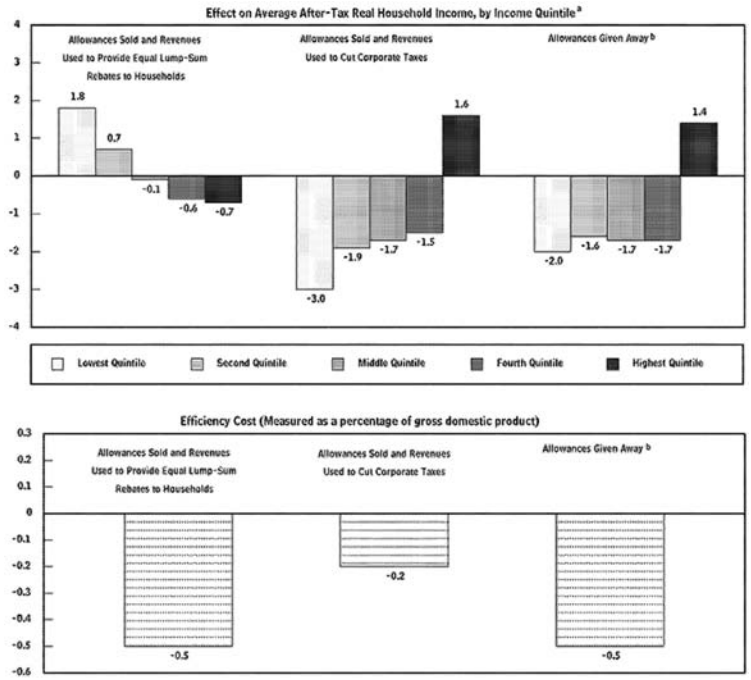
[3] See Congressional Budget Office, *Who Gains and Who Pays Under Carbon-Allowance Trading? The Distributional Effects of Alternative Policy Designs* (June 2000).

the size of the rebate would be larger than the average increase in spending by low-income households resulting from the higher price of energy (see the top panel of Figure 2).[4] High-income households would be worse off under that scenario (again, excluding any benefit from reducing the risks associated with climate change) because the average increase in their spending would be larger than the rebate.

Figure 2.

Effects of a 15 percent Cut in CO_2 *Emissions, with the Allowances' Value Used in Various Ways*

(Percentage change)



Sources: Congressional Budget Office (top panel); Terry M. Dinan and Diane Lim Rogers (bottom panel), "Distributional Effects of Carbon Allowance Trading: How government Decisions Determine Winners and Losers," *National Tax Journal*, vol. 55, no. 2 (June 2002), 199–221.

Notes: These figures do not reflect any of the benefits from reducing climate change.

The policy examined here is a cap-and-trade program designed to reduce carbon dioxide (CO_2) emissions by 15 percent from 1998 levels. (CBO performed the analysis in 2000 and used 1998 emission levels so the distributional effects could be based on actual, rather than projected, data on consumer spending and taxes.) In the top panel, the costs of the cap-and-trade policy are shown as decreases in real household income, measured as a percentage of aftertax income before the policy change. Those numbers reflect data on each quintile's cash consumption and estimates of cash income. (A quintile contains one-fifth of U.S. households arrayed by income.) Because of data limitations, those numbers should be viewed as illustrative and broadly supportive of the conclusions in this analysis rather than as precise estimates.

[4] One researcher has suggested that an environmental tax credit based on earnings also could reduce the regressive effects of the price increases that would result from a tax or cap on CO_2 emissions. See Gilbert E. Metcalf, *A Proposal for a U.S. Carbon Tax Swap*, Discussion Paper 2007–12 (Washington, D.C.: Brookings Institution, Hamilton Project, October 2007).

a. Indicates the net effect of households' increased expenditures because of cap-induced price increases and the income that households would receive as a result of the allowance-allocation strategy.

b. These estimates assume that the government would use any positive net revenue remaining after accounting for ways in which the policy affected the Federal budget to provide equal lump-sum rebates to households. The results would be more regressive if the government used any positive net revenue to decrease corporate taxes or payroll taxes.

In contrast, using the revenues from selling allowances to reduce corporate income taxes would provide smaller offsets to the price increases experienced by low-income households than would an equal lump-sum rebate to every household. Although corporations write the checks to pay the corporate income tax, that money ultimately comes from households through some combination of lower returns to capital, lower wages, and higher prices. The issue of who pays the tax is uncertain, but most assumptions about the incidence of the tax suggest that higher-income households pay a greater portion of the corporate income tax than low-income households and that the benefits to low-income households from reducing corporate income taxes would not offset the increased costs from higher energy prices. Using the revenues from selling allowances to decrease payroll taxes would also provide smaller offsets to low-income households than would an equal per-household rebate. That offset would be less than the increased costs borne by low-income households but larger than the offset provided by a reduction in corporate income taxes.

Giving all or most of the allowances to energy producers—as was done in the cap-and-trade program for sulfur dioxide emissions—would also exacerbate the regressivity of the price increases. The reason is that the prices of those goods and services would go up, regardless of whether producers were required to purchase the allowances or received them for free (because the price increases stem from the restriction on emissions). Those price increases would reflect the value of the allowances. If companies benefited from the price increases but did not have to purchase the allowances, they would receive windfall profits, which could be very large. For example, in 2000, CBO estimated that if emissions were reduced by 15 percent and all of the allowances were distributed free of charge to producers in the oil, natural gas, and coal sectors, the value of the allowances would be 10 times the combined profits of those producers in 1998. Thus, the windfall gains that they would receive as a result of the free allocation would far outweigh the loss in sales that they might experience as consumers cut back on their use of fossil fuels.

The profits resulting from a free allocation of allowances would accrue to shareholders, who are primarily from higher-income households. That additional income would more than offset those households' increased spending. Low-income households, by contrast, would benefit little if allowances were given to energy producers for free, and they would still bear a disproportionate burden from the price increases that would nonetheless occur. Thus, giving away allowances would be significantly regressive, making higher-income households better off as a result of the cap-and-trade policy and making lower income households worse off.

Reducing the Overall Economic Impact of a CO_2 Cap

How lawmakers allocated the revenue from selling emission allowances would affect not only the distributional consequences of a cap-and-trade policy but also its total economic cost. For instance, the government could use the revenue from auctioning allowances to reduce existing taxes that tend to dampen economic activity—primarily, taxes on labor, capital, or personal income. A CO_2 cap would have economic effects like those of raising such taxes: The higher prices caused by the cap would reduce real (inflation-adjusted) wages and real returns on capital, which would be equivalent to raising marginal tax rates on those sources of income. Using the value of the allowances to reduce such taxes could help mitigate that adverse effect of the cap. Alternatively, policymakers could choose to use the revenue from auctioning allowances to reduce the Federal deficit. If that reduction lessened the need for future tax increases, the end result could be similar to dedicating the revenue to cuts in existing taxes.

The decision about whether or not to sell the allowances and use the proceeds in ways that would benefit the economy could have a significant impact on the efficiency cost of an emissions cap. (The efficiency cost of a policy reflects the additional costs that producers would incur in order to produce goods in a way that led to lower emissions; it also reflects the loss in well-being that consumers would experience as a result of forgoing consumption of goods.) For example, the efficiency cost of a 15 percent cut in emissions could be reduced by more than half if the government sold allowances and used the revenue to lower corporate income taxes, rather

than devoting the revenue to providing lump-sum rebates to households or giving the allowances away (see the bottom panel of Figure 2).

In choosing among options for using revenues from the sale of allowances, policymakers could face a tradeoff between providing targeted assistance to low- and moderate-income households and offsetting some of the adverse effects on economic activity caused by the price increases. For example, using some of the auction proceeds for an equal lump-sum rebate paid to every household in the United States (set at an amount equal to the increase in energy costs for the average household) could actually more than offset the average increase in spending on energy-intensive goods by low-income households; however, a lump-sum rebate would not lower existing tax rates and thus would not offset any of the adverse effects that higher energy prices had on incentives to work. In contrast, using a portion of the auction proceeds to reduce corporate income tax rates could offset a substantial share of the additional adverse economic incentives, but it would relieve only a small portion of the increase in energy costs experienced by low-income households.

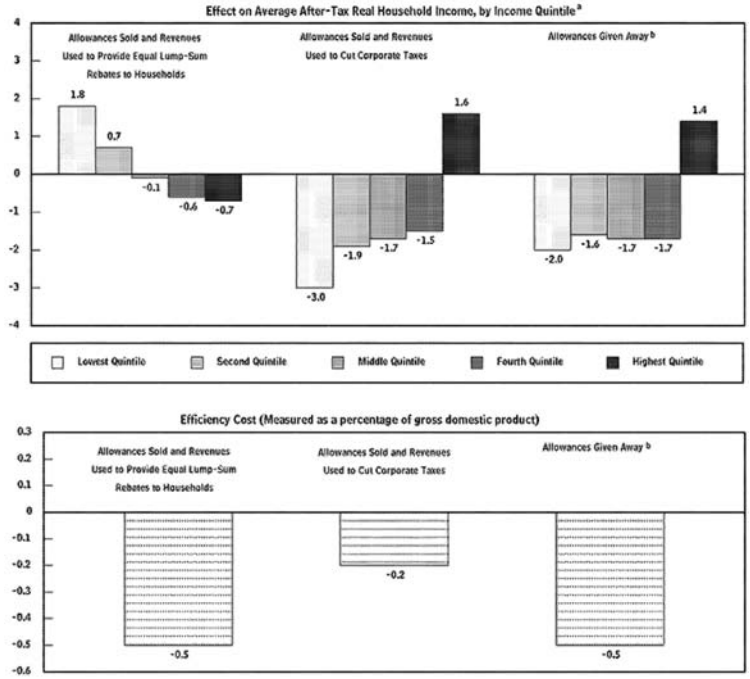
Policies can be designed to achieve a mixture of outcomes. For example, lowering payroll tax rates on a portion of earnings or reducing the rate at which the earned income tax credit (EITC) phases out would target more relief toward lower income families than would a reduction in corporate tax rates, while potentially offsetting a small fraction of the adverse economic effects of the program.

Options for Offsetting the Economic Impact of a Cap-and-Trade Program on Low-Income Households

Lawmakers could choose a variety of policies for offsetting the costs to households of higher energy prices. An important consideration in using revenues to provide assistance to households would be to do so in a way that did not incur significant new administrative or compliance costs. Using existing transfer programs or providing rebates through the income tax system would avoid creating new institutional structures for administering payments. Existing systems that already collect information on household income also are well suited to targeting assistance on the basis of need. No single existing system would reach all households, however. For example, only 54 percent of households in the lowest fifth of the income distribution receive earnings and thus would be likely to file an income tax return (see Figure 3). Households that normally would not file a return would need to file to participate in a rebate program based on the income tax system. The response to the recent stimulus rebates suggests that such an approach can work but that 100 percent participation is unlikely.

Figure 3.

Low-Income Households with Income and Benefits from Selected Sources
(Percent)



Sources: Congressional Budget Office tabulations and tax calculations based on data from the March 2005 Current Population Survey.

Notes: Quintiles are based on household income, unadjusted for household size. Quintiles have equal numbers of people.

SNAP = Supplemental Nutrition Assistance Program; LIHEAP = Low Income Home Energy Assistance Program; EITC = earned income tax credit.

Delivering rebates through a combination of the income tax system and existing transfer programs would, in theory, do a better job of reaching affected households than would relying on either approach by itself, and it would not require a new program. In practice, however, it is not easy to coordinate among existing programs to avoid overlap and ensure that economically equivalent households receive roughly the same benefit. For example, although 54 percent and 45 percent of households in the lowest quintile receive earnings and Social Security benefits, respectively, 10 percent of households receive both. As a result, 11 percent of households in the lowest quintile receive neither.

Reductions in Income Tax Rates

Reductions in individual or corporate income tax rates would be straightforward to administer and would provide the largest benefits in terms of economic efficiency, but they would score low in terms of offsetting energy price increases for low- and moderate-income households. Reductions in individual income tax rates would enable taxpayers to reduce the amount of taxes withheld from their paychecks to cover the cost of additional expenditures on energy-intensive items as they occurred throughout the year.

A proportional reduction in all individual income tax rates would provide the largest percentage increase in aftertax income and the largest dollar amount of tax reductions for taxpayers in the highest income tax brackets; taxpayers in the 10 percent or 15 percent tax brackets, who constitute roughly two-thirds of taxpayers with taxable income, would receive minimal benefits. Limiting the rate reductions to only the two lowest income tax brackets would provide a larger share of the tax benefits

to taxpayers in those brackets, but taxpayers whose income put them near the top of the 15 percent bracket ($41,450 for a single taxpayer and $83,000 for a couple in 2008) would benefit the most. Reductions in income tax rates would not help low-income households that did not have sufficient income to owe income taxes.

A reduction in corporate income tax rates would benefit owners of corporate stock in the short run, with most of the benefits going to higher-income households. As capital markets adjusted over the longer term, however, the economic gain from reducing the tax would spread across all types of capital. And over time, at least some of the economic gains could also be shifted to wage earners, although the degree of such shifting is uncertain. Nevertheless, any gains by low- and moderate-income households from a reduction in corporate taxes would be modest—even over the longer term—and insufficient to offset their increased energy costs.

Payroll Tax Rebates

A payroll tax rebate would reach the approximately 165 million workers who are covered under the Social Security and Medicare Programs. Economist Gilbert Metcalf of Tufts University has proposed a payroll tax rebate for Social Security and Medicare taxes as an offset to a carbon dioxide tax.[5] Under that proposal, the rebate would apply to the tax on the first $3,660 of earnings. With a combined employee and employer tax rate of 15.3 percent, the maximum energy credit per worker would be $560.[6]

Households without covered earnings would not benefit from a payroll tax rebate. Many of those households have low income or include retirees. Data from the 2008 Current Population Survey, produced by the U.S. Census Bureau, indicate that although about 80 percent of all households would be eligible for a payroll tax rebate, only slightly more than half (54 percent) of the households in the lowest fifth of the income distribution would qualify. Among those who qualified, some would receive less than a full $560 rebate if their earnings were less than $3,660. About three-quarters of the households in that quintile who would not qualify for a payroll tax rebate receive Social Security benefits and thus would be partially protected from higher energy costs by cost-of-living adjustments.

Administering a payroll tax rebate would be complicated by a number of issues. Adjusting payroll tax withholding would impose some administrative burden on employers, who also would lack the necessary information to adjust withholding for workers with more than one job. An alternative to adjusting payroll tax withholding would be to pay the rebate through the income tax system when workers filed their returns. Although that approach would be easier to administer, the timing of the rebate would not coincide with the timing of individuals' increased expenditures. Furthermore, because some workers who pay payroll taxes do not currently file income tax returns, some additional administrative costs would be incurred to process more returns.

A payroll tax rebate (like any fixed-dollar rebate) would be progressive over most of the income distribution, providing benefits that were a larger percentage of income for lower income households except for those with the very lowest income and little or no earnings. (The rebate would not necessarily be equal for households with the same income, because the rebate amount would depend upon the number of workers within each household.)

A payroll tax rebate would provide modest incentives for greater participation in the labor force by increasing workers' take-home pay. It would not offer new work incentives for people already in the labor force with earnings high enough to qualify for the maximum rebate.

Income Tax Rebates

The Internal Revenue Service (IRS) has experience, most recently with the 2008 stimulus payments, in delivering rebates based on information in income tax returns. When filing, households could claim a rebate as a credit against their income tax liability. That transaction would present the same timing issues described in the preceding section. Unless the rebates were refundable (that is, payable in excess of the amount of income tax owed), they would be of little or no value to taxpayers who filed income tax returns but owed no income tax—which was the case for approximately 45 million of the 138 million returns filed in 2006. Moreover, as seen

[5] Gilbert E. Metcalf, *A Green Employment Tax Swap: Using a Carbon Tax to Finance Payroll Tax Relief,* Tax Reform, Energy, and the Environment Policy Brief (Washington, D.C.: Brookings Institution and World Resources Institute, June 2007).

[6] A payroll tax rebate would not have to affect the financial status of Social Security and Medicare or the future retirement benefits of workers. Workers would receive credit for their full covered earnings, and the Social Security and Medicare trust funds could be credited for the full amount of the payroll tax.

in the experience with stimulus payments, the IRS would need to undertake substantial educational efforts, and many wage earners and others who otherwise would not file income tax returns (because their income falls below the statutory requirements for filing) would need to file one to obtain the rebate. In 2006, for example, an estimated 20 million households did not file a return. Households with very low income and those headed by elderly people account for most of the households that do not file a return.

The economic stimulus rebates that were available in 2008 provide an indication of the number of eligible households that are likely to file an income tax return in order to claim a rebate. The IRS received approximately 156 million individual income tax returns during the 2008 filing season, the first year in which filers could claim the recovery rebate included in the Economic Stimulus Act of 2008. That total represents an increase of 16 million returns (11.5 percent) over the number received in the previous year. Much of that increase probably represents those filing solely to claim the rebate—the annual increases in returns received during the 2006 and 2007 filing seasons were just 1.6 percent and 3.0 percent, respectively. Although many households appear to have filed a return just to claim the rebate, the number that did so was a bit below expectations. When the Economic Stimulus Act of 2008 was enacted, the Joint Committee on Taxation estimated that $106.7 billion in stimulus payments would be paid in fiscal year 2008. A total of $94.1 billion was actually distributed in that year, although it is difficult to know how much of the shortfall was attributable to eligible people failing to claim the rebate. The economic stimulus rebates were temporary, however. The percentage of eligible households that would file under a permanent program would probably be higher.

A refundable tax rebate of a fixed dollar amount would be progressive, providing greater relief as a percentage of income to low-income households. Rebates can be adjusted for differences in family size. They can also be targeted to low-income taxpayers by reducing (phasing out) the amount of the credit at higher incomes. For example, the individual income tax rebates that were part of the economic stimulus package enacted in 2008 were reduced by 5 percent of income in excess of $75,000 for individuals and $150,000 for couples. Phasing out a rebate reduces its budgetary cost but adds complexity to the calculation of tax liability and makes the true tax on additional income (the marginal tax rate) less transparent.

One issue is whether the rebates would be paid to all households or only those that met certain income requirements. The recent economic stimulus rebates were payable to households without income tax liability if their combined income from earnings, Social Security, and veterans' disability payments was at least $3,000. Allowing all households to claim a refundable income tax rebate would increase administrative costs.

A fixed rebate that did not depend on earnings would not provide households with any additional incentives to work or save and thus would not offset any of the overall economic costs associated with a cap-and-trade program.

Increased EITC Payments

An option based on the current tax system, and targeted specifically toward low-income households, would be to expand the earned income tax credit. The EITC is a refundable credit (that is, households receive a payment if the credit exceeds their income tax liability), payable to low-income families with earnings. In 2008, single parents with one child and income up to $33,995 ($36,995 for a married couple) were eligible for the credit. Single parents with two or more children could qualify with income up to $38,646 ($41,646 for a married couple). Childless workers between the ages of 25 and 65 were eligible for a much smaller credit but must have had income of less than $16,000 to qualify.

In 2006, taxpayers filed for the earned income tax credit on 23 million tax returns. The total amount of the credit was $44.4 billion, of which $39.1 billion (88 percent) was refundable. About half of the total EITC payments went to families whose income was less than $15,000.[7]

Increasing the EITC payments would be straightforward for the IRS to administer. If the increase was proportional to the existing credit, most of the benefits would go to low-income families with children and very few to childless workers. Increasing the EITC would not provide any benefits to households without earnings, however.

An expansion of the EITC could also yield economic benefits. For example, studies have found that increases in the EITC have had a positive effect on the participa-

[7] Internal Reveune Service, *Statistics of Income—2006: Individual Income Tax Returns , Publication 1304* (Rev. 07–2008), 2008.

tion of low-income single women in the labor force.[8] Although increasing the EITC would raise marginal tax rates for some workers, there appears to be little adverse effect on the number of hours worked by people who are already working.

Automatic Increases in Social Security and Supplemental Security Income Benefits

Households receiving benefits from the Social Security or Supplemental Security Income (SSI) programs would be partially protected from higher energy costs because those benefits are automatically increased each year to reflect increases in consumer prices. Therefore, considered in combination with automatic increases in Social Security benefits and SSI, options such as a payroll tax rebate that are limited to households with earnings can reach a large portion of the low- and moderate-income population. Data from the Current Population Survey indicate that about 95 percent of households would qualify for a payroll tax rebate or an automatic cost-of-living increase in Social Security benefits, including 85 percent to 90 percent of households in the lowest income quintile. Cost-of-living increases for Social Security and SSI would only partially protect households receiving those benefits because income from those sources covers only part of their total expenditures. That effect would be exacerbated because expenditures on energy-intensive items are a higher share of total expenditures for the elderly (see Table 2).

Table 2.

Average Annual Household Expenditures on Energy-Intensive Items, by Age, 2007

(Dollars)

	Under Age 65	Age 65 and Over	All Households
Utility Expenditures	1,947	1,880	1,934
Gasoline Expenditures	2,607	1,461	2,384
Total Spending on Energy-Intensive Items	4,554	3,341	4,318
Total as a Percentage of Income	6.6	8.3	6.8

Note: Energy-intensive items include natural gas, electricity, fuel oil, other heating fuels, gasoline, and motor oil.

Source: Congressional Budget Office based on data from Bureau of Labor Statistics, *Consumer Expenditure Survey, 2007* (www.bls.gov/cex/2007/Standard/sage.pdf).

Supplement to SNAP Benefits

An energy credit based on the same eligibility rules as those for the Supplemental Nutrition Assistance Program (SNAP, formerly known as the Food Stamp Program) would be a way to target benefits to low-income households. To be eligible for SNAP, an applicant's monthly income must be at or below 130 percent of the poverty guideline ($2,238 for a family four) and countable assets must be less than $2,000 ($3,000 for households with elderly or disabled members). Approximately 27 million people receive SNAP benefits each month. About 65 percent of eligible people participate in the program, and nearly 90 percent of eligible children do.[9]

An energy credit could be distributed to households through the same system as SNAP benefits, which are paid through an electronic benefit transfer system. Those SNAP benefits are deposited electronically in individual accounts each month, and recipients use a card to debit their account when paying for groceries.

An energy supplement to SNAP benefits would not affect work or savings incentives at the margin and thus would not offset any of the economic efficiency costs of higher energy prices.

Increased Funding for the Low-Income Home Energy Assistance Program

Increases in funding for the Low-Income Home Energy Assistance Program (LIHEAP) could supplement other options for offsetting higher energy costs but by

[8] See Bruce D. Meyer, "The U.S. earned income tax credit, Its Effects, and Possible Reforms," Harris School of Public Policy Studies (University of Chicago) and National Bureau of Economic Research (August 2007); and Nada Eissa and Hilary W. Hoynes, "Behavioral Responses to Taxes: Lessons from the EITC and Labor Supply," in James M. Poterba, ed., *Tax Policy and the Economy*, vol. 20 (Cambridge, Mass.: MIT Press, 2006), pp. 74–110.

[9] Kari Wolkwitz, *Trends in Food Stamp Program Participation Rates: 1999–2005* (prepared by Mathematica Policy Research for the U.S. Department of Agriculture, Food and Nutrition Service, June 2007).

themselves would not be an effective way to help the majority of low- and moderate-income households. Federal rules restrict LIHEAP assistance to households with income up to 150 percent of the Federal poverty guideline (or 60 percent of state median income if greater). States, however, can choose to set lower income limits, and as a result, eligibility requirements vary from state to state. In 2006, an estimated 5.5 million households received assistance through LIHEAP—about 16 percent of federally eligible households.

Providing assistance to all low- and moderate-income households would require a major expansion of the program, a substantial increase in administrative costs, and possibly a major overhaul of the program. The current program is funded as a block grant from the Federal Government to the states and other entities, leaving wide latitude in the types of assistance provided. Increasing LIHEAP subsidies could raise the overall cost of achieving a given cap because it would offset the price signals that are necessary to motivate households to undertake low-cost reductions.

Increased Incentives for Energy-Saving Investments by Households

The increase in energy prices that would result from a cap-and-trade program would encourage businesses and households to adjust their energy usage. Using revenues from auctioning allowances to subsidize household investments that reduced carbon dioxide emissions would lower the cost to households of adapting to higher energy prices. For example, subsidizing weatherization improvements would enable households to use less energy for heating and cooling.

However, incentives for energy-saving investments in combination with a cap-and-trade program would not reduce CO_2 emissions below the level set by the program. Although investment incentives could alter the timing of emission reductions by lowering the cost of meeting the targets, the cap set by the program would ultimately determine the total amount of the reductions.

Furthermore, such incentives could increase the total costs (both public and private) of meeting the cap because they would encourage households to choose certain alternatives over others in adjusting to higher energy prices. For example, a tax credit for solar heating would encourage the use of that technology even if it was not the most cost-efficient alternative in the absence of the credit. Creating a tax-incentive system without distorting technology choices is difficult.

A wide variety of deductions or credits related to energy savings already exist at both the Federal and state levels. A Federal credit (termed the section 45 production tax credit) is available for electricity produced using certain renewable energy sources, including wind, biomass, geothermal energy, solar energy, and others. Other credits are available for the manufacture of energy-saving appliances, the construction of new energy-efficient homes, energy-efficient improvements to existing homes, and purchases of alternative types of motor vehicles.

Chairman MCDERMOTT. Thank you very much for your testimony.

Dr. Burtraw.

STATEMENT OF DALLAS BURTRAW, PH.D., SENIOR FELLOW, RESOURCES FOR THE FUTURE

Dr. BURTRAW. Thank you for the opportunity to testify today.

I am senior fellow at Resources for the Future. RFF takes no position on issues and neither lobbies on specific proposals. The views I express are my own.

The main point I would like to convey is that the primary impact on households——

Chairman MCDERMOTT. Did you hit your mic? There's a button down at the bottom that will—there you go.

Dr. BURTRAW. Okay. The light's on.

Chairman MCDERMOTT. Okay.

Dr. BURTRAW. The main point I would like to convey is that the primary impact on households depends on the way emission allowances are distributed under the cap-and-trade or the way revenues would be distributed under an emissions tax.

It is possible to fully compensate all low- and moderate-income families and there are several ways this could be accomplished. To understand the impact on households, though, it is essential to characterize a complete policy. One part is the introduction of a price on CO_2. This affects the costs of energy directly and it affects indirectly the costs of goods and services throughout the economy.

The second part of the policy is how the CO_2 allowance value, or equivalently the revenue collected under the tax, is distributed in the economy. That is because the cost of CO_2 allowances is the lion's share of the cost that's imposed on households.

For example, under the Liebermann-Warner proposal, by 2015 the CO_2 price would be $21 per ton. Households would feel an average impact of $928 per year from changes in energy prices and the costs of goods and services.

The value of allowances constitutes $843 of this sum, or 90 percent of the total impact on households. The different is the real cost to the economy, just $86 per household, or less than 10 percent of the total cost on households.

So, allowances can be given away, or they can be auctioned, but the key is how their value is distributed.

For this reason, you might say that the distribution of allowance value or tax revenue is more important for determining the cost on households than the actual stringency of the policy.

One might be most concerned about the impact on lower income households, because they spend a large fraction of the their income on energy and are less able to make investments that might soften the blow from changing energy prices.

Options such as either expansion of the earned income tax credit or dividends from auction revenues per capita to households would be strongly progressive and would protect low-and moderate-income households.

In fact, the entire bottom half of the income distribution could expect to come out ahead under these climate policies. That is, the revenue they receive back would be greater than their change in costs at the household level.

Another option would be reducing the income tax. This is unfortunately very regressive. Households in the bottom eight deciles of the income distribution would remain worse off under the policy.

We've also assessed the regional impacts of different policies. There are differences, especially for low-income households. The Mid-Atlantic and Ohio Valley regions could be most hard-hit. In comparison to the nation as a whole, where about 50 percent of households on average benefit from a cap and dividend policy, in these regions only roughly the bottom 30 percent of households on the income ladder would benefit.

Next, in the Northeast and plains States, the figure is about 35 percent.

Finally, I will comment on some other approaches to allocation. Free allocation to incumbent emitters or grandfather, would be regressive because the value of free allowances accrues primarily to higher-income households that own a relatively higher portion of shareholder equity.

In addition it directs about 10 percent of the allowance value overseas to foreign owners of shareholder equity.

Other options would provide special treatment for some types of energy use, such as personal transportation or home heating. This leads to higher allowance prices, because greater emission reductions would have to be achieved in other sectors.

In the case of free allocation to electricity consumers through allocation to the local distribution companies, our research indicates this could cause the allowance price to rise by 15 percent, raising the cost of using other fuels even further. It is not obvious whether this will diminish or amplify regional differences or make households better off.

In closing, Federal climate policy could be designed to benefit most households or it could impose potentially significant costs on most households. Most certainly the distribution of allowance value can safeguard the majority of low- and moderate-income households. There are a variety of ways to accomplish this.

Cap and dividend across the population may offer an advantage in that it suggests an equal franchise in the climate, something economists call a common pool resource potentially creating more durable political support, and a more stable long-run climate policy.

More broadly, however, I think it is critical that the goals of transparency and simplicity be front and center in the design of climate policy.

Thank you.

[The prepared statement of Dr. Burtraw follows:]

Statement of Dallas Burtraw, Ph. D., Senior Fellow, Resources for the Future

Mr. Chairman, thank you for the opportunity to testify before the House Committee on Ways and Means' Subcommittee on Income Security and Family Support. My name is **Dallas Burtraw,** and I am a senior fellow at Resources for the Future (RFF), a 57-year-old research institution based in Washington, D.C., that focuses on energy, environmental, and natural resource issues. RFF is independent and nonpartisan, and shares the results of its economic and policy analyses with environmental and business advocates, academics, government agencies and legislative staff, members of the press, and interested citizens. RFF neither lobbies nor takes positions on specific legislative or regulatory proposals. I emphasize that the views I present today are my own.

I have studied the performance of emissions cap-and-trade programs from both scholarly and practical perspectives, including evaluation of the sulfur dioxide (SO_2) emissions allowance trading program created by the 1990 Clean Air Act Amendments, the nitrogen oxide (NO_X) trading program in the northeastern United States, and the European Union Emission Trading Scheme (EU ETS). I have conducted analysis and modeling to support the state and regional efforts to design trading programs, and I served on California's Market Advisory Board overseeing the state's greenhouse gas initiative. Recently, with colleagues at Resources for the Future, I have conducted economic analysis to understand the distributional impacts of climate policy on households, paying close attention to differences across regions and income groups.

* * *

The leading proposal to reduce emissions of greenhouse gases is a cap-and-trade policy whereby the economy is subject to an overall cap on total emissions. Emissions permits, or allowances, would be distributed into the economy. Polluters could buy, sell, or trade with one another while still maintaining the overall cap. There are many similarities between cap and trade and an emissions tax, in that both place a scarcity value on carbon dioxide (CO_2) emissions and thereby provide a price signal that is expected to encourage innovation and investment in lower-emitting technologies and also to trigger changes in consumer behavior.

In order to understand the effects of such a policy on households, it is essential to characterize the complete policy, which has two main components. One is the introduction of a price on CO_2. The way that households are affected by this aspect of the policy will depend on the CO_2 emissions embodied in their economic activities—both the emissions embodied in the direct energy use in the home and the emissions embodied in their indirect purchase of goods and services.

The second component of the policy is the way this new value associated with placing a price on CO_2 is distributed in the economy. It is a big error to evaluate this policy by focusing on the first component alone, because it implicitly assumes that the value disappears. In fact, the value is substantial, and its assignment is a central decision facing policymakers in the design of climate policy.

For example, a cap-and-trade policy in which the allowances are auctioned and the auction revenues returned to households in a lump-sum manner leads to quite different impacts on households than a policy in which the auction revenues are used to reduce income taxes or a policy in which there is no auction but rather the allowances are distributed for free to existing emitters. To assess the full impacts of carbon policy, both the impacts of the price and the impacts of the distribution scheme are of critical importance.

Before addressing several specific questions, I want to draw attention to the magnitude of the value that would be created by placing a price on CO_2 in the United States. A CO_2 cap-and-trade program would constitute the greatest creation of government-enforced property rights since the 19th century. Depending on the stringency of the cap and breadth of the program, the annual market value of these property rights will range from $100 billion to $370 billion, depending on the coverage and stringency of the program. The means by which these rights are organized and initially distributed each year is of historic significance for the economy as well as the environment. Policymakers might frame the decision about allocating emissions allowances in the following way: Imagine we are implementing a new program that will create well over a trillion dollars in value in the next decade. Now, how do you want to allocate that value? The answer to this question will determine the answer to the main questions facing this committee, including the effect on low- and moderate-income families.

I would like to make one additional point. *The value of emissions allowances under a cap-and-trade program (or the tax revenue collected under an emissions tax) would be substantially greater than the cost of the resources actually used to achieve emissions reductions.* For this reason, you might say the distribution of the value of emission allowances is more important to the cost on households than is the actual stringency of the program.

For example, implementation of the Lieberman-Warner level goals can be expected to result in an economywide CO_2 allowance price of $20.91 per metric ton by 2015 (2006 dollars), according to modeling from the Energy Information Administration.[1] This price is expected to accomplish a 13 percent reduction in emissions from 2006 levels, and 16.5 percent reduction from the forecast business as usual levels for 2015. A first-order estimate of the costs of achieving this reduction is $11.3 billion, but the estimated value of the allowances is $114 billion (2006 dollars). Thus, the real economic loss comprises just 10 percent of the cost of the program on households, and the allowance value (or tax revenue) comprises about 90 percent of the cost on households. The allowance value would be available to achieve a range of potential goals, including achieving desirable distributional outcomes. This fact highlights the important role played by the allocation of emissions allowances, or the distribution of carbon tax revenues, in determining the distributional outcome of climate policy under cap-and-trade or a carbon tax.

With this information as background, I will address questions that frame the agenda for this hearing.

1. In what ways might climate control legislation disproportionately impact low- and moderate-income households?

Climate control legislation implemented through the introduction of a price on CO_2 emissions can be expected to affect household expenditures and disposable income in several ways. One is through the change in prices for direct energy expenditures. Second is through the change in prices of other goods and services in the economy. Third is through the change in government's own expenditures associated with an increase in the price of fuels, which has implications for the tax burden of

[1] Energy Information Administration, *Energy Market and Economic Impacts of S.2191, the Lieberman-Warner Climate Security Act of 2007*, SR/OIAF/2008–01 (Washington, DC, April 2008), web site http://www.eia.doe.gov/oiaf/servicerpt/s2191/pdf/sroiaf(2008)01.pdf. See supplementary spreadsheet National Energy Modeling System run S2191.D031708A.

households. Fourth, there is a possibility that a household could be affected by changes in employment and income possibilities as a result of changing forces in the economy. I focus only on the effect on household expenditures.

Low-income households spend a larger share of their income on direct energy expenditures than do households at higher-income levels. This suggests that unmitigated changes in energy prices could most seriously impact low-income families. For example, my analysis shows that households in the bottom decile spend about 24 percent of their disposable income on direct energy purchases (electricity, personal transportation, home heating), while their counterparts in the top decile only spend 3.6 percent.

There are a variety of reasons that one might be most concerned about the impact on lower-income households, in addition to the fact that they bear a relatively larger burden from climate policy. These households have less discretionary income that can be directed to investments that might soften the blow from changing energy prices. Hence, they may be less able to adapt to a changing economy. Moreover, lower-income households may be subject to greater effects from a changing climate because of the location and condition of the neighborhoods and housing in which they live.

This does not mean that lower-income households necessarily will be made worse off from climate policy. In fact, lower-income households can easily benefit relative to richer households depending on how carbon revenue is allocated. That is because the absolute value of the change in costs is less for lower-income households than for others, so it takes relatively less to compensate them.

2. What factors should the Committee consider when attempting to mitigate any costs for low-and moderate-income consumers that may result from climate control legislation?

First, the introduction of a price on CO_2 would be fairly regressive, meaning that it would disproportionately affect lower-income households, which spend a larger portion of their income on energy expenditures. Second, the assignment of the value from the CO_2 price—either the value of emissions allowances, if allocated for free or the government revenue collected under an allowance auction—has a major influence on how the burden is ultimately shared.

Similarly, the economic costs will not be uniform across different regions. Different parts of the country have both different levels and patterns of energy expenditures. In the Northeast and the Mid-Atlantic area, home heating contributes importantly to expenditures, but not so in the South. In contrast, on average electricity and gasoline expenditures are substantially greater as a percentage of income in the South than for other regions. Moreover, the CO_2 emissions associated with electricity use varies greatly in different parts of the country because the fuel used to generate electricity varies.

Most existing research on the distributional ramifications of climate policy examines only the effects of putting a price on CO_2. We have analyzed 10 climate policy scenarios that vary in the manner that they assign the allowance value that is created under the program. Five scenarios we have considered address the use of revenue directly, including returning the revenue directly to households as taxable income on a per capita (or per adult) basis, returning the revenue as nontaxable income, or using the revenue to reduce the income tax, the payroll tax, or to expand the Earned Income Tax Credit (EITC). Five other scenarios examine options for the electricity sector including free allocation to local distribution companies and expenditure of allowance value on energy efficiency, exemption of particular sectors—specifically home heating and personal transportation—and finally, free allocation to incumbent emitters.

"Cap-and-dividend" options

- Per-capita (taxable) dividend of allowance revenues to households (e.g. income taxes would be paid on those dividends)
- Per-capita (nontaxable) dividend of allowance revenues to households

Adjustments to preexisting taxes

- Reduction in income taxes
- Reduction in payroll taxes
- Expansion of the Earned Income Tax Credit

Energy and fuel sector options

- Free allocation of allowances to consumers in the electricity sector (accomplished by allocation to local distribution companies, namely retail utilities)
- Exemption of the transportation sector from the cap-and-trade program
- Exemption of the home heating sector from the cap-and-trade program

- Investment in end-use energy efficiency

Free allocation to emitters

- Grandfathering to incumbent emitters.

(Note that several of these policies would not use all of the allowance value. The ultimate distributional consequence of the policy will depend on how all the value is distributed. We consider the incremental effect of each type of allocation.)

We find expansion of the EITC, and the cap-and-dividend programs that directly return revenue to households are strongly progressive. In contrast, three policies appear severely regressive, even more so than before accounting for the use of the revenue. These include free allocation to incumbent emitters (grandfathering), reducing income taxes, and reducing payroll taxes. Free allocation to emitters directs about 10 percent of the allowance value overseas to foreign owners of shareholder equity and therefore not available to any income group in the United States. Additionally, this option is decidedly regressive because the value of the free allowances accrues primarily to higher-income households which own a relatively higher portion of shareholder equity.

While the case for equity across income groups is straightforward, interregional equity is more complicated due to differences in preexisting policies and incurred costs, energy prices, resources, and lifestyle choices. Some regions have already enacted policies to reduce their carbon footprint, with California being the prime example.

Nonetheless, important differences emerge and the biggest regional differences affect poor households. Low-income households in the bottom quintile of the income distribution in Texas, California, and the Northwest are the least vulnerable, while low-income households in the Northeast, Ohio Valley, followed by the Mid-Atlantic and Plains states are the most vulnerable.

We examined five policies in detail that use revenue to return allowance value directly to households or to reduce the income tax, the payroll tax, or to expand the EITC. (We assume that 14 percent of allowance value accrues to government to pay for its own increase in expenditures.) We examined the effects on households in 2015, from a policy equivalent in stringency to the Lieberman-Warner proposal. This would yield a CO_2 allowance price of $20.91 (2006 dollars) and emission reductions of 16.5 percent from a business-as-usual baseline for 2015, or 13 percent from 2006, according to the Energy Information Administration.

Under this policy, we estimate that households would feel an average impact of $928 from changes in energy prices and indirect changes in the costs of other goods and services. We estimate the real economic cost on an average household basis would be $86. The difference is the value of emissions allowances, equal to about $843 per household (2006 dollars). Consequently, the actual effect on household well being will depend crucially on the distribution of that allowance value.

As noted already, three of these policies would be progressive in that the costs would not fall heavily on low-income households. These include cap-and-dividend policies (either taxable or nontaxable dividends) and an expansion of the EITC. In fact, in these three cases low- and moderate-income households could expect to benefit from the policy. One way to consider this is to ask what percentage of households, when measured along the income distribution would benefit. For all three policies we find that half of all households in the nation would benefit—that is, after returning revenues either as a lump-sum payment or as an expansion of the EITC, about half of households come out ahead under these climate policies. The crossover point where households would begin to be worse off is in the sixth income decile. Measured in this way, a slightly larger share of households benefit from cap and dividend than from expansion of the EITC because the credit removes some dividend from all households and concentrates it in households that qualify for it.

In contrast, reducing income tax is regressive. Households in the bottom 8 deciles of the income distribution are made worse off, even after accounting for the revenue. Households in the top two income deciles are made better off. The reduction in the payroll tax is somewhat less dramatic. Households in the bottom deciles are made worse off. I hasten to add, however, that the policy we modeled is not the same as the sketch reflected in the Obama administration's budget proposal, because we assume all households benefit from the reduction in their payments to the payroll tax while the administration's proposal would provide a lump-sum payment to offset payroll taxes and would phase that payment out at higher-income levels.

As noted already, there can be important differences across regions. One way to consider this is to ask: what is the break-even point in different regions of the country? We examined this for the cap-and-taxable dividend case. On a national basis, slightly more than half of households would benefit but that varies across regions. In the most vulnerable regions, the Mid-Atlantic and Ohio Valley, roughly 30 per-

cent of households would benefit from this climate policy. In the Northeast and Plains states, only about 35 percent of households would benefit.

3. What methods or policies might both mitigate costs for lower-income populations and increase economic efficiency?

An important consideration is how the use of allowance value could contribute to economic growth. Public finance economists have emphasized that using the value to reduce pre-existing taxes would spur economic growth and reduce the hidden costs associated with the policy. Those hidden costs stem from the introduction of a new regulatory burden in the economy that acts much like the introduction of a new tax. It may provide a disincentive to work to the extent it reduces the real wage. If revenue is used to reduce pre-existing taxes then it can mitigate most of this effect. Much of the economics literature suggests the efficiency gains from using emissions allowance value in this way can be very significant. As we have indicated with respect to policies to reduce the income tax, however, the effect can be very regressive because most of the benefits would accrue to those who earn the most income. We obtain similar, but less strong results for a reduction in the payroll tax. Each of these approaches can be adjusted to alter this affect, as the administration's budget proposal appears to attempt to do. Nonetheless, our results highlight the tensions that may exist between efficiency and equity in climate policy.

Expansion of the EITC does not suffer from the same tradeoff. It may promote employment for lower-income households and may help insulate those households from changes in energy prices.

One option that also might have the potential to be equitable and potentially also economically efficient is investment in energy efficiency. However, whether this actually is efficient or simply constitutes a subsidy to the consumption energy services hinges on the effectiveness of energy efficiency programs that reduce the cost of meeting the cap. Implementation of energy efficiency programs has proven uneven in the past.

Finally, it is important to note that exclusion of personal transportation or home heating fuels leads to higher allowance prices because greater emissions reductions would have to be achieved in other sectors. The same is true if allowances are used to compensate electricity consumers, and the ramifications are even greater. The protection of any of these sectors from changing prices leads to less consumer response. Consequently, greater emissions reductions have to be achieved in other sectors. In the case of free distribution to electricity consumers (through distribution to local distribution companies), our research indicates this could cause the allowance price to rise by 15 percent.[2] This raises the cost of using other fuels even further, and it is not obvious whether this will diminish or amplify differences in the impact of the program across regions.

The subsidy to offset allowance costs associated with consumption of any one fuel leads to a violation of the "law of one price" that is necessary to achieve economic efficiency. As with the allocation of any scarce resource, efficiency requires that one price consistently reflects the scarcity value of emission allowances. A lower electricity price means that electricity consumers would have less incentive to purchase energy-efficient air conditioners and refrigerators. In practical terms, if you drive a car, or use natural gas to heat your home or run your industrial facility, you might be concerned that a subsidy to electricity consumers comes at the cost of higher prices for other uses of energy.

In sum, the idea of softening any sudden change in electricity prices is compelling but it has an efficiency cost. One may acknowledge that, in the short run, consumers have an existing capital stock of refrigerators and air conditioners and are constrained in their ability to reduce energy use. To achieve emissions reductions, it is important to establish the expectation that future prices will rise to reflect the scarcity value of CO_2 emissions because this would provide an incentive for consumers to purchase new appliances, etc.

The imposition of sudden price changes may be disruptive to the economy and perceived as unfair. However, if legislation goes down this road, from the standpoint of efficiency it is important to acknowledge that allocation to electricity consumers through their local distribution companies should be phased out as soon as possible. I would suggest a phase out of four years would be appropriate to ease the transition. Coupled with two or three years of preparation before the program takes effect, this represents close to half the useful life of many household appliances.

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[2] A. Paul, D. Burtraw and K. Palmer. 2008. "Free Allocation to Electricity Consumers under a U.S. CO_2 Emissions Cap," Resources for the Future Discussion Paper 08–25.

4. Is it reasonable to presume that a policy can be designed to compensate the large majority of low- and middle-income Americans for the increased costs related to climate control?

There is one additional consideration I wish to mention. The introduction of a price on CO_2 in the U.S. economy represents the introduction of a long-term institution. The way that compensation to low- and moderate-income households is delivered, or any group for that matter, may be subject to changes in political priorities and may not be any more permanent than the tax cuts of the last administration.[3] My concern is that these changes and the political struggles that might ensue can undermine the transparency of climate policy and the sense that we pursue it for a common purpose. To the extent possible, policy should be transparent and simple. Economists would view the atmosphere as a common pooled resource. This philosophical perspective suggests equal franchise in the resource and equal sharing of its value. An equal dividend approach would be consistent with this perspective and may solidify the sense of common purpose, and the permanence of the way that value is assigned under climate policy. As I see it, this is an added strength of the cap and dividend approach. More broadly, however, I think it is critical that the goals of transparency and simplicity be front and center in the design of climate policy.

The decision about allocating emissions allowances involves a familiar trade-off between efficiency and distributional outcomes. Federal climate policy would impose potentially significant costs on households that would vary depending on the policy enacted. Taken just by itself, the introduction of a price on CO_2 would be regressive, meaning that it would disproportionately affect lower-income households because they spend a larger portion of their income on energy expenditures. But this is just one-half of the equation. The ultimate impact of the policy would also depend on how the policy distributes the value from the CO_2 price—both the value of emissions allowances, if allocated for free, and the government revenue collected under an allowance auction. If done carefully, the distribution of allowance value can safeguard the majority of low- and moderate-income households in this country.

Thank you for the opportunity to testify today.

Dr. Burtaw is a senior fellow at Resources for the Future. He holds a Ph.D. in economics and a master's in public policy from the University of Michigan. Dr. Burtraw has conducted research in the design of incentive-based environmental policies in the electricity industry and written extensively on the performance of emissions trading programs in the United States for sulfur dioxide and nitrogen oxides and the European Union's Emission Trading System for carbon dioxide. He also has advised on the design of climate policy for U.S. state governments. He currently serves on the EPA Advisory Council on Clean Air Compliance Analysis and on the National Academies of Science Board on Environmental Studies and Toxicology.

Chairman MCDERMOTT. Thank you very much for your testimony.

Dr. Stone is the chief economist for the Center for Budget and Policy Priorities.

Dr. Stone.

STATEMENT OF CHAD STONE, PH.D., CHIEF ECONOMIST, CENTER ON BUDGET AND POLICY PRIORITIES

Dr. STONE. Thank you.

Chairman McDermott, Ranking Member Linder, and other Members of the Subcomittee, thank you for the opportunity to testify on this important topic.

The main message of my testimony you heard in the Chairman's opening statement and what my fellow witnesses have already said, that it is indeed possible for climate change legislation to fight global warming effectively, while also protecting consumers.

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[3] The Jobs and Growth Tax Relief Reconciliation Act of 2003 and the Economic Growth and Tax Relief Reconciliation Act of 2001.

That might seem like a contradiction, but you've heard how the same policies that raise prices to consumers raise revenue that can used to offset that impact.

Just to reiterate the impact of higher prices on consumers and the opportunities for returning money to consumers are part and parcel of climate policy.

What is important to remember is that the way to judge the impact of climate change legislation on consumers at different points in the income distribution is to look at the net impact of, first, the hit to budgets from the higher prices, but second, the offset to that hit from rebates or other methods of using the revenue.

I'd like to spend the remainder of my remarks talking about a concrete proposal developed by the Center on Budget and Policy Priorities for using climate change revenues to shield low- and moderate-income households from increased poverty and hardship in a way that is effective in reaching those households, using proven delivery mechanisms with a broad reach, that is efficient, with low administrative costs, and that is consistent with the goals of fighting global warming effectively.

I will also talk about the Center's recent development of options for modifying this proposal, to extend consumer relief farther up the income scale while still protecting those who are most vulnerable.

With the goals I laid out in mind, the Center has designed a climate rebate that would efficiently offset the average impact of higher energy-related prices arising from restrictions on greenhouse gas emissions on low- and moderate-income households.

The rebate would be delivered each month to very low-income households through State electronic benefit transfer systems. These EBT systems are essentially debit card systems that States already use to provide food stamps, TANF, and other forms of assistance to low-income families, the elderly, and some others.

That's the first component of our policy.

The second component of our policy would be to deliver the rebate to low- and moderate-income working families in the form of a higher earned income tax credit.

So, the EBT delivery mechanism for people outside the tax system and the EITC for working families.

In proposals that would extent relief farther up the income scale, a new refundable tax credit would substitute for the EITC, while the EBT delivery mechanism would be preserved for very low-income households that do not file income taxes.

The size of the climate rebate and how far up the income scale it extends can be made larger or smaller, depending on the portion of revenues that policy-makers wish to devote to this purpose.

All proposals we have developed, however, have a common principle and feature. They all fully offset the average hit on low-income households. Climate change policies need not and should not push more Americans into poverty or make those who are already poor still poorer.

How much would these proposals cost? The size of the impact of higher energy prices on consumer budgets and the amount of revenue that would be available to offset that impact rise roughly together with the carbon tax rate, or the price of emissions allow-

ances in a cap-and-trade system, the cost can be expressed as the percentage of the total revenues.

Our low-income proposal, which would fully offset the impact in the bottom fifth of the population and extend into the next fifth of the population, would cost about 14 to 15 percent of the revenue or allowance value.

Extending the relief farther up the income scale to fully offset the loss in the middle fifth of the population and have rebates phased out after that would cost about 55 percent of the revenues.

These are illustrations. If you would like in questions or later, we can talk about how the President's "Making Work Pay" tax credit proposal would fit into this framework.

My organization, the Center on Budget and Policy Priorities, strongly believes that this rebate approach to providing consumer relief is superior to the alternatives we have seen.

My written testimony lays out our concerns with other approaches. Let me just flag two of them that we can explore further in questions, if you're interested.

These are utilized-based approaches that give revenues to local electric companies with instructions to use them for consumer relief. Dallas talked about them. Cuts in tax rates, as opposed to refundable tax credits. Terry mentioned them.

We believe that there are serious problems with those approaches, compared with a rebate approach.

I would also note in closing that the alternative approach that is closest in spirit to ours is the cap and dividend approach, which would return all the revenues in the form of per-capita dividends to the entire population.

One of our concerns there would be whether there are not better uses for some of the revenue than returning dividends to very high income individuals. So, we have a question about the allocation.

With that, I would conclude my testimony. Thank you.

[The prepared statement of Mr. Stone follows:]

Statement of Chad Stone, Ph.D., Chief Economist, Center on Budget and Policy Priorities

Chairman McDermott, Ranking Member Linder, and other members of the Subcommittee. Thank you for the opportunity to testify on this important topic. The main message of my testimony is that it is indeed possible for climate change legislation to fight global warming effectively while also protecting consumers. Here is the argument in a nutshell:

Fighting global warming requires policies that significantly restrict greenhouse gas emissions. The most cost-effective ways to do that are to tax emissions directly or to put in place a "cap-and-trade" system. Either one will significantly raise the price of fossil-fuel energy products—from home energy and gasoline to food and other goods and services with significant energy inputs. Those higher prices create incentives for energy efficiency and the development and increased use of clean energy sources. But they will also put a squeeze on consumers' budgets, and low- and moderate-income consumers will feel the squeeze most acutely.

Fortunately, climate change policies can be designed in a way that preserves the incentives from higher prices to change the way we produce and consume energy while also offsetting the effect on consumer budgets of those higher prices. That is because well-designed climate policies will generate substantial revenue. That revenue will be sufficient to offset the impact of higher prices on the budgets of the most vulnerable households, to cushion the impact substantially for many other households, and to meet other legitimate public needs, such as expanded research on alternative energy sources.

To capture this revenue in a cap-and-trade system, it is important that most or all of the allowances or permits used to limit emissions be auctioned for public pur-

poses rather than given away free to emitters. Giving away, or "grandfathering," allowances is sometimes portrayed as a way to keep down costs for consumers, but that argument does not stand up to scrutiny. Rather, if allowances are given away free to polluting firms, only the firms and their shareholders would benefit. These firms would, as CBO has explained, receive "windfall profits": they would be able to charge higher prices for their products, but they would not have to pay for their emissions allowances. Ordinary consumers would get no help in dealing with the strain that the higher prices put on their budgets. Greg Mankiw, former chair of the Council of Economic Advisers for President George W. Bush, has written in a similar vein that consumer prices will rise regardless of whether allowances are given free to emitters and that grandfathering the allowances would constitute "corporate welfare." There is little disagreement among economists about this effect.

Protecting *low- and moderate-income* consumers should be the top priority of the consumer relief provisions included in climate change legislation. Those people are the most vulnerable because they spend a larger share of their budgets on necessities like energy than do better-off consumers. They also are the people least able to afford purchases of new, more energy-efficient automobiles, heating systems, and appliances. But middle-income consumers, too, will feel the squeeze from higher energy-related prices, and policymakers likely will want to extend consumer relief to them as well.

Much of the Center on Budget and Policy Priorities' work on climate change policy has focused on developing concrete proposals to shield low- and moderate-income households from increased poverty and hardship in a way that is *effective* in reaching these households, *efficient* (with low administrative costs), and *consistent with energy conservation goals*. With these goals in mind, the Center has designed a "climate rebate" that would efficiently offset the average impact of higher energy-related prices on low- and moderate-income households. That rebate would be delivered each month to very low-income households through state Electronic Benefit Transfer (EBT) systems, which are essentially debit card systems that states already use to provide food stamps, TANF, and other forms of assistance to low-income families, the elderly, and others. A rebate also would be delivered to low- and moderate-income *working* families in the form of a higher Earned Income Tax Credit (EITC).

More recently, the Center has developed options for modifying this proposal to extend consumer relief farther up the income scale while still protecting those who are the most vulnerable. In these proposals, a new refundable tax credit would substitute for the EITC, while the EBT delivery mechanism would be preserved for very low-income households that do not file income taxes. The size of the climate rebate, and how far up the income scale it extends, can be made larger or smaller depending on the portion of the auction revenues that policymakers wish to devote to this purpose. All proposals we have developed, however, have a common principle and feature—they all fully offset the average "hit" on low-income households. Climate-change policies need not—and should not—push more Americans into poverty or make those who are already poor still poorer.

The approach that we have designed can be linked to the climate change measures outlined in the President's budget. The President proposes instituting a cap-and-trade system, auctioning all the allowances, and using the major share of the auction proceeds for consumer relief—including about $65 billion of relief that would be delivered every year through a permanent extension of the Making Work Pay tax credit. The President also proposes using $15 billion a year for clean technology investments to facilitate the transition away from fossil fuels.

Additional measures to protect consumers—particularly individuals with very low incomes, some seniors, and others who do not pay taxes—will be necessary. Over time, the relief that would be provided through the Making Work Pay tax credit also would need to be increased or supplemented to respond to the further increases in energy costs that would occur as the emissions cap tightened. We are currently developing proposals to incorporate the EBT component of our low-income proposal into an approach that makes these adjustments.

The Center on Budget and Policy Priorities strongly believes that a rebate approach to providing consumer relief in climate change legislation is far superior to the alternatives we have seen, both for low-income consumers and for consumers farther up the income scale. Our specific concerns with approaches that rely on utility companies to provide consumer relief or on proposals that would cut tax *rates* (as opposed to providing a refundable tax credit) are outlined later in this testimony. The approach that is closest in spirit to our approach is the cap-and-dividend approach popularized by Peter Barnes, which would use all of the allowance value for per capita dividends. We believe, however, that careful attention would have to be devoted to the delivery mechanism in such an approach to make sure that the divi-

dend would actually reach low-income households, and we think there are better uses for the allowance value that would be consumed by making payments to consumers with very high incomes under a cap-and-dividend system in which all the allowances were used for dividends.

The remainder of this testimony elaborates on these ideas. The next section discusses the economics of cap and trade in more detail. The section after that discusses our climate rebate proposal in more detail. And the last section discusses in more detail the reasons why we think our rebate approach is superior to other approaches we have seen.

The Economics of Cap and Trade: Fighting Global Warming Effectively While Also Protecting Consumers Cap and Trade Is an Efficient and Effective Way to Reduce Emissions

Economists agree that the most efficient way to reduce carbon emissions is either to tax them directly or to put in place a "cap-and-trade system."[1] Several northeastern states have already implemented a cap-and-trade system on a regional basis as part of the Regional Greenhouse Gas Initiative. In addition, the 27 nations of the European Union have operated a cap-and-trade system since 2005.

A cap-and-trade system puts a limit (or "cap") on the overall amount of greenhouse gases—mainly carbon dioxide from the burning of fossil fuels—that businesses are allowed to emit each year. Electric power plants, oil refineries, and other firms responsible for emissions of carbon dioxide and other greenhouse gases are then required to purchase permits (called allowances) for each ton of greenhouse gas pollution they emit.

Over time, the number of emissions allowances would shrink in order to achieve the substantial emissions reductions that scientists say are necessary to curb global warming. This would force the economy to gradually adapt by reducing emissions through energy conservation, improved energy efficiency, and greater use of alternative clean energy technologies.

Firms are free to buy and sell (i.e., to "trade") emission allowances. The price for carbon depends on the level at which the cap is set and the technology available to produce goods and services that use less carbon. Companies that are able to reduce their emissions easily can sell allowances to companies that have more trouble reducing their emissions.

Thus, cap and trade would give firms incentives to pursue cost-effective ways of cutting emissions. The less carbon a firm produces as part of its normal operations, the less money it must spend on purchasing allowances, or the more money it can make by selling its allowances to firms that are not able to reduce their pollution production as easily.

Cap and Trade Generates Revenues to Protect Consumers from Higher Energy Prices

A cap-and-trade system would raise the prices of goods and services whose production and use involve the emission of greenhouse gases. But it would also generate revenues to offset the effects of these cost increases.

Consumers would face higher prices both for home heating and cooling and for gasoline, food, and other items made with or transported by fossil fuels. These higher energy-related prices are necessary to encourage emissions reductions. But they do not have to reduce households' purchasing power. That depends on whether emissions allowances are given away free to polluters or auctioned and the proceeds then used to compensate consumers.

Auctioning the emission allowances rather than giving them to firms free of charge will generate substantial revenue that can be used for a variety of purposes, including offsetting the impact of higher energy-related prices on low- and middle-income consumers. The federal government would auction emissions allowances, and firms that emit carbon dioxide or other greenhouse gases would be required to purchase the permits. If instead, allowances were given away free to polluting firms, only the firms and their shareholders would benefit. These firms would, as CBO has explained, receive "windfall profits": they would be able to charge higher prices for

[1] Like a cap-and-trade system, a carbon tax—a government-imposed charge on firms for every ton of greenhouse gas pollution they produce—uses market forces to achieve cost-effective emissions reductions. The two mechanisms operate in different ways, however. A cap-and-trade system specifies the amount by which emissions must be reduced and lets the market determine how high energy-related prices need to rise to achieve that reduction. A carbon tax does the reverse: it specifies the amount by which energy-related prices will rise, but it lets the market determine how much of an emissions reduction that price increase will cause.

Both mechanisms lead to pollution abatement and generate revenues that can be used to offset the effects of the energy cost increases that result.

their products, but they would not have to pay for their emissions allowances. Ordinary consumers would get no help in dealing with the strain that the higher prices put on their budgets.

There is a misconception that giving allowances away for free to emitters would be a way to lower the costs to consumers. That is incorrect and flies in the face of the basic laws of supply and demand. A cap on emissions will limit the amount of energy produced from fossil fuels. Stated another way, it will lower the supply of energy that is produced from fossil fuels. Regardless of whether the government gives away or sells the allowances, market forces—i.e., the laws of supply and demand—will raise the price of fossil-fuel energy to the point where the amount *demanded* will fall to equal the amount *supplied*. Whether energy companies have to pay for allowances or receive them for free, they will be able to sell their products at the higher market price that results from the reduction in the available supply of fossil-fuel energy. This increase in prices is the source of the windfall profits that would go to companies that received allowances for free but were able to charge the higher price that the market would bear.

The United States will incur some economic costs to change the way we produce and consume energy in order to reduce greenhouse gas emissions. But a broad consensus exists among scientists that reducing carbon emissions is essential to protecting the planet—and our long-term prosperity. In other words, failure to act is the more costly policy economically.

Higher energy prices under a cap-and-trade system will give all consumers the incentive to conserve energy and invest in energy efficiency, while rebates make sure the typical consumer has the necessary resources to respond appropriately to those higher prices without taking a substantial hit to his or her budget.

How a Climate Rebate Would Work

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

1. ***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—a group whose average household income is only a little more than $15,000. Families at somewhat higher income levels that struggle to make ends meet also will need help in coping with the higher bills they will face.
2. ***Use mechanisms that reach all or nearly all low-income households.*** Members of some low-income households work for low wages and could receive a 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 and are not in the tax system—and experience at state and federal levels shows that attempts to use the tax system to deliver relief to such households have generally been unsuccessful.[2] Yet climate rebates need to reach these poor households as well.

   Fortunately, policymakers can tap existing mechanisms to reach the large number of low-income households that are not reached through a tax-rebate mechanism because their incomes are so low that they do not file a tax return. For example, "climate rebates" could be provided through the electronic benefit transfer (EBT) systems that state human service agencies use to provide various types of assistance to many poor people. (This is discussed further below.)

[2] Over the years, a number of states have established refundable tax credits that are available to all low-income households, including those that have no or little earnings and do not file state income tax returns. These state tax credits are most commonly designed to provide relief from state sales taxes or property taxes. In most such states for which data are available, a large portion of the low-income households that are not required to file state income tax returns fail to file for these tax credits and thus do not receive them.

States have found it difficult to get the word out to the diverse array of low-income people who are not otherwise connected to the income tax system. In addition, many people apparently are reluctant to have anything to do with state or federal revenue agencies and do not file income tax returns if they are not required to do so.

Many of these state tax credits and the federal telephone tax rebate are smaller than a federal climate-change tax credit would be, and a larger tax credit would be expected to induce greater participation. Even so, a significant percentage of low-income households would likely be missed. For further discussion of these issues, see Robert Greenstein, Sharon Parrott, and Arloc Sherman," "Designing Climate-Change Legislation that Shields Low-Income Households From Increased Poverty and Hardship," Center on Budget and Policy Priorities, revised March 21, 2008.

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. ***Preserve Economic Incentives to Reduce Energy Use Efficiently.*** Policies that suppress price increases in an important sector such as electricity blunt incentives to reduce fossil fuel use in that sector. That keeps electricity demand somewhat elevated and puts a greater burden on other sectors to provide the emissions reductions required under the cap. The result is that emissions reductions are more costly to achieve and allowance prices are higher. Consumers may pay less for electricity but they will pay more for other things.
5. ***Do not 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. (See Figure 1.) Furthermore, about 20 percent of the households in the bottom fifth have their utility costs reflected in their rent, so they pay for utilities indirectly, through the rents their landlords charge. Policymakers should structure climate rebates so they can help such low-income families with the rent increases they will face as a result of climate policies, as well as with the higher prices low-income households will incur for gasoline and other products and services that are sensitive to energy costs.
6. **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.

A "Climate Rebate" That Meets These Principles

A combination of an increase in the Earned Income Tax Credit and a rebate delivered through state electronic benefit transfer systems would reach the vast majority of low-income households, and would do so without creating the need for a new bureaucracy or large administrative costs.

The **Earned Income Tax Credit** is a powerful tool for reaching millions of low-income working families; this committee (and Congress and the relevant administrations) relied on EITC expansions in both 1990 and 1993 to offset the impacts on low-income working families of the increases enacted in those years in gasoline and (in 1990) other regressive excise taxes. Under cap-and-trade legislation, the EITC's parameters could be designed to adjust automatically over time to reflect the increasing consumer costs that result from the steady tightening of the emissions cap. (This could be done through a formula that ties the adjustments in the annual EITC parameters to annual data from the Energy Information Agency indicating the impact of the emissions cap on consumer purchasing power.)

If such EITC increases were all that was done, however, the result would still be a substantial increase in poverty and hardship. About half of those in the bottom fifth of the population do not qualify for the EITC in any given year, in most cases because they are elderly, have a serious disability, were unemployed in the prior year due to a weak labor market, or are raising young children and are temporarily out of the labor force. The group left out includes some of the poorest children in the country. A tax-based strategy such as the EITC consequently needs to be coupled with a form of assistance that is available to other low-income households.

The best such mechanism is the **Electronic Benefit Transfer** system that all state human service agencies use to provide food stamp assistance—and in most states, other benefits (such as child care or TANF assistance) as well—to a broad array of very low income households. A climate rebate administered through existing state EBT systems would be much less expensive to set up and administer than virtually any alternative, because states already have the EBT system in place. States could fairly easily issue a monthly rebate to the millions of low-income households that are already enrolled in either the Food Stamp Program or in the low-income subsidy for the Medicare prescription drug benefit (which reaches a large share of the low-income elderly and disabled population). Poor households that do not receive either of those benefits but that meet the eligibility criteria for food stamps (income below 130 percent of the poverty line and limited assets) and wished

to receive the climate-change rebate could apply for the rebate through their state human services agency.

Some families that receive a rebate through the state human service agency also will have earnings over the course of the year and qualify for the EITC or climate-related tax credit. To ensure that families do not receive an excessive climate rebate, benefits received through the state human service mechanism would offset any climate-related tax credit for which the family otherwise would qualify. States would provide year-end information to families and the IRS on families' rebate receipt through the EBT system, and this information would be used to adjust the climate tax rebate a family would receive.

These two delivery mechanisms—an EBT climate-change rebate and an expanded EITC—could be supplemented with a smaller increase in the Low-Income Home Energy Assistance Program (LIHEAP) to help low-income households that faced particular hardship because of extremely high energy costs even after the EBT rebate or EITC boost was provided, and to provide weatherization assistance and assistance with home energy efficiency to low-income households. LIHEAP also would be a backstop that could provide another way to help reach low-income elderly people not picked up through the other mechanisms, since it disproportionately serves the elderly.

By building off existing, effective programs, this approach would succeed in reaching most low-income households. About *three-fourths* of all households in the bottom fifth of the income spectrum would be reached with little or no additional paperwork because they already participate in the Food Stamp program, the EITC, or the low-income subsidy under the Medicare prescription drug benefit. (An estimated 28 million low- and moderate-income households would receive assistance automatically because they already have an EBT account through the Food Stamp Program or receive the EITC. Another 7 million households receive the Medicare low-income subsidy and do *not* receive food stamps; they could be enrolled in the rebate program either automatically or with little additional paperwork.)

We estimate that approximately 14 or 15 percent of the value of emissions allowances in a cap-and-trade system would fund this proposal.

Extending the Rebate to Middle-Income Consumers

This low-income rebate program could easily be modified so it also provides relief to consumers with somewhat higher incomes, an approach that we believe represents sound policy—and that also should enhance prospects for the legislation's passage. Here is how climate rebates for low- and middle-income households would work.

Retain the EBT rebate for very low-income households. Very-low-income households that do not file tax returns would receive their climate rebate in the same manner as they would under the Center's original low-income proposal: as a monthly benefit delivered through state EBT systems. Climate rebates could be provided directly to seniors, veterans, and people with disabilities—individuals who may not otherwise need to file an income tax return—by the Social Security Administration, the Veterans Administration, and the administrator of the Railroad Retirement program. Just as was done in the American Recovery and Reinvestment Act, these entities can effectively and efficiently deliver climate rebates to Social Security, SSI, VA, and Railroad Retirement beneficiaries. For those who do file an income tax return, these benefits would offset any climate related tax rebate for which they would otherwise qualify.

Create a new "climate tax credit" for other households. For all but very-low-income households and people on Social Security, SSI, VA, and Railroad Retirement, a refundable income tax credit (i.e., one that provides a refund check to families whose tax credit amount exceeds their income tax liability) is the most efficient way to deliver a climate rebate. Our original low-income proposal used the Earned Income Tax Credit for this purpose. Doing so would provide for effective targeting; the EITC phases out at moderate income levels. To reach middle-income as well as low-income households, however, would require a different vehicle: a new, refundable "climate tax credit," rather than an expansion of the EITC. The tax credit would go to anyone who files a federal tax return and whose income is below the eligibility limit set for the rebate; families would simply look up the size of their credit in a table similar to the one used now for the EITC.

President Obama has proposed using the Making Work Pay tax credit for this purpose. As proposed by the administration, that credit would be a fixed dollar amount. It would need to be modified, or a supplemental credit would have to be added, to take into account the increased impact on consumers' budgets that would need to be offset as the emissions cap tightened over time.

How big a rebate? As noted, under our original *low-income* proposal, the rebate would equal the lost purchasing power for the average household in the bottom quintile. The rebates would be scaled by family size; larger families would receive more sizeable rebates. The dollar amount of the rebate would go up over time as the emissions cap tightened and energy prices rose. Annual data from the Energy Information Administration on the impact of the emissions cap on consumers' purchasing power would be used to set the size of the rebate each year.

For a rebate also aimed at middle-income households, it would be more appropriate to tie the rebate's size to the average loss in purchasing power that households farther up the income scale would face. While low-income households feel the squeeze of higher energy prices more—they live on limited budgets, spend a larger share of their budgets on energy, and are less able to afford investments that can reduce their energy demand—the *absolute dollar size* of the purchasing power loss is somewhat larger at higher levels of income. Hence, a rebate set to offset the losses of middle-income families would need to be larger than a rebate targeted solely on low-income families. The rebate could, for example, be set equal to the average impact of the emissions cap on the budgets of households in the middle of the income scale.

How much would it cost? Because a rebate program aimed at middle-income as well as low-income households would go to more people and provide somewhat larger rebates, it would require more funding. The Center's low-income rebate program can be funded with about 14 or 15 percent of the total market value of the emissions allowances under a cap-and-trade program (or 14 or 15 percent of the revenues from a carbon tax). A rebate that would offset the average purchasing power loss of consumers in the next higher quintile would require about 35 percent of the total value of the allowances, and one that offset the average loss of the middle 20 percent of the population would require about 55 percent of the total allowance value.[3]

With 55 percent of the total allowance value generated by a cap-and-trade system used to fund rebates, 45 percent would remain available to meet other important needs. These include basic research and development on alternative energy, conservation efforts and energy efficiency investments, transition assistance for workers and communities harmed by the shift to a less carbon-intensive economy, adaptation to the impacts of climate change here and abroad, green job training, and offsetting impacts on federal, state, and local budgets. (Note: the Congressional Budget Office has indicated that the Treasury will need to retain approximately 25 percent of the auction proceeds to ensure that a cap-and-trade bill does not increase the federal deficit. This "25-percent offset" arises because CBO essentially assumes that the additional revenue collected from imposing a charge on emissions will result in a reduction of certain other federal revenues.[4])

Why Rebates Are Superior to Other Forms of Consumer Relief

Rebates are an effective way to deliver consumer relief. They can be provided easily through the federal tax system and state EBT systems, with no need for new agencies or bureaucracy at the state or federal level. Also, rebates protect households against the loss of purchasing power from higher energy-related prices *without* blunting consumers' incentives to respond to those higher prices by conserving energy and investing in energy efficiency improvements. Because energy-related products will cost more, households with the flexibility to conserve energy or invest more in energy efficiency will get more value for their budget dollar by taking these steps than by using their rebate to maintain their old ways of consumption. At the same time, rebates help households that cannot easily reduce their energy consumption to avoid a reduction in their standard of living.

Other proposals for consumer relief generally lack one or more of these advantages, pose other serious problems, or lack crucial details needed to know how they would work in practice.

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[3] The total cost of rebates *as a percentage* of the emissions value is largely independent of how tight the cap is and what an emissions allowance costs. As the emissions cap under a cap-and-trade system tightens over time, this will increase the total value of the emissions allowances by raising the price of those allowances. It also will increase consumers' purchasing power losses by raising the price of energy. Since both of these increases will occur at approximately the same rate, the cost of climate rebates will stay approximately the same as a percentage of the total allowance value.

[4] Chad Stone, Jim Horney, and Robert Greenstein, "How CBO Estimates the Cost of Climate Change Legislation: Explaining the 25% Offset Rule," Center on Budget and Policy Priorities, May 13, 2008, http://www.cbpp.org/5–13–08climate.pdf.

Universal "Cap and Dividend"

The proposal closest in spirit to rebates is the universal "cap-and-dividend" proposal advocated by Peter Barnes, an energy entrepreneur who has studied this issue for a number of years.[5] Under this proposal, all emissions allowances in a cap-and-trade system would be auctioned and the proceeds divided evenly among all Americans on a per capita basis, mirroring the concept that all Americans have an equal stake in the planet's future.

The dividend would equal the average per capita loss of purchasing power that results from climate-change legislation. Therefore, the dividend would be smaller than the actual losses that high-income individuals would experience due to higher energy-related costs, because they have above-average per capita energy expenditures. It would be somewhat larger than the actual losses of low-income individuals.

There are a number of similarities between cap and dividend and the Center's rebate proposal. Both focus on consumer relief. The cap-and-dividend approach has the advantage of simplicity: everyone would secure a share of the revenues while still facing an incentive to reduce their carbon emissions. Nevertheless, cap and dividend raises several concerns.

- The primary issue is that distributing all revenues from the auction of emissions allowances as dividends would leave no money for other climate-related priorities, which would have to be funded from other sources. (Barnes treats the dividend as taxable income which means that the CBO "25-percent offset" discussed earlier in this paper would not be needed to keep the budget deficit from widening.)
- On a more technical front, cap and dividend would require an implementation mechanism. Barnes has suggested that households would receive monthly payments, preferably into their bank accounts (as is done with Social Security).[6] This would entail a significant expansion of the Social Security infrastructure or the creation of a similar administrative system. It would also require ensuring that all Americans are signed up with appropriate banking services or that a more universal system of debit cards than currently exists is created. While these are not necessarily insurmountable barriers, developing such a system would be a considerable undertaking.
- Finally, under a per capita dividend, the size of a family's dividend would be tied strictly to the number of people in the family. The evidence suggests, however, that energy expenditures increase lessthan in proportion to family size. (In other words a family twice as large as another consumes less than twice as much energy.) Rebates are better suited to providing a more appropriate family-size adjustment.[7]

Payroll or Income Tax Cuts

Some have proposed using climate change revenues to cut payroll tax rates or individual or corporate income tax rates. Such options would be far less effective than a refundable tax credit in preserving the purchasing power of low- and middle-income consumers.

For example, in its analysis of trade-offs in the design of cap-and-trade legislation, CBO found that if all the revenue from auctioning emissions allowances were used to reduce payroll tax rates, households in the bottom 60 percent of the distribution would get a smaller benefit from the tax cut, on average, than they would lose from higher energy prices.[8] Those in the next 20 percent would come out even and the top 20 percent of the population would get a tax cut that *exceeded* their increase in energy costs. Using all the auction revenues to cut corporate taxes would be even more regressive, since the benefits of corporate tax cuts are concentrated still higher up the income scale. Using auction revenues to provide households rebates that vary

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[5] See Testimony of Peter Barnes, before the Committee on Ways and Means, U.S. House of Representatives, September 18, 2008, http://waysandmeans.house.gov/media/pdf/110/barnes.pdf.

[6] *ibid.*

[7] The climate tax credit discussed in this paper would adjust for family size but would take into account "economies of scale" in meeting families' needs. In other words, a family of four would get a larger credit than a family of two, but not one that was twice as large, as would be the case under a per-capita cap-and-dividend approach.

[8] Congressional Budget Office, "Tradeoffs in Allocating Allowances for CO_2 Emissions," April 25, 2007, http://cbo.gov/ftpdocs/89xx/doc8946/04-25-Cap_Trade.pdf; and "Options for Offsetting the Economic Impact on Low-and Moderate-Income Households of a Cap-and-Trade Program for Carbon Dioxide Emissions," letter to the Honorable Jeff Bingaman, Chairman, Committee on Energy and Natural Resources, United States Senate, June 17, 2008, http://www.cbo.gov/ftpdocs/93xx/doc9319/06-17-ClimateChangeCosts.pdf.

by family size but do not increase as income climbs would not have these regressive effects.

The main argument for using climate change revenues to cut tax rates rests on the concept of economic efficiency. Economic analysis suggests that charging firms for emitting pollutants (as under a cap-and-trade system) could dampen economic activity. By cutting tax rates at the same time, policymakers could reduce these economic efficiency losses. But, as the CBO analysis emphasizes, policymakers face a trade-off between achieving efficiency gains and achieving distributional goals. Moreover, the economic efficiency gains CBO identifies are relatively modest, and the effect of the tax rate cuts that produce those modest gains would almost surely be to leave low- and middle-income consumers worse off and to cause inequality in the United States to widen further.[9]

A recent study by Resources for the Future reinforces the CBO analysis.[10] The study finds that the benefits of cutting marginal tax rates would mainly go to upper-income individuals. In contrast, providing rebates to low- and middle-income consumers would result in the best outcome for those consumers.

A reduction in payroll tax rates does not fare as well as a flat rebate on distributional grounds: the size of the benefit from a payroll tax cut is higher for those with higher earnings, and seniors and others without earnings would receive no rebate. The first concern can be partially addressed by switching from a cut in payroll tax rates to a rebate of payroll taxes paid up to a fixed cap. Workers above a certain modest level of earnings would all receive the same size rebate. Workers with very low earnings, however, would receive only a partial rebate, and people with no earnings would still be left out.

Those problems can partly addressed by switching to a refundable income tax credit based on the amount of payroll taxes paid (up to a maximum amount) and making seniors and people receiving federal disability benefits eligible for a similar size tax credit.[11] At that point, the modified payroll tax proposal would look a lot like our proposed low- and-middle-income rebate, although it still would leave out people who lack earnings and are not elderly or have disabilities, such as people who are unemployed during a recession and single mothers with very young children who are temporarily out of the workforce. That could be addressed by including our low-income EBT proposal and by making direct payments to people receiving Social Security, SSI, VA, or Railroad Retirement.

A similar outcome could be built around President Obama's Making Work Pay tax credit. That credit would have to be paired with payments to people on Social Security, SSI, VA, and Railroad Retirement as was done in the economic recovery legislation and with our EBT proposal so as to include people who do not file tax returns. Finally, there would need to be a supplement to the Making Work Pay credit so there is an adjustment for family size and an increase in the tax credit as the emissions cap tightens and the consumer impacts consequently grow larger.

Energy Efficiency Programs

Measures to encourage or require investments in economic efficiency can reduce the overall demand for energy, thereby limiting the size of the hit to consumers' pocketbooks from increased energy-related prices under an emissions cap. But energy efficiency programs are not a credible *substitute* for rebates as a means of addressing the impact of climate change legislation on consumers' budgets.

There are two main reasons why. First, existing weatherization and other energy efficiency programs now operate on a small scale and would likely take years to scale up to reach a substantial portion of the population. Until now, the Weatherization Assistance Program, which helps low-income households make their homes more energy efficient through measures such as better insulation and newer appli-

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[9] For low- and moderate-income consumers not to be worse off under a proposal that uses all of the auction proceeds to lower tax rates, the additional economic activity generated by the tax cut would have to be so great that it raised workers' incomes by enough to increase their after-tax income by more than what they lose due to higher energy prices. Credible estimates of the economic efficiency gains from using climate change revenues for tax-rate reductions show those gains to be very small, however, compared with what would be needed to produce such a result. For example, in the analysis that CBO has relied upon to estimate the efficiency gains under an approach that uses all of the auction proceeds to cut tax rates, the efficiency gains would be equal to only 0.3 percent of GDP. That is far too small to offset the net loss that low- and middle-income consumers would bear as a result of losing more from higher energy prices than they would gain from the reduction in tax rates.

[10] Dallas Burtraw, Rich Sweeney, and Margaret Walls, "The Incidence of U.S. Climate Change Policy: Where You Stand Depends on Where You Sit," Resources for the Future, September 2008, http://www.rff.org/News/Features/Pages/ClimatePolicyOptions.aspx.

[11] Gilbert E. Metcalf, "A Proposal for a U.S. Carbon Tax Swap: An Equitable Tax Reform to Address Global Climate Change," The Brookings Institution (Hamilton Project), October 2007.

ances, has served only a few hundred thousand homes a year.[12] Even if the program is expanded to the point that it reaches 1 million households a year, which would require a huge buildup in effort, it would take decades just to reach the 37 million low-income households that are eligible for LIHEAP assistance. Rebates, in contrast, can reach tens of millions of low- and middle-income people immediately.

Second, the commonly discussed energy efficiency programs generally focus on home energy efficiency. Yet higher home energy costs account for less than half of the loss in household purchasing power that would be caused by an emissions cap. To provide full relief to households, the energy efficiency measures would have to be so effective as to compensate not only for the increased costs in home energy but also for the increase in the cost of gasoline and other products. That is far beyond what is realistic.

Using Utility Companies to Provide Consumer Relief

The Lieberman-Warner Climate Security Act of 2008 (S. 3036) would have assisted low- and middle-income households by routing funds through local utility distribution companies (LDCs). Some other proposals have taken this approach as well.[13] While relying on LDCs may seem reasonable at first blush in light of concerns about increased electricity bills, this approach is fundamentally unsound for several reasons.[14]

First, utility companies do not routinely collect information on their customers' incomes. To target assistance at customers within a particular income range, utility companies would therefore have to set up new bureaucracies to collect and audit income information. Covering the large costs of building an infrastructure at each utility company to gather and verify income information for millions of customers would require substantial government subsidies. Such subsidies would pay for an infrastructure that essentially duplicates what public agencies already do. Making households of *all* income levels eligible for utility company assistance would avoid this particular difficulty. But that approach would spread the funds much more thinly across the population and make it far less likely that low- and moderate-income consumers would be adequately protected from higher prices.

Second, past experience suggests that utility company programs will miss large numbers of consumers. The only existing federal program that delivers assistance to low-income households through utility companies is the "Lifeline" telephone discount program, administered through local phone companies. That program reaches just *one-third* of eligible low-income households.[15] In addition, the sizeable share of Americans whose utilities are built into their rents could be left out if climate assistance were delivered primarily through utility companies.

Third, a utility company approach is aimed at electricity and natural gas bills, and hence fails to address the full impact of climate legislation on consumer budgets. With over half of the impact of climate change legislation on consumer budgets coming as a result of higher prices for a range of other goods and services, including gasoline and food, relying on utilities to deliver consumer relief would leave many low- and middle-income consumers with a large uncompensated hole in their budgets.

Fourth, routing consumer assistance through utility companies artificially lowers households' utility bills and blunts the "sticker shock" of higher bills. People who do not realize that energy costs are going up will be much less likely to take steps to conserve energy or seek out energy efficiency improvements. A rebate, in contrast, protects consumers' purchasing power without blunting the incentives created by higher energy prices.

Fifth, establishing a formula for allocating emissions allowances equitably among utilities would be fraught with severe difficulties. There are roughly 3,300 LDCs in the electricity sector (plus additional natural gas retail distributors not affiliated with electric utilities). As discussed above, information does not exist on the relative incomes of their customer bases, making it impossible to distribute allowances among LDCs in proportion to each LDC's share of the population being targeted for consumer relief. Making matters worse, basing the allocations to LDCs on each util-

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[12] See the LIHEAP Annual Report to Congress for Federal Fiscal Year 2005.

[13] One of the options included in the Dingell-Boucher discussion draft legislation on climate change released in October 2008 also would have relied on LDCs to provide consumer relief, and LDC provision figures prominently in the blueprint for legislative action issued by the United States Climate Action Partnership in January 2009.

[14] See Chad Stone and Robert Greenstein, "Why Utilities Are Not Well-Suited to Deliver Relief to Low- and Moderate-Income Consumers in a Climate Bill," Center on Budget and Policy Priorities, February 18, 2008.

[15] Matt Fiedler, "Lessons from The Telephone Lifeline Program," Center on Budget and Policy Priorities, July 18, 2008. Available at http://www.cbpp.org/7-18-08climate.pdf.

ity's share of total electricity delivered or total emissions—an approach often taken by legislative proposals that rely on LDCs to provide consumer relief—would short-change utilities that serve a disproportionate number of low- and moderate—income consumers, because their consumers' per-capita energy consumption is likely to be lower than the per-capita energy consumption of more affluent households.

Sixth, a major obstacle to relying on utilities to deliver consumer relief, either through reductions in consumers' bills or through energy efficiency measures, is the uneven quality of regulation and enforcement of utilities across the states. Most utility customers are served by investor-owned utilities whose rates and practices are regulated by state public utilities commissions. Regulators have to work closely with the industry they oversee, and states vary considerably in the degree to which the regulators have successfully avoided being "captured" by the industry. In such a heterogeneous regulatory regime, it would be difficult to provide the federal oversight necessary to make sure that the federal revenues from auctioning emissions allowances are used appropriately to protect consumers and invest in cost-effective energy efficiency improvements.

Finally, policies that suppress consumer price increases in the electricity sector—as the utility company approach would do—blunt incentives to reduce fossil fuel use in that sector. That keeps electricity demand elevated and puts a greater burden on other sectors to provide the emissions reductions required to meet the cap. The result is that emissions reductions would be more costly to achieve, and allowance prices consequently would be higher. Consumers would pay less for electricity, but they would pay *more* for other forms of energy and energy-related products. In the worst case, the overall hit to consumers' budgets would be mitigated little or not at all despite the federal government's having devoted a substantial amount of allowance value, totaling tens of billions of dollars, to this effort.

Conclusion

Climate change legislation that limits greenhouse gas emissions need not squeeze the budgets of low- and middle-income families. Well-designed consumer relief can restore to these families the purchasing power that they would lose as a result of higher prices for energy-related products. In addition, consumer relief can be financed with a portion of the revenues from the auctioning of emissions allowances under a cap-and-trade system, leaving significant auction revenues available for other climate-related priorities.

A new refundable climate tax credit (including a modified version of the President's Making Work Pay tax credit), coupled with Electronic Benefit Transfers for the lowest-income households, would be the most effective way to provide consumer relief to low- and middle-income households. Other proposed mechanisms suffer from significant flaws. Cutting income or payroll tax rates would not have large enough effects on economic activity to offset the fact that these approaches would be quite regressive, providing the largest benefits to higher income households and leaving low- and middle-income households worse off as a result of the emissions cap.

Filtering consumer assistance through utility companies—or relying solely on weatherization and related efforts to make homes more energy efficient—also would have very serious weaknesses, as these approaches would either bypass many families affected by higher home energy costs or provide them with inadequate relief. Moreover, such approaches would not address the increases that would occur, as a result of climate change measures, in prices for energy-related products *other than* household utilities. Both approaches also would require substantial expansions in government regulation.

Chairman MCDERMOTT. Thank you very much.

Now, Sir Monckton from Great Britain?

STATEMENT OF LORD CHRISTOPHER MONCKTON, CHIEF POLICY ADVISOR, SCIENCE AND PUBLIC POLICY INSTITUTE

Lord MONCKTON. Sir, I bring you warmest fraternal greetings from the Mother of Parliament to the Congress of your great athletic democracy, and I pray that God's blessing may rest upon your counsels.

As a prime ministerial policy advisor to Margaret Thatcher, inter alia I modeled the economic interactions of taxes and benefits on low-income households with the aim of eradicating poverty and investigated scientific frauds.

I have written and lectured about the mathematics and physics of climate sensitivity, and I advise institutions on climate change.

I should like to warn this honorable House that any proposal to inflict billions of dollars of new taxation on all citizens by charging selectively disfavored industries who arbitrarily rationed permits to emit a harmless and beneficial trace gas that is necessary to all life on Earth and has little effect on its surface temperature, will fall cruelly and disproportionately upon the poor; will threaten their very lives; will gravely diminish the liberty that is the glory of your great nation; will render difficult, if not impossible, the pursuit of happiness;

Will raise little net revenue if the poor are adequately compensated by the subsidies of which we have heard; will damagingly distort the labor market by widening and deepening the unemployment trap that already gives millions of your most helpless citizens a better income on welfare than in work; will imprison the poorest earners in a perpetual poverty trap by inflicting upon them a crippling marginal taxation and benefit withdrawal rate that powerfully deters them from increasing their earnings;

Will be complex, extravagant, and costly; will savagely compound the adverse effects of recession of excessive public and private indebtedness, of fiscal incontinence, of monetary laxity on industries and employment; will create soi-disant "green" jobs by the thousand, while destroying real jobs by the million; will establish an unstable and artificial derivatives market in hot air that will enrich a handful of portly middle-men, while impoverishing the people; will automatically and ineluctably defeat its own objective by so depressing economic activity that the market price of carbon dioxide will tend rapidly to fall as close to zero as it has now done in both of Europe's attempt at a cap-and-trade scheme;

Will directly encourage fraud by incentivizing not only both parties to every transaction, but also the regulatory authorities, recklessly to overstate the magnitude of every transaction; will set your enterprises at a profound competitive disadvantage against nations that stare wisely clear of purposely restrictions on or taxation of the very air we breath out;

Will accelerate the transfer of wealth from your citizens' pockets to other nations' governments by way of boondoggles, such as the UN's clean development mechanism, and will appreciably increase global carbon dioxide emissions by transferring U.S. jobs and manufacturers to less efficient nations, whose emissions per unit of production are many times greater than your own, and by increasing poverty and consequently birth rates, and consequently carbon dioxide emissions world-wide, thereby exerting a prodigious and tragic cost, a double influence on the global climate that will be precisely the opposite of that which was, however piously, intended.

Any restriction on the emission of carbon dioxide is unnecessary. It is simple to establish theoretically, and has been so established, that the UN's climate panel has exaggerated the true effect of carbon dioxide's enrichment on global temperature sevenfold.

To confirm that theoretical result, it is simple to verify empirically and has been so verified by direct and repeated satellite observation that the diminution over time and the outgoing longwave radiation from the Earth is one-seventh of that which the UN's computer games to which we have heard referred by your Ranking Member, had been instructed to predict.

As you will see, global temperatures have fallen for seven straight years. That fall in temperatures on all measures has gone largely unreported.

Next slide, please.

Carbon dioxide is accumulating in the air at less than half the rate the UN had imagined. You can see it there. Not one of the UN's games had predicted the rapid global cooling to which I've just referred. Sea surface temperatures have fallen for 5 years.

Could I have the next slide, please?

Sea level has risen not at all for the last 3 years and is predicted to rise by little more than one foot this century, even on the forecasts of the UN's climate panel.

Next slide, please.

Worldwide hurricane intensity in October 2008 in the Northern Hemisphere was at its least for the 30 years of the entire satellite record.

Next slide, please.

Global sea ice—this is the Arctic sea ice you see here in purple—shows little trend in 30 years: 1980 on the left and 2009 on the right.

Next slide, please.

You will also see that in the southern hemisphere, the sea ice extent reached a maximum as recently as October 2007, at the same time as a much more widely reported minimum occurred in the Northern Hemisphere.

The ice sheets of Greenland and Antarctica are thickening. The Sahara is greening. There is no climate crisis.

The correct policy response to the non-problem of global warming is not to cap or tax carbon dioxide emissions. It is to have the courage to do nothing.

[The prepared statement of Lord Monckton follows:]

Statement of Lord Christopher Monckton, Chief Policy Advisor, Science and Public Policy Institute

As a Prime Ministerial policy advisor to Margaret Thatcher, *inter alia* I modeled the economic interactions of taxes and benefits on low-income households with the aim of eradicating poverty, and investigated scientific frauds. I have written and lectured about the mathematics and physics of climate sensitivity. I advise institutions on climate change.

I warn this honorable House that any proposal to inflict billions of dollars of new taxation on all citizens by charging selectively-disfavored industries for arbitrarily-rationed permits to emit a harmless and beneficial trace gas that is necessary to all life on Earth and has little effect on its surface temperature will fall cruelly and disproportionately upon the poor, will threaten their very lives, will gravely diminish the liberty that is the glory of your great nation, will render difficult if not unlawful the pursuit of happiness, will raise little net revenue if the poor are adequately compensated by subsidy, will damagingly distort the labor market by widening and deepening the unemployment trap that already gives millions of your most helpless citizens a better income on welfare than in work, will imprison the poorest earners in a perpetual poverty trap by inflicting upon them a crippling marginal taxation and benefit-withdrawal rate that powerfully deters them from increasing their earnings, will be complex, extravagant, and costly, will savagely com-

pound the adverse effects of recession, of excessive public and private indebtedness, of fiscal incontinence, and of monetary laxity on industries and employment, will create *soi-disant* "green" jobs by the thousand while destroying real jobs by the million, will establish an unstable and artificial derivatives market in hot air that will enrich a handful of portly middle-men while impoverishing the people, will automatically and ineluctably defeat its own objective by so depressing economic activity that the "market" price of carbon dioxide will tend rapidly to fall as close to zero as it has done in both of Europe's attempts at a cap-and-trade scheme, will directly encourage fraud by incentivizing not only both parties to every transaction but also the regulatory authorities recklessly to overstate the magnitude of that transaction, will set your enterprises at a profound competitive disadvantage against nations that steer wisely clear of purposeless restrictions on or taxation of the very air we breathe out, will accelerate the transfer of wealth from your citizens' pockets to other nations' governments by way of boondoggles such as the UN's "Clean Development Mechanism", and will appreciably increase global carbon-dioxide emissions by transferring U.S. jobs and manufactures to less efficient nations whose emissions per unit of production are many times greater than your own, and by increasing poverty and consequently birth-rates and consequently carbon-dioxide emissions worldwide, thereby exerting at prodigious and tragic cost a double influence on the global climate that will be precisely the opposite of that which was, however piously, intended.

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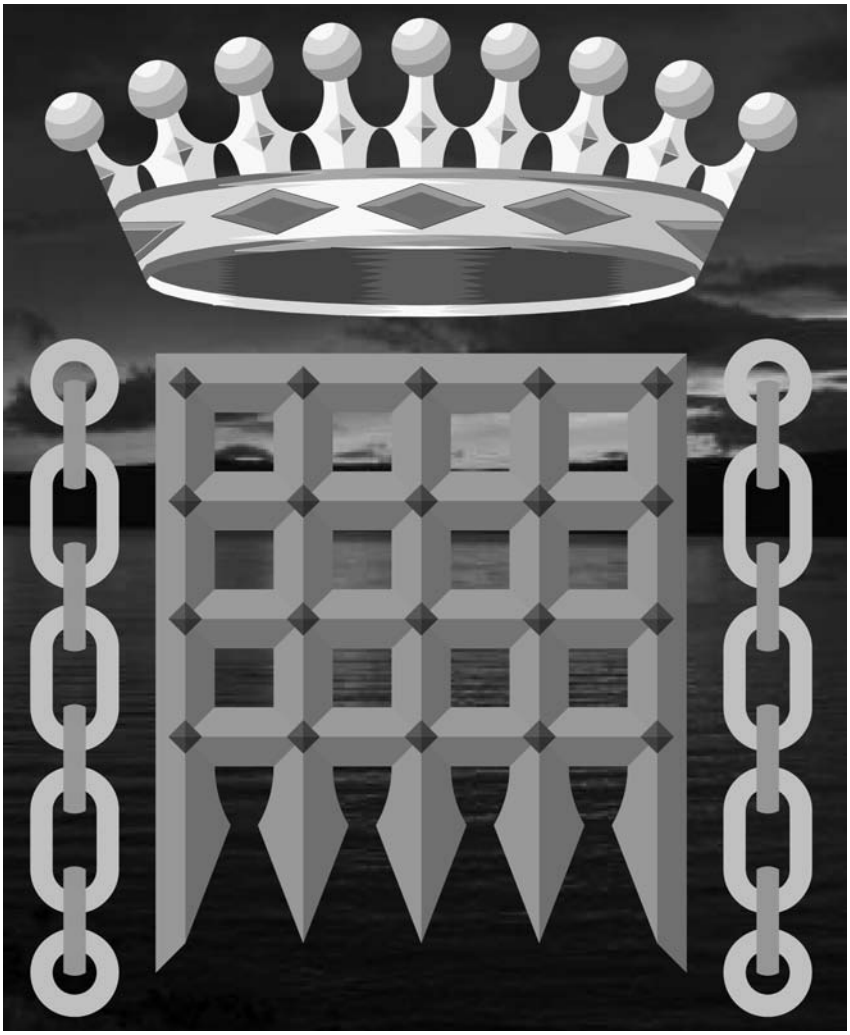
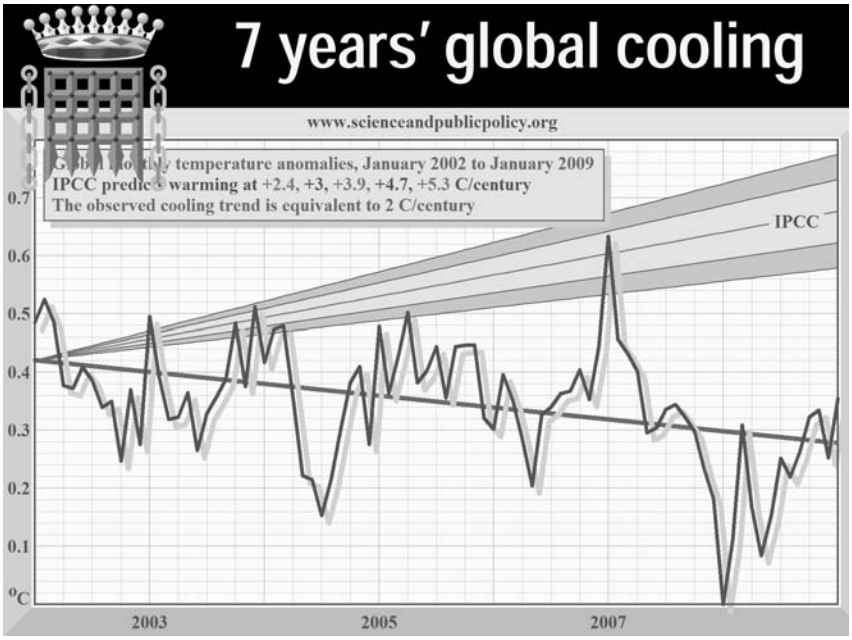
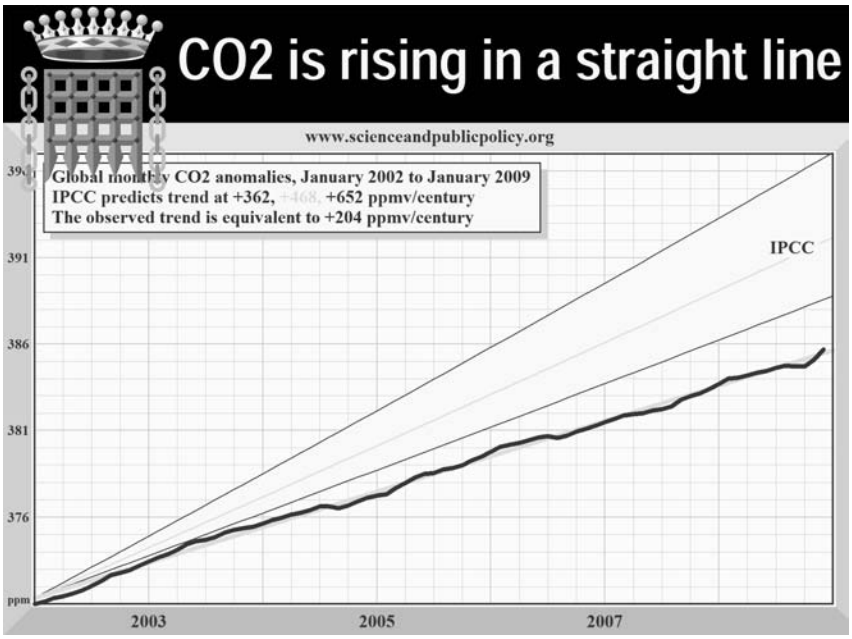
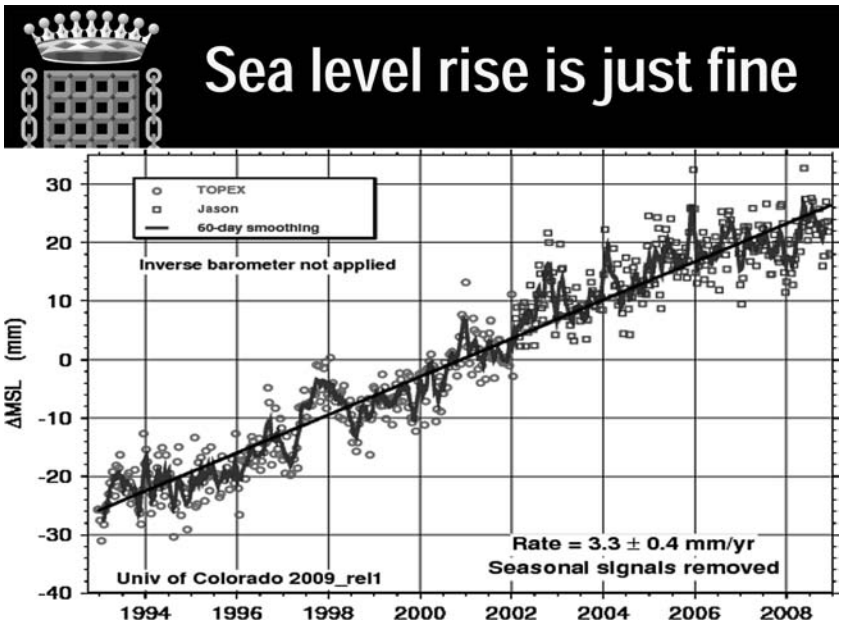
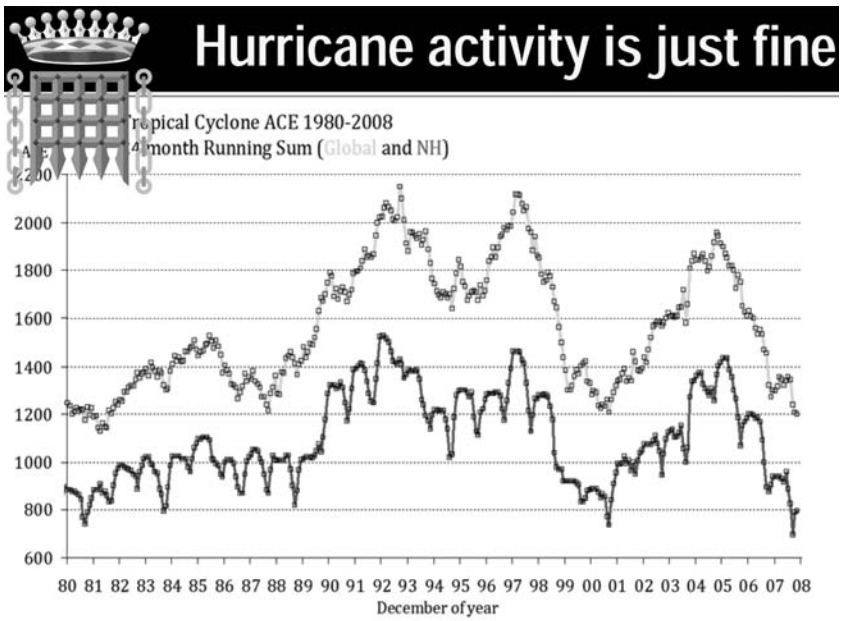
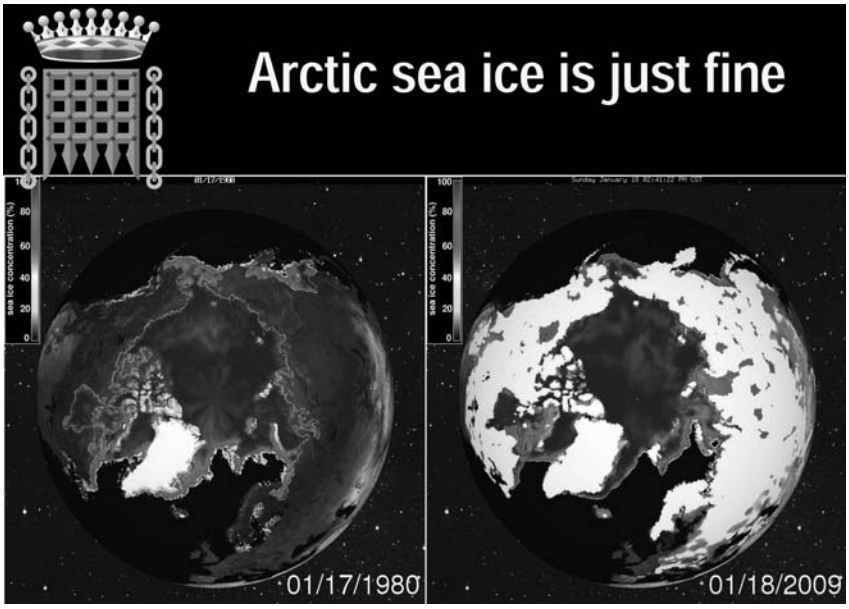


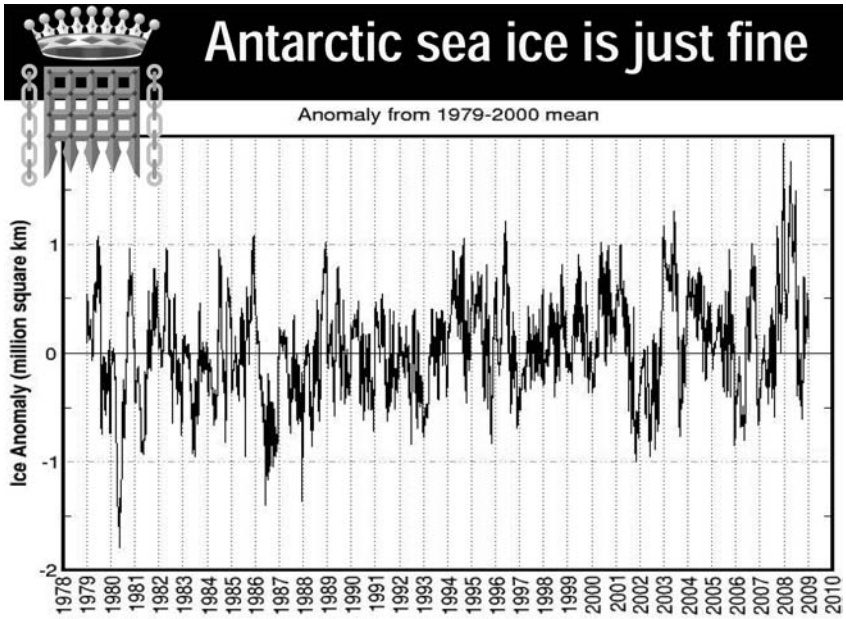

7 years' global cooling
www.scienceandpublicpolicy.org
temperature anomalies, January 2002 to January 2009
IPCC predicts warming at +2.4, +3, +3.9, +4.7, +5.3 C/century
The observed cooling trend is equivalent to 2 C/century
IPCC
0.7
0.6
0.5
0.4
0.3
0.2
0.1
°C
2003
2005
2007


CO2 is rising in a straight line
www.scienceandpublicpolicy.org
Global monthly CO2 anomalies, January 2002 to January 2009
IPCC predicts trend at +362, +468, +652 ppmv/century
The observed trend is equivalent to +204 ppmv/century
IPCC
391
386
381
376
ppm
2003
2005
2007


Sea level rise is just fine
TOPEX
Jason
60-day smoothing
Inverse barometer not applied
ΔMSL (mm)
30
20
10
0
-10
-20
-30
-40
1994
1996
1998
2000
2002
2004
2006
2008
Rate = 3.3 ± 0.4 mm/yr
Seasonal signals removed
Univ of Colorado 2009_rel1


Hurricane activity is just fine
Tropical Cyclone ACE 1980-2008
12 month Running Sum (Global and NH)
2200
2000
1800
1600
1400
1200
1000
800
600
80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08
December of year





Chairman MCDERMOTT. Thank you for your testimony.

We will now move to questions. I guess we could mark you down as doubtful.

[Laughter.]

Chairman MCDERMOTT. I'm going to talk to the other witnesses here, because I think something's going to happen here. I assume that all of you think it doesn't make any difference whether it's a carbon tax or cap-and-trade.

Does anyone have any particular feeling about that particular issue, in terms of how it affects the poor, or the people on the bottom of the economic scale?

Dr. DINAN. Either a tax or a cap-and-trade program if they were designed to have equivalent—that the price of the allowance under a cap-and-trade program was the same as a tax, would create the same price effects. As I said before, that's essential to the success of the policy.

Chairman MCDERMOTT. Yes?

Dr. BURTRAW. The one nuance to that is in the electricity sector where, depending on how emission allowances are distributed initially, there could be differential effects. We can come back to that.

Chairman MCDERMOTT. Is there a preferable way to put out the money with the most social justice, to distribute the money to the people at the bottom? I'd like to hear your all three answers. What would you put your nickel down for?

Dr. DINAN. Well, I think inevitably there's tradeoffs in the choices that policy-makers——

Chairman MCDERMOTT. I know, but we're going to have to vote "Yes" on one way to do it. So, what I want you to do is be a Member of Congress for just a moment. It's like how economists always talk—Henry Jackson one time said, "I wish I could find a one-armed economist," because they say on the one hand this and on the other hand that.

I want you to make a choice.

Dr. DINAN. The CBO does not make policy recommendations.

[Laughter.]

Dr. DINAN. I can only tell you the tradeoffs that you face, but it's not our place to give recommendations——

Chairman MCDERMOTT. Okay. So, I'll let you slide out. Yes?

Dr. STONE. Here's my one arm.

Chairman MCDERMOTT. Okay.

Dr. STONE. My testimony laid out our bet. We're putting our whole stake into the pot on the rebate-oriented proposal with EBT system for low income——

Chairman MCDERMOTT. The enemies who will come—give the other side of that argument. Somebody's going to come in and say, "Oh, that doesn't work, it won't work. Let me hear what they're going to say about that.

Dr. STONE. What the other side would say?

Chairman MCDERMOTT. Yes.

Dr. STONE. What—okay, that's an interesting position to put me in. Now, what the other side would say is that it's an expansion of the welfare system. We saw a chart that showed that, but it's not, because it's putting money back into people's pockets, that came out as a result of the tax. It gives people the ability to maintain their standard of living while still facing higher energy prices, and respond to them appropriately with conservation, but without being pushed farther into poverty.

They might say that it can't possibly work, but we have worked hard to have effective delivery mechanisms that rely on programs that are already in place to do it.

Dr. BURTRAW. RFF does not take positions. They don't pay me the big bucks they pay you to make the hard choices.

I do have an opinion about this in the final analysis. Cap and dividend has the advantage that it establishes a common franchise in what economists call a common pool resource. I think it's a signal that we are all in this together, and we're building an institution that may have to last for a century, and that means it's going to need to have broad public support, and the needs are going to need to be simple and transparent, and I think cap and dividend is an approach that has the longest legs to help us get through this.

Chairman MCDERMOTT. Are you talking about the President's plan that's in his budget?

Dr. BURTRAW. Not exactly. The plan that's in the President's budget is just a sketch. It's I think the beginning of a conversation that accomplishes a lot of good things, but it's not very detailed.

I think a broad-based and simple cap and dividend would be as a couple of us have described it, and similar to the legislation proposed by Representative Van Hollen, would just be a per-capita or per-adult redistribution of all or a vast majority of the allowance value or tax revenue raised under the program.

Chairman MCDERMOTT. The Make Work Pay proposal only goes for 2 years. So, if you put this money through that mechanism, the public will never recognize that we have continued something. They will think it's something that was created and brought down by Moses and that's the way it's going to be.

Is there a real reason for taking that proposal from the White House?

Dr. STONE. One reason is that the budget situation is really, really difficult and the President made a commitment to Making Work Pay. If he were to make Making Work Pay permanent and also have to come up with a way to provide the kind of offset to consumer costs we're talking about, that would make the budget situation nearly impossible.

Now Make Work Pay does not fully satisfy the needs of offsetting consumer relief to especially low-income consumers. It would need to be supplemented with something like our EBT proposal to deal with people that don't file income tax returns.

It also doesn't go up over time and the cost of the energy price increases, that cost of allowances, or the price of a carbon tax might have to go up over time, to tighten up on the emissions cap.

So, Make Work Pay would also have to be supplemented with an additional climate payment, and pretty soon it would be more than just Make Work Pay.

Chairman MCDERMOTT. Mr. Linder will inquire.

Mr. LINDER. Lord Monckton?

Lord MONCKTON. Sir?

Mr. LINDER. To provide this huge amount of money for the lower income or middle income, or 80 percent of the households, whatever we choose to do, to mitigate against their increasing energy costs, there's got to be some money coming from somewhere.

Under cap-and-trade, my understanding is we auction off excess carbon credits or emissions, and that money generated goes to pay for the aid to the low-income people.

Lord MONCKTON. That would certainly be one mechanism, yes.

Mr. LINDER. Well, how has Europe's system been working so far?

Lord MONCKTON. The European system has collapsed twice. It's actually in the middle of its second collapse now.

I should explain that the European Union, which is not as you splendidly are, a democracy, but a bureaucratic centralist dictatorship, takes all its decisions without real reference to the needs of ordinary people.

So, what happened was that each of the countries in the European Union decided that it would vote itself a larger amount of emissions under the scheme—free emissions under the scheme—than they were emitting in total before.

So, they tried that, and of course immediately the price of carbon on the market on which it is traded, which is an artificial rigged market, fell to the market-clearing level, which of course in those circumstances was zero.

So, within three or 4 months, the entire system had collapsed and had to be re-jigged. There was then another meeting of, again, bureaucrats—elected representatives have very little to do with any of this—and they decided that this time they had better try to allocate rather fewer emissions permits to each country, in the hope that that would artificially increase the price at which these permits would be traded.

However, by that stage, fiscal and monetary incontinence had caused an economic collapse worldwide, and the downturn in economic activity, once again drove the price of carbon credits down, and now I think it's somewhere $5 and $8 per ton, which is not a disincentive to the emission of carbon.

So, the system has now failed twice.

There is a particular problem when you try to introduce any form of additional taxation, for that is what this essentially is, when you already have an outrageously growing money supply, a collapse in government revenues, and huge increases already in social costs.

If you try to compound those three extremely serious difficulties by adding a fourth extremely serious difficulty, you will drive your Nation very rapidly into bankruptcy. You will do it alone, for we are not going to do this again.

Mr. LINDER. Reference has been made to jobs and emissions moving into other nations. How do you envision the future for the United States of these jobs?

Lord MONCKTON. I fear for the poor of the United States. We already have some evidence in from California, where they decided under Governor Schwarzenegger to get ahead of the pack, and introduce various restrictions. That has led to a mass exodus from California, and a collapse in the State's revenues, and it's becoming one of the least attractive places in the nation to do business.

The more you pile taxes on at a time when actually what should be happening is a reduction in the Federal and State's spending so as to discipline things, and not take too much money as—if you go on this way, then the private sector of the economy will implode.

If you listen to these three and you try to say that only the top 40 percent or 60 percent of the economy should pay for all this extra cost—which is understandable, because otherwise you will hurt the poor, I can understand exactly where they're coming from—then those top 40 or 60 percent will do what the Californians are already beginning to do. They will get out, and your economy will go down.

This is a catastrophically dangerous proposal. I want you all to understand this. If you really want to help the poor, you will not go there.

Mr. LINDER. Do you expect other nations to follow suit if we, acting in our best wisdom, decide that we have to do something about climate change?

Lord MONCKTON. Well, you may wish to do something about climate change. It is, of course, now a demonstrated non-problem.

You only have to look at the temperature record for the last 7 years, the CO_2 rising at half the rate they predicted it to rise. That alone requires all their temperature forecasts to 2100 to be halved.

If you do this, I think you will be doing it alone. America will be damaging her own economy uniquely, and she will be transferring her jobs and her industries to countries such as China, Russia, Indonesia, India, and Brazil, where they do not control emissions and pollution in the way that you do, where their emissions per unit of production are considerably higher than yours, and the net effect of this scheme will be directly counter to its intention, because you will actually increase worldwide carbon emissions by shipping your economic carbon emissions in your manufacturers overseas, with the consequence that the emissions will actually increase worldwide.

That is not what you intend. I hope therefore it is not what you will do.

Mr. LINDER. Thank you.

Thank you, Mr. Chairman.

Chairman MCDERMOTT. Ms. Berkley will inquire.

Ms. BERKLEY. Thank you, Mr. Chairman, for holding this hearing. Thank you all for being here. I appreciate the input and the divergence of opinions.

I'm a former utility attorney for a gas company in Las Vegas in the last 1970s, and even though I thought I had a good handle on issues that affect energy, energy consumption, renewable energy, I can say that the issues that I dealt with as a utility attorney in the 1970s is quite dramatically different from the issues that we're grappling with as a Member of Congress.

Nevada, which is the State that I represent, is in the forefront of the climate change debate. In 1997 the State of Nevada enacted a renewable energy portfolio standard, requiring that 20 percent of our electricity comes from renewable sources by the year 2015.

Southern Nevada's solar potential coupled with our State's geothermal and wind resources, which are among the strongest in the United States, can make Nevada a leader in the use and production of clean energy.

Our utility companies are rapidly moving in that direction, and they have been good partners with our government in moving us forward.

Focusing on clean and renewable energy gets us closer to our goal of becoming energy independent while also being cost-effective.

It is incomprehensible to me, as a member of Congress of the strongest country on the planet, that we have to rely on countries like the Saudis, the Venezuelans, the Nigerians, to have our energy needs met.

I think moving toward renewable energy and energy independence is not only an environmental issue, which I believe it is, not only an economic issue, which I believe it is, but it's a national security imperative.

Now some might be tempted to jump on the nuclear power bandwagon as a potential solution to climate change dilemma. I would caution my colleagues against this. Nuclear power is not a clean source of energy, because it has a toxic, lethal, radioactive byproduct, which is nuclear waste, that this nation has not figured out what it's going to do with.

Yucca Mountain is not an option, and I would submit to you that the State of Nevada will never be a repository for this nation's energy nuclear waste.

Burying that waste in the middle of the desert, 90 miles from Las Vegas, where we have ground water problems, seismic activity, and volcanic activity, where we have no canisters that currently exist that will not corrode, and the radio-active nuclear waste that has a shelf life of 300,000 years of radioactivity, there is no way to prevent it from leaching into our ground water.

There is not enough water in the State of Nevada, and it takes lots and lots of water in order to produce a nuclear waste dump. This is unsafe, not an option, and not going to happen.

Without a safe solution to the nuclear issue, our attention should be on how to produce more clean energy, like solar, wind, and geothermal.

Now while we must address the issue of climate change, which I believe is real, with all due respect—although I must say I don't agree with what you're saying, but I love hearing you say it—it's just wonderful.

Lord MONCKTON. Thank you, madame.

[Laughter.]

Ms. BERKLEY. We must find a way to mitigate the economic impact on low- and middle-income families, which will face a disproportionate burden, and I look forward to being a part of the process.

I cannot thank you all enough for giving us information that I need in order to make these difficult decisions and choices.

Thank you very much.

Chairman MCDERMOTT. Mr. Boustany will inquire.

Mr. BOUSTANY. Thank you, Mr. Chairman. The title of this is hearing is protecting low income families while addressing climate change, and I want to address my initial line of inquiry to the three of you on my left here. In your verbal testimony none of you have mentioned any other aspect of protecting low-income families other than a transfer back from this tax.

I want to congratulate you in your written testimony, Dr. Burtraw, that at least you gave lip service to other aspects of what the impact would be on low income on page four of your testimony.

I represent some very hardworking individuals and small businesses along the Gulf Coast of the United States. Many of these are directly involved in the energy industry and there are many, many thousands of jobs indirectly related to those energy producing jobs. So, I would like to ask the three of you how many jobs are we going to kill with this type of proposal.

Dr. Dinan.

Dr. DINAN. CBO has never provided an estimate of the number of jobs that are lost. It depends in part on the actual policy, how quickly caps are phased in. Job losses tend to be transitional costs.

Mr. BOUSTANY. I understand that, but we are looking at some fairly specific proposals here without the phase-in time. We need information before we jump off on this. This is critical. We are seeing massive unemployment today with the remaining areas of employment in an area that is vital to our National security, the energy sector. Without an adequate transition strategy, we need to know how many jobs these types of proposals will kill. So, with all due respect I would ask CBO to get to work on this.

Dr. Burtraw, would you like to discuss this?

Dr. BURTRAW. Yes, very briefly I am familiar with some work in this area, and some work has been done at Resources for the Future. There are some facilities and industries that may be severely affected, and they are affected in two ways. One is sort of the natural outcome and what we would expect, and over a transition would want to have happen, which is a transition away from carbon intensive to less carbon intensive activities.

The second is the kind we want to avoid, which is exposure to unfair import and export competition with other countries that are not part of the international climate regime.

Mr. BOUSTANY. Well, you are right. I think in addition to the energy jobs that I mentioned on the Gulf Coast of Louisiana, Mississippi, Alabama, export jobs I think will be severely impacted by this.

Dr. BURTRAW. The estimates that we have developed suggest that for those facilities that are subject to unfair competition that they could be held whole with about three to 4 percent of the total allowance pie; that is, a rebate system, for example, to those facilities to "alleve" them of their allowance burden would maintain their competitiveness on the international market. Finally, as other speakers said today, there still will be leakage.

We estimate that that leakage that is the movement of omissions offshore, even as we are doing what we want to do, we cannot close that down entirely; and, that may run up to as much as 10 percent of the overall omission reductions that we were able to achieve onshore, but that could be held in-check with a well-designed program to 10 percent.

Mr. BOUSTANY. Dr. Stone.

Dr. STONE. Yes, thank you.

There will be transition losses in specific industries, and as Dallas said, there is allowance value. It is not that expensive to try to address them in terms of the allowance.

Mr. BOUSTANY. So, in other words, we're going to have a massive increase in unemployment and at the same time we will be

transferring money from this tax to these folks who are unemployed. How does that protect families?

Dr. STONE. Well, it is very unlikely that we will have a massive increase in unemployment. There will be changes in where the jobs are.

Mr. BOUSTANY. Nobody has modeled that, and nobody has given us an estimate, so I think you are speculating. I think we need numbers.

Lord Monckton, would you like to comment?

Lord MONCKTON. Yes. You will increase employment about 200 percent if you pursue this measure over and above what it will rise to anyway. That's our experience in the U.K. I have done some modeling on this and the consequences will be very severe indeed if you attempt to impose any measure of this kind on your economy.

Mr. BOUSTANY. Lord Monckton, you said 200 percent?

Lord MONCKTON. Yes.

Mr. BOUSTANY. You said employment or unemployment?

Lord MONCKTON. I said unemployment.

Mr. BOUSTANY. Unemployment, just for clarification.

Lord MONCKTON. So, if you take unemployment as 'x', it will be 3x by the time you will finish this process. That's if you want the carbon tax to be at a level which will have any sort of disincentive effect at all and thereby to try and reduce your own emissions. Though of course you will then increase the emissions of everybody else and you will merely get greater worldwide emissions. No cash benefit, massive unemployment here; I'm afraid that cap and trade is a remarkably stupid proposal. I just pray that everyone on this Committee will think very, very carefully and examine the consciences before they expose the fault of the catastrophe that this tax would entail.

Mr. BOUSTANY. Thank you, sir.

Dr. Dinan, did you want to make a final comment?

Dr. DINAN. I want to add something to what Dr. Burtraw mentioned. The free allocation of allowances that would benefit workers would not be the same kind of lump sum rebate that we have been talking about in our testimony. It would be an allocation of allowances that would be linked to their actual level of production, and that way it would help prevent these trade-exposed industries from being less competitive. So, the idea was not to use the allowances to pay unemployed workers, but to reduce the actual loss in jobs.

Mr. BOUSTANY. Thank you. My time is up.

Chairman MCDERMOTT. Mr. Davis of Alabama.

Mr. DAVIS of Alabama. Thank you, Mr. Chairman.

I was wondering who got the extra allowances from Ms. Berkley being so concise, speaking of cap and trade here. Let me begin with you Dr. Burtraw. You talked about the impact on household burdens in particular regions based on utility rates going up. What are the numbers for the south for the Georgia, Alabama, Mississippi, Louisiana neck of the woods?

Dr. BURTRAW. Try though I might, I can't come prepared to give you all the numbers for different parts of the country directly. Let me just characterize the problem for you in this way. The impacts that occur around the nation are more similar than they are

different by region. What is really different by region is the component parts of the way that households use energy.

In some regions, it is for home hearing. For other regions it is for air conditioning load under electricity. Some regions, there is more transportation expense, et cetera. It is interesting that it adds up to be fairly similar across the nation geographically. So, therefore, the design of the program could have differential effects, because of the attempt to treat certain energy uses in this special way.

Now, in the Southeast, the fact that I think is a usual point of orientation is there are some regions that are going to see the larger change in electricity prices, and the Southeast is not in front of that, but it is on the top half of where electricity prices will increase. What is interesting about that, with the exception of the Pacific-Northwest.

Mr. DAVIS of Alabama. Well, slow down for 1 second, because I am not from the Northwest or from the Southeast, so I want 1 second.

What would you expect, based on your model, what would you expect to happen to rates in the Southeast?

Dr. BURTRAW. Well, on a national average, let's say 20 years out from now on a national average, in order to do what most models suggests has to be done to achieve climate goals we'll see an increase of about 30 percent on a national average electricity rates.

Mr. DAVIS of Alabama. Does anybody have a number to venture when it comes to the Southeast, and does anybody have a number more than the 5- to 6-year range, 5 to 6 years after implementation?

Dr. BURTRAW. I can give that to you in 1 minute.

Mr. DAVIS of Alabama. Okay. All right. Well, I've got about 2 minutes 49, so you have got some time to look for that, because I would like an answer to that.

Dr. Stone, let me turn to you, because you've been the most descriptive in terms of speaking about the rebate concept that's gotten a lot of play in some circles. Let me ask you, how do you define low income? You used the term "low income" several times. How do you define low income?

Dr. STONE. The low income rebate that we are talking about is one that would off-set the average.

Mr. DAVIS of Alabama. Give me a number in terms of the income level. What do you define as low income? What percentage of the median income?

Dr. STONE. What percentage of the median income? Okay. The income we are talking about with our low-income proposal is going up to 130 percent of poverty. The earned income tax cut fully phases out at a little over $43,000 for a married couple with two children.

Mr. DAVIS of Alabama. Okay. So, 130 percent of poverty would be, give me a number. The poverty line is $21,000 for a family of how many, three or four?

Dr. STONE. I don't have that readily at hand. I'll get those numbers too.

Mr. DAVIS of Alabama. So, 130 percent of that would be around $29–30,000?

Dr. STONE. The top of the bottom fifth of the population. The income cut-off for a family of three is about $27,500; and so our rebate proposal will go a little farther up.

Mr. DAVIS of Alabama. What do we say to someone who is making $45,000 who is not affluent by any stretch of the imagination, but is outside that zone you described and well outside it. What would we say to them if their utility rates went up substantially?

Dr. STONE. Well, we would say to them if we as policymakers, if you as policymakers want to extend the rebate proposal further up the income scale you can do that. I talked about a proposal that would go all the way up into the middle that would still leave.

Mr. DAVIS of Alabama. Of course, if you did that, you would eat away a lot of the whole rationale for doing this in terms of alternative energy investment.

Do you have that number yet, Dr. Burtraw?

Dr. BURTRAW. No. I'm going to have to send it to your staff. I'll do that.

Mr. DAVIS of Alabama. Well, let me just make this observation. Let me pose one more question to Dr. Burtraw and Dr. Stone.

What are the specific industries, other than the obvious? Obviously, the petroleum producing industry would be substantially affected. Beyond the petroleum producing industry, what are some other industries that would be most significantly affected by a cap and trade regime in terms of job loss?

What are the next two or three big industry losers? Anybody can answer that.

Dr. BURTRAW. I can't go very deep on that subject, because I don't really know what's at the front of the cue. Again, my colleagues have been working on this.

Lord MONCKTON. May I assist, Congressman?

Steel construction, heavy industries of every kind, any heavy user of energy, as well as of course all the producers, the coal industry, in particular, will be very badly affected. These will be the first to go, but then it will be spread out from there, because energy is a very big cost for most industries; and, therefore, all industries that use energy will be adversely affected at a time when more and more industries are marginal anyway. You will push quite a large percentage of your industries or all kinds over the edge.

Mr. DAVIS of Alabama. Well, my time is up, but I'd like to add 15 seconds of observations. I think, there's a temptation to see this as a little bit of a partisan debate, because that's the way it often tends to play out in Committee and Subcommittee. I think it is a little bit more nuanced than that.

The second big observation I would make is that I think we do have to be concerned about the impact on particular industries and the fact that those industries aren't proportionately located around the country. They are disproportionately located in the Midwest and the South.

My final point, Dr. Stone, is that any kind of a rebate regime is going to have a basic problem that there are going to be major numbers of people who simply aren't covered by it but who still are paying higher utility rates; and, frankly, they are turning to Washington, D.C. at that point and blaming Washington, D.C., which is

ratcheting up their animosity and their anti-government attitude toward a region they are not crazy about anyway. To some of us that is an acceptable political cost; but, I yield back my time.

Chairman MCDERMOTT. Mr. Heller will inquire.

Mr. HELLER. Thank you, Mr. Chairman.

Sir Monckton, I have a couple questions.

Lord MONCKTON. Sir?

Mr. HELLER. Specifically, in your opening comments you mentioned scientific fraud. We saw two charts here in the opening presentations. One showing the global mean temperatures going up, one showing the global mean temperatures going down, these are your charts.

Lord MONCKTON. Yes.

Mr. HELLER. Could you explain to us what the end-point fallacy concept is?

Lord MONCKTON. Yes, certainly. I didn't show those charts to the Committee, but I did show them to you beforehand.

Mr. HELLER. Do you have copies of those?

Lord MONCKTON. I don't know if we have got them on the slides here. No, but, yes, what I was pointing out is that the U.N. in one of its documents tries to show that there has been an accelerating increase in the rate of warming over the past 150 years. So, that from every shorter time scale, as you come toward our own time, temperatures have been increasing.

That, however, is merely a consequence of a statistical piece of prestidigitation. It is the end-point fallacy where when you are dealing with data which is doodling up and down and you choose your start and end points very carefully, as the U.N. I am afraid in a rather deliberate way did, you can artificially show a problem which in fact doesn't exist. As I showed in here, the temperatures for the past 7 years, globally, have been falling extremely fast; and indeed over the past 4 years, they have been falling at a rate equivalent to eleven degrees Fahrenheit per century, which would give us an ice age within about 50 years.

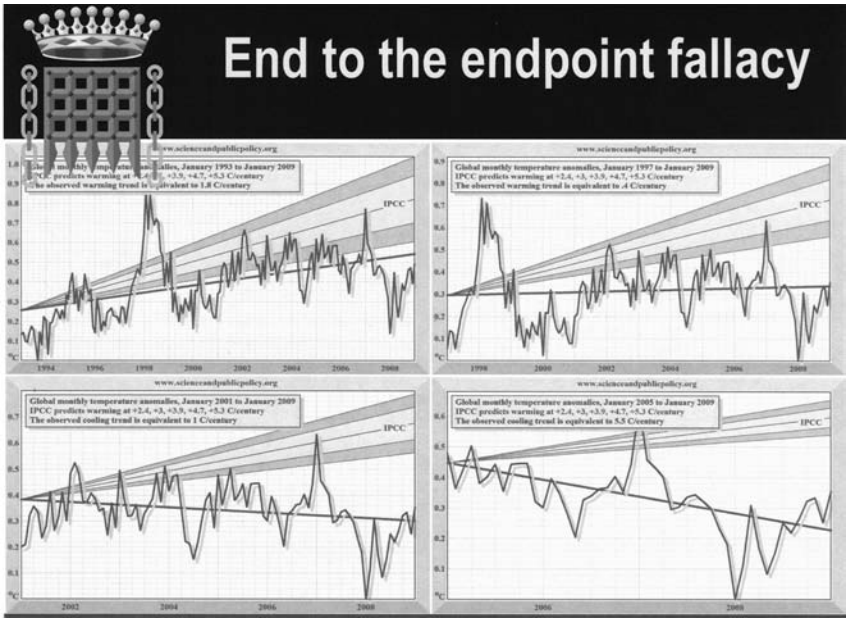
I am not saying this is going to happen, but I am saying not to take account of the fact that there has been 7 years of very strong global cooling casting extremely strong doubt on the U.N.'s calculations, would be most unwise of this Committee.

Mr. HELLER. Thank you.

Mr. Chairman, could I request that those charts be put in the record that he has on this end-point fallacy?

Chairman MCDERMOTT. Without objection, it is ordered.

[The information follows:]



Mr. HELLER. Okay. Thank you.

Lord MONCKTON. Thank you.

Mr. HELLER. I'll yield back.

Chairman MCDERMOTT. Mr. Levin?

Mr. LEVIN. Well the title of this hearing is "Protecting Low Income Families While Fighting Global Warming." I think the problem is if one doesn't think there is global warming then I guess nothing happens.

Lord MONCKTON. Yes, sir.

Mr. LEVIN. So, I want to spend a few minutes on this.

Mr. Davis, Mr. Chairman indicated that there should be bipartisanship and I think that's very true, but this is the second hearing that Ways and Means has held on this issue; and at both hearings the witness called by you, the minority, has denied there is a problem. Most of you, if not all of you, have essentially credited that conclusion with your questions.

I said at the first hearing that I find that worrisome, because if there is that basic split to start with, you essentially, on the minority side, are leaving yourself out of any useful dialog about how we would implement a program that relates to the issue of global warming; and, I think that would be unfortunate. When you adopt a position that there is no problem, you are not going to be able to be effectively participate in discussion of its solution. Lord Monckton?

Mr. BOUSTANY. Would the gentleman yield?

Mr. LEVIN. Yes, sure.

Mr. BOUSTANY. I think my line of inquiry was about the impact on unemployment. It had nothing to do with whether or not there's global warming.

Mr. LEVIN. Well, your's was, but that wasn't true of the others and that wasn't true at the hearing we had.

Mr. BOUSTANY. Would the gentleman yield?

Mr. LEVIN. I just want to say that, Lord Monckton, your position is essentially a very small tiny position among scientists and you're not a scientist.

Lord MONCKTON. May I answer that, sir?

Mr. LEVIN. So, I just want to say, with due respect, that when you say your description here in your paragraph about charging selectively disfavored industries for arbitrarily rationing permits to admit a harmless and beneficial trace gas that is necessary to all life on Earth and has little effect on its surface temperature will fall cruelly and disproportionately upon the poor.

That isn't the purpose of our hearing to argue that, but once that position is taken, essentially it leaves the proponents out of a meaningful participation in how we put into place a program that addresses a problem that most say does exist. I'm telling you what has bothered me for years about this. I don't understand why there is that line-up. I don't understand it.

Does it stem in part from those who feel that if you accept the fact—and there's a statement that came out that was in our testimony of the scientists in the United States. They've come together. I think it was 1700 scientists who just made it clear there is a problem in May 2008. More than 1700 scientists and economists, and they cross the spectrum, released a joint statement calling on this nation's leaders to swiftly establish and implement policies to bring about deep reductions in heat trapping emissions. I come from Michigan. I'm worried about the impact on the industrial sector.

We have to face this. I am clearly worried about the impact on low-income people, but, if the position of the minority is to essentially embrace your position, which is a microscopic minority of people who look at this.

Mr. LINDER. Would the gentleman yield for a moment?

Mr. LEVIN. Yes.

Mr. LINDER. Are you aware that 32,000 scientists, 10,000 of whom have PhDs in the sciences and the rest of whom have masters have signed a position that's opposite to the one that you hold, that your 1700 people hold? They hold a press conference in this town, and 12 people showed up and no one wrote about it?

Lord MONCKTON. Mr. Chairman, I wonder if I might make a constructive suggestion?

Mr. LEVIN. I am. I am aware of that, and I raise it, Mr. Chairman, because if this is the way the line was began, if that's where we are, it is going to make it difficult for us to have what is necessary, and that is an effort on a bipartisan basis to work out a program that will address global warming.

So, maybe my time is up.

Chairman MCDERMOTT. It is.

Lord MONCKTON. May I briefly respond, sir?

Chairman MCDERMOTT. I am going to move to Mr. Roskam. Maybe he will give you a moment to speak. Mr. Roskam.

Lord MONCKTON. Thank you so much.

Mr. ROSKAM. Thank you, Mr. Chairman.

Two years ago my wife and I were on a holiday in Ireland and we were on one of these walking tours where you spend a lot of time outdoors, out in the countryside, and noticed how robust the economy was. You just looked around and could see it was very, very prosperous, very dynamic and very exciting. One morning at one of the bed and breakfasts we asked the young guy that's presenting us with our meal, "Hey, what's going on in Ireland?" He said, "Well, the government did an interesting thing. They decided to cut taxes, lower regulation, and people decided to come."

It was a revelation to this young man that government policy was driving investment. So, the question that I have for the panel is what is the implication. Sir Monckton, let's start with you.

What is the implication from an economic point of view for the United States if we go it alone. Let's accept Mr. Levin's premise that there is a catastrophic problem. There is not unanimity on that, but let's accept this premise today that there is a catastrophic problem that's got to be dealt with.

Mr. LEVIN. Well, it is not catastrophic. It's a major problem, okay?

Mr. ROSKAM. A major problem—I will let him unyield and amend my time—that there is a major problem that needs to be dealt with but that the United States goes it alone, that China doesn't participate, that India doesn't participate, that Europe for one reason or another doesn't participate. Could you comment in the brief time that you have on the geopolitical implications and also the economic implications for the United States in light of that.

Lord MONCKTON. Yes, I would be delighted.

You raise, very fairly sir the point about China and India. They have both made it explicitly clear; and, indeed, in India's case with the endorsement of railway engineer Pachourie who is the chairman of the U.N.'s climate science pattern. He too is not a climate scientist.

They have made it very clear they will not be participating in emissions reductions, because they know very well that to reduce carbon emissions is the quickest way to keep their countries in poverty and prevent them from bringing themselves out of poverty, thereby stabilizing their emissions and thereby eventually getting things into balance.

So, they will not be participating. If you disadvantage your own industries selectively when major competing countries in China and India are now major competing countries, are not going to reduce their emissions, because they cannot leave their poor people in poverty. Then, of course, you will get what I have called here the California effect. We already have an example in California of people moving out of California to other States in quite large numbers in the last couple of years. As the carbon dioxide-drive restrictions imposed by the Governor have begun to bite, we can already see this happening internally within your own country. If you go for a selective unilateral shooting of yourselves in the economic

foot, economic self-immolation, then the consequences will of course been very bad.

Who are the people who will be affected first? Not us, the rich; it will be the poor. It always is, and it is very important. Your story about Ireland is a very good one. Deregulation was something that I and others in Margaret Thatcher's Administration spend a lot of time on. We simplified the law. We reduced substantives. We reduced handouts, and yet we reduced poverty. We reduced homelessness. We reduced unemployment because we increased economic activity.

Every time you tamper with the free market or try to set up a rigged market, or try to inflict economic cost upon yourselves, but others are not inflicting upon their selves. However pious your intention, not only will that intention fail, but you will do appalling damage particularly to the poor. If I may very briefly answer, Mr. Levin, I was moved by what he said. I think he raised a very fair point in saying should be a bipartisan approach on these. In that spirit, I should like to offer to him and to any of his colleagues. I will arrange that certain very senior scientists will visit Mr. Levin and his colleagues and give them a briefing to explain why it is that we have very severe doubts about the likelihood that there is any threat from global warming, I should say.

We could give you the scientific evidence, which lies behind the graphs which I showed you and those are not my graphs. Those are official graphs which are available, very widely, from recognized sources, most of them in the United States. The global warming that is foretold has not happened, is not happening, and will not happen. We should be very happy sir, in a bipartisan spirit, to explain to you in some depth, perhaps at an hour or two-briefing, exactly why that is the case, if you would like it.

Mr. ROSKAM. Thank you.

Lord MONCKTON. Thank you very much, sir.

Mr. ROSKAM. My time has expired.

Chairman MCDERMOTT. Your time has expired.

Mr. Davis of Illinois.

Mr. DAVIS of Illinois. Thank you very much, Mr. Chairman. Let me thank you for calling this hearing.

Dr. Dinan, some of the Members have criticized refundable tax credits by saying that these credits go to people who don't pay taxes. Could you tell us what taxes low-income people pay, even if they don't pay Federal income taxes?

Dr. DINAN. Well, as the CBO analysis that I showed the figure indicated, over half of households in the lowest fifth of the income distribution have payroll taxes. They have earnings, so they're contributing to payroll taxes. I think the estimate was 54 percent of low-income households.

In addition, low-income households would bear other types of household taxes as well, including sales taxes, some local property tax burdens.

Mr. DAVIS of Illinois. So, when individuals make that statement for practical purposes, they are actually inaccurate. It is not true that these individuals do not pay taxes. They may not pay one kind of tax, but they pay other taxes, and that's my point.

Lord Monckton, you talked about the fear that you had for low income, well, you said poor people?

Lord MONCKTON. Yes.

Mr. DAVIS of Illinois. Could you expound a bit more?

Lord MONCKTON. Yes, certainly. The modeling that I did at 10 Downing Street on this subject showed how very sensitive, in particular, low income families are even to very small, even to very temporary, increases in their costs. This is a very severe problem, and the difficulty that you face, if you are trying to introduce what I am afraid is effectively a reverse poor tax, which selectively hits the poor worst.

As you have heard, even from the other witnesses, and we are all on agreement on this, it is the poor. I use the poor as a shorter term than low-income families. I mean no disrespect to anyone. They suffer worst because they use energy the most. By the time you've tried to work out a rebate scheme that is sufficiently simple to administer, unfortunately, there will be large numbers of families who don't quite fit into the pattern that was envisaged and they will go cold or go unheeded, or go unlighted, because they simply won't be able to afford basic energy.

Mr. DAVIS of Illinois. Let me just ask.

Lord MONCKTON. Yes, sir.

Mr. DAVIS of Illinois. Dr. Stone, you wanted?

Dr. STONE. Yes, our rebate scheme automatically brings in 75 percent of the low-income population without any effort at outreach and expansion. Many more would come in as a result of the availability of the rebates. What we learned in the stimulus rebates a year ago that there weren't people outside who didn't file taxes, elderly, if you reach out to them you can get a lot of them to file for the rebate. So, I think this notion that large numbers of low-income people would be left out of a rebate scheme, because it is too hard to design. It is just not what we have found inside of our program.

Mr. DAVIS of Illinois. Well, let me ask you, Dr. Burtraw.

Congress and the President have just made a substantial commitment to decrease energy costs and increase energy efficiency through weatherization and other kinds of programs.

What other steps could families take that would also help lower costs?

Dr. BURTRAW. The main steps the family can take is the turnover of appliances and household capital. That takes money to be able to accomplish that, to achieve energy efficiency, weatherization programs, and turnover appliances. One idea that has been suggested under the notion of a cap and dividends approach would be to provide incentives, sort of like the 529 plan for college savings, to encourage families to try to accrue, and then perhaps take advantage of matching funds, zero interest loans from the existing State efficiency programs, or to take advantage of other investment programs to encourage new clients, purchases.

Mr. DAVIS of Illinois. So, then it is actually advantageous for individuals after a period of time to replenish equipment that they use. I mean that you are losing if you hang on to it because your energy costs are constantly either going up or certainly not diminishing.

Dr. BURTRAW. Yes, sir. It is widely recognized that because of cash-flow constraints, low income households hold an inefficient stock of appliances, and it should be a concern that raising energy prices isn't going to help that situation directly. If some kind of rebate program were to provide capital available to homeowners, we could accelerate the turnover of household appliances.

Mr. DAVIS of Illinois. Would this also be a way to perhaps create new jobs and work opportunity as we make greater use of new equipment?

Dr. BURTRAW. Well, sir, the only thing I can speak to specifically is the employment effects of weatherization programs, and there it is widely understand they have a very positive, local beneficial effect that takes a lot of labor to run weatherization programs.

Mr. DAVIS of Illinois. Thank you very much, Mr. Chairman.

Chairman MCDERMOTT. Mr. Tiberi will inquire.

Mr. TIBERI. Thank you. Thank you, Mr. Chairman. I submit for the record an EPA analysis that was done the last session of congress on the Warner-Lieberman bill and the decline in output per sector and job growth.

Chairman MCDERMOTT. Without objection; so ordered.

[The information follows:]

U.S. Environmental Protection Agency
Office of Atmospheric Programs

EPA Analysis of the
Lieberman-Warner Climate Security Act of 2008
S. 2191 in 110th Congress

March 14, 2008

EPA Analysis of S. 2191

Results: Scenario 10 – S. 2191 Alt. Ref.

2030 Sectoral Results (Sectors 1 – 18) (IGEM)

Sector	2007	2030				
		Alternative Reference		S.2191 Alt. Ref.		
	Output ($Billions)	Output ($Billions)	Percent Change from 2007	Output ($Billions)	Percent Change from 2007	Percent Change from Reference
Agriculture, forestry, fisheries	510	1049	106%	1103	116%	5%
Metal mining	83	165	100%	151	83%	-9%
Coal mining	30	37	22%	19	-37%	-48%
Crude oil and gas extraction	165	243	47%	210	28%	-13%
Non-metallic mineral mining	16	15	-12%	13	-19%	-8%
Construction	1190	1645	38%	1566	32%	-5%
Food and kindred products	588	1240	111%	1292	120%	4%
Tobacco manufactures	34	63	87%	68	101%	7%
Textile mill products	86	238	179%	219	156%	-8%
Apparel and other textile products	81	227	181%	219	171%	-3%
Lumber and wood products	153	346	126%	319	109%	-8%
Furniture and fixtures	103	235	127%	220	114%	-6%
Paper and allied products	225	579	157%	544	142%	-6%
Printing and publishing	252	460	82%	446	77%	-3%
Chemicals and allied products	533	1455	173%	1292	142%	-11%
Petroleum refining	305	369	21%	306	0%	-17%
Rubber and plastic products	225	574	155%	530	135%	-8%
Leather and leather products	13	35	168%	34	157%	-4%

Results: Scenario 10 – S. 2191 Alt. Ref.

2030 Sectoral Results (Sectors 19 – 35) (IGEM)

Sector	2007	2030				
		Alternative Reference		S.2191 Alt. Ref.		
	Output ($Billions)	Output ($Billions)	Percent Change from 2007	Output ($Billions)	Percent Change from 2007	Percent Change from Reference
Stone, clay and glass products	120	261	117%	247	105%	-5%
Primary metals	211	466	120%	414	96%	-11%
Fabricated metal products	328	652	99%	602	84%	-8%
Non-electrical machinery	652	2498	283%	2311	255%	-7%
Electrical machinery	463	3429	641%	3181	588%	-7%
Motor vehicles	529	1148	117%	1066	101%	-7%
Other transportation equipment	226	439	94%	419	85%	-5%
Instruments	260	590	127%	564	117%	-4%
Miscellaneous manufacturing	68	183	168%	175	156%	-5%
Transportation and warehousing	707	1340	90%	1267	79%	-5%
Communications	537	1196	123%	1176	119%	-2%
Electric utilities (services)	396	540	36%	470	19%	-13%
Gas utilities (services)	52	61	18%	45	-13%	-26%
Wholesale and retail trade	2583	4894	90%	4677	81%	-4%
Finance, insurance and real estate	2743	6377	133%	6235	127%	-2%
Personal and business services	4468	8503	90%	8374	87%	-2%
Government enterprises	466	878	88%	849	82%	-3%

Mr. TIBERI. Thank you. Thank you very much. Thank you ladies and gentleman for being here. I am from Ohio. In Ohio we have lost hundreds of thousands of jobs, many in manufacturing over the last several years. In your written testimony, CBO acknowledges that almost all goods and services will rise in this proposed bill, not just energy. In fact, Mr. Burtraw, in your testimony you say roughly only 30 percent of households in the Ohio Valley region would benefit under a cap and trade system. In other words, 70 percent would not benefit in the Ohio Valley under a cap and trade system.

I spoke to a manufacturer in Ohio, third generation manufacturer, yesterday; and his company, a family owned business, analyzed what this would do to them. He said simply, "We would move. We would move and we would move to South America or somewhere else in the world." While we are in a deep recession, the last thing we need to do is have manufacturers in Ohio who have

not left leave because this piece of legislation. We would put more people in the poverty line, not less people in the poverty line.

To answer, Mr. Levin—I wish he was still here—as someone whose dad lost his job in manufacturing, because of high energy prices in the 1970s—that company went to Alabama, I wish Mr. Davis were here, they stole our jobs—and who ended up on the free introduced lunch program with no healthcare, and a dad who worked who lost his pension. I will say that's where we are concerned. We are concerned about what harm will this do, not only to the poor, but to working families today that might end up in the poor line.

With that I'd like to ask a question. In Kentucky, there is a new steel manufacturing plant that came from Europe and it was publicized as a plant that came there from Europe because of the impacts of cap and trade. There is another manufacturer from Europe that is looking at Ohio right now. Jobs will be coming from Europe to Ohio, which is kind of a reverse to be honest with you. I don't want to mention the name, because I don't want to jinx them and have them not come to Ohio, but they are also looking at South America.

My question to you sir is under the law in the European Union today, are these anecdotes, or have you seen, particularly in the manufacturing area, because of cap and trade, job losses in manufacturing, jobs not coming to the United States, maybe, but leaving the European Union to go elsewhere?

Lord MONCKTON. Yes, this has been a continuing trend, really, over the last 10 years, because the European Union has become increasingly heavily regulated in many ways. The trickle has now become a flood directly as a result of the cap and trade program.

Fortunately, since the cap and trade program has now collapsed for a second time, that particular disincentive has at least been temporarily removed. However, we are expecting that by December the European Union will once again have tried to find a way of making this failed thing work for a third time, and we think that will drive several.

Once again, it is particularly the heavy industries. It's heavy transportation. It's heavy construction, heavy engineering of every kind, steel-making, of course, is a classic, heavy consumer of electrical energy in particular. All of these industries are uniquely vulnerable, and now these days, uniquely ready to move.

Since we know that Brazil is not going to participate in any meaningful way in cap and trade or any other such restrictions, we know that Russia, Indonesia, China, and India are not going to either. All of these countries have declared that they are not going to do it. If you do it, then your business is your people's jobs, your low-income families jobs will go away from here and end up there. Your people who are in low incomes, they won't necessarily be able to afford to travel to those other countries to keep their jobs. So, you will keep your low income families here with no work.

Mr. TIBERI. Dr. Stone, you mentioned in your written testimony the EITC, which I am a supporter of, as being a model for this program. We have had hearings and oversight in the past showing, demonstrating that program is not a hundred percent effective; and, it has been around for thirty years and we still can't make it

a hundred percent effective. I would like to make it a hundred percent effective before we throw more weight onto the program.

Nevertheless, my question to you is as my mom and dad are low-income retirees with fixed income, not eligible for the EITC, the way I look at this budget proposal today, they are going to get higher taxes on electricity. They are going to get higher taxes on their natural gas. They are going to get higher taxes on their car for gasoline, and they are not going to get a dime back from the Make Work Pay, and they are not going to get a dime back from EITC. They can't be the only people in America that are going to be screwed by this program.

Dr. STONE. No. We recognize your point that there are groups that would not be in the EITC. When we talk about extending the rebate fund, first of all, our low-income proposal we do deal with the low-income elderly who would not be on the EITC. If they were eligible for the low-income drug subsidy through Medicare, but for a broader program that would go farther up the income scale, we would look to what we did in the Recovery Act and look at Social Security recipients, SSI recipients, recipients of Veterans Benefits, and recipients of Railroad Retirement Benefits. That would have to be added on to the making work pay to cover just the issue you raised.

Chairman MCDERMOTT. Mr. Van Hollen will inquire.

Mr. VAN HOLLEN. Thank you, Mr. Chairman. Let me thank all the witnesses for their testimony.

I don't want to dwell on the issue of the scientific basis of global warming. We have had other hearings. Other Committees have had hearings. I do think it is important too as we debate to figure out, as that is a threshold question, if you don't believe that's a problem. Then, obviously, the whole conversation here is how you structure global climate change program goes out the window.

I would point out that President Bush, who was a skeptic in his last address to Congress, conceded that it was a problem, but I don't want to go there. Here is where I want to go in terms of questions. Number one, there are obviously very legitimate questions that are raised. You have raised them; other panelists have raised them in terms of the impact on industry, on the impact of consumers.

It is important as we talk about the potential job loss, also to talk about the potential job creation. The fact of the matter is there are opportunities for new industries in the clean energy sector. We now export hundreds of billions of dollars overseas in terms of purchasing foreign oil and to the extent that we can get more homegrown, clean energy businesses here, we are all better off in terms of employment in terms of the impact as a result of the higher energy cost. It is something we only need to address.

Dr. Burtraw referred to a proposal that we are going to introduce soon, which would essentially have a universal rebate program, because it recognizes that every user of energy out there, especially carbon intensive energy users, will face additional costs as we make the transition to cleaner energies. It's fair and simple, and we can have a mechanism to get the funds back on a realtime basis to draw a real connection in the consumer's mind to the fact they are being compensated for whatever additional costs.

Of course, they have an incentive then to go out and use cleaner energy or conserve energy, but at the same time being compensated for any additional costs. So, I would ask all our colleagues to take a look at that essentially universal rebate proposal. It also provides for some additional funds that would go to the areas and regions and industries that were hardest hit, because there is obviously a regional impact here.

What I want to ask relates to the trade issue—not the cap and trade issue—but the issue of trade, which is in the jurisdiction of the Ways and Means Committee. As everyone has said, it is to the extent that India and China continue to produce with carbon intensive energy sources, number one, it does of course put people who are here using carbon at a competitive disadvantage. It also doesn't address the issue to the extent that they keep omitting carbon.

So, there are a number of ways to address that. One is to try and use the permit process to help subsidize industries here. Of course that doesn't stop India and China from continuing to emit carbon and continuing to contribute to the problem. So, from a trade basis and there are a number of proposals that are being looked at, the question is how would you design a system consistent with international trade rules. Then, again, I am going to ask everyone to answer that.

Lord Monckton, for the purposes of this question, if you could just assume that there is a problem and that we are trying to figure out the best way to deal with it, but I am asking you if you were to design a trade regime, whether it's increased tariffs or whatever, on carbon-based products coming into the United States. So, number one, you provided disincentive to those industries overseas from using carbon; and, after all, we are trying to get a climate change. Number two, you don't put the domestic industries at a competitive disadvantage.

If each of you could just take a crack at that, I'd appreciate it.

Lord MONCKTON. Should I go first?

Mr. VAN HOLLEN. Sure.

Lord MONCKTON. Very well, sir. What I should also counsel very strongly against, and of course four-fifths of my testimony directly addressed the economic question and not the scientific one, but if you go for any form of protectionism, because that is what imposing tariffs is, you will immediately be in breach of your treaty obligations. Treaties in this country have the first of constitutional law under the World Trade Organization Treaty.

So, tariffs, I think, are not a lawful option. Even if they were, they are certainly not an economically sensible one, because as has been established in various ways in the past.

Mr. VAN HOLLEN. Lord, I don't have much time.

Lord MONCKTON. Yes.

Mr. VAN HOLLEN. This is the problem. Your argument has two components. One is you don't think it's a problem, global climate change. I am assuming for the purposes of my question global climate change is a question we have to tackle on a global basis.

Lord MONCKTON. Absolutely, I am saying.

Mr. VAN HOLLEN. Do you have a solution, assuming that there's a problem?

Lord MONCKTON. Yes, sir, I do.

Mr. VAN HOLLEN. Okay.

Lord MONCKTON. The solution is not in any way to impose cap and trade; not in any way to tax carbon, but instead to dedicate yourselves to increasing the efficiency of energy use to reducing the cost of government, which is the largest emitter of carbon dioxide in this country and bringing down overall waste in the economy.

Certainly, there have been mention from one or two congressmen here of insulating homes more efficiently, more economical energy use. All of those things are very sensible and focuses on those things would achieve perhaps as much as you can achieve, which is relatively little. Even if, and I am prepared to go along with you, ad argumentum, even if there were a problem, there isn't practice remarkably little that humanity can do about it.

Lord MONCKTON. All right.

Mr. VAN HOLLEN. If I could ask the others, Mr. Chairman, if they can't answer now, to submit something?

Chairman MCDERMOTT. Perhaps you could submit something in writing that would be useful of the Committee if that would serve your purpose.

Mr. VAN HOLLEN. Thank you, Mr. Chairman.

Chairman MCDERMOTT. Mr. Meek will inquire.

Mr. MEEK. Mr. Chairman, I will yield 2 minutes to Mr. Van Hollen so he can get a response from the other panel.

Dr. STONE. Right. I am going to defer on the trade issue, but just let the free market do it issue, and do all that energy efficiency investment, it's sort of the fundamental principle of economics is that's not going to work.

Mr. VAN HOLLEN. Yes, we obviously can't get to where we want if we believe there is a serious problem just by doing what we are doing.

Dr. BURTRAW. Conceptually, there is two approaches that have been discussed. One is a border tax adjustment. The other is the use of an allowance value to relieve U.S. industries of the kind of unfair competition situation that they might be placed in. There's a lot of difference of opinion out there. I think tax adjustment is the most talked about.

I think in all sorts of analysis I've read, it runs into all sorts of problems with respect to the WTO. I think a much more careful look should be given as the use of rebates as Dr. Dinan has also mentioned, because that can essentially level the playingfield for those severely exposed U.S. industries, level the playingfield on an international basis.

That can be bench-marked to a best practice, so you still provide an incentive to achieve emission reductions and those industries also. As I mentioned earlier, an analysis suggest that would require about three to 4 percent of the total allowance pie in order to protect those exposed industries. Dr. DINAN. I don't have anything really to add substantive to Dr. Burtraw's comments. I agree with his observation that there's basically these two fundamentally different approaches—either trying to subject imports to some kind of a comparable allowance requirement—or to provide an allowance exemption basically for exports of trade-exposed goods that are produced here.

Mr. VAN HOLLEN. Thank you.

The second doesn't provide any incentive obviously for the foreign manufacturer to try to reduce their carbon emissions. It does help address the playingfield issue, so.

Dr. DINAN. Yes.

Mr. VAN HOLLEN. Thank you.

Mr. MEEK. So, I want just the rest of my time.

Chairman MCDERMOTT. Mr. Meek, you claim your time.

Mr. MEEK. Thank you. I would like to answer the question along with food safety, food security, when we look at this issue in the report, because we haven't really talked about that today. We have a lot of the low income families in Florida—almost forty to sixty percent in some cases, 20 percent of Florida. They actually have incomes under $12,000 a year, but as we look at climate change, I am going to go ahead and just jump on the side.

If climate change does have an effect on our economy and our future; and, as you know, as we look at this cap and trade piece, we have to look at some of the extreme weather events that we have experienced in Florida and throughout the nation, and I want to see as we reach this issue as we talk about this, that we talk about crops being wiped out in the future, what kind of effect in a positive sense can we think about when we look at this whole issue of what it's costing or what it will cost U.S. farmers and the Federal Government and the taxpayers as it relates to crop loss.

As you know, the President is looking at this whole farming issue in a different way and/or as it relates to world hunger. So, if anyone can take that up I would appreciate it.

Lord MONCKTON. Certainly, sir.

The IPCC, which is the U.N.'s climate panel, which is regarded by many as authoritative, says that individuals' extreme weather event cannot be ascribed to global warming.

Mr. MEEK. Okay. Thank you.

Lord MONCKTON. Certainly during the first two Celsius.

Mr. MEEK. Will you suspend, please? Will you suspend?

Lord MONCKTON. Sorry. Yes, sir.

Mr. MEEK. Suspend. Thank you. Thank you for your input. Do we have anyone else?

Dr. STONE. Your question goes to something that's important to bring up at this hearing which is we have been talking about the costs.

Mr. MEEK. Hit your mic.

Dr. STONE. Sorry. It's on.

Mr. MEEK. Yes, okay.

Dr. STONE. We have been talking about the costs that mitigation strategies have imposed, but there are benefits in return and you are pointing out there are avoided costs of the damage from climate change, and that's a really important part of the conversation that we should account for.

Mr. MEEK. Well, we're looking.

Dr. STONE. I don't have specifics on your food.

Mr. MEEK. I understand what you are saying, and what I am looking at is the other side of it, because I come from Florida. A lot of folks are talking about moving, converting homes to our great witness here in the first seat.

That costs money, but we know over the long term that it will have a good effect in the long term.

Yes, sir?

Dr. BURTRAW. Well, sir, the point that should be added, we've been talking about mitigation and the costs of that, but the disproportionate effects of climate change, if we will concede that there is a change in climate, fall disproportionately on the poor. Whether it is in the delta, the Sacramento valley or low income residents in Texas or in the Southeast who would have to rely increasingly on air conditioning and a change in climate, or disease vectors that affect those populations most specifically. The poor are the most exposed to the change in climate in the United States and internationally.

Mr. MEEK. Okay. You're good? Okay. Thank you very much.

Mr. Chairman, as we look at this, we know when we have events and we have food shortages that it hits those who are hit the most even in regular life, even as we call here in Congress regular order, but as their everyday lives are affected, and in Florida, Hurricane season, which are now hurricanes on steroids, we find ourselves in a very difficult situation.

I want to deal with the arguments against doing something, versus not doing anything at all.

Thank you, sir.

Chairman MCDERMOTT. Mr. Crowley, although you are not a Member of the Subcommittee, I believe that Members that are on the Ways and Means Committee ought to have the opportunity to come in and sit, watch and listen. If you have a question, I yield some time to you.

Mr. CROWLEY. I appreciate your follow-up with the last sentence, in particular, if you have a question that dissipates, so thank you. I do a lot of listening, so if I could, just a follow-up on my friend from Ohio's comments, and I have a great deal of respect for him. I too have concerns about the cost affiliated with climate change for our seniors and others who don't work and will not qualify for the Make Work Pay tax credit, or for the earned income tax credits.

There are some discussions about providing for free allowances to energy companies and that they would follow by passing on those savings to their consumers. So, my question is, would 100 percent of the benefit of free allowances to utility companies be passed down to consumers; and, if not, are the Tax Code and rebate checks like those in the 2009 economic stimulus bill, the best way to cushion seniors and others who otherwise are not covered by those with tax benefits to be buffered as a result to climate change legislation. I'd ask Dr. Burtraw and Dr. Stone if you could answer that question.

Dr. BURTRAW. I will take the first part of your question. so basically the U.S. electricity industry exists under two basic types of regulation and so free allocation to companies as you describe it, we have to be very careful about the type of free allocation we are talking about.

Mr. CROWLEY. So, the State jurisdiction you are talking about?

Dr. BURTRAW. That's right. So, the kind of grandfathering we saw in the SO_2 program would not achieve on a nationwide basis

the kind of outcome you suggest, but increasingly, for example, on the Dingell/Boucher discussion last year, there's a discussion of a different type of approach which would be free allocation to local distribution companies, who could then be charged to act as trustees on behalf of customers and to roll that allowance value into reducing retail electricity prices. So, you would see an increase in the wholesale electricity price by a commensurate reduction in the retail electricity price.

It would really offset the vast majority of changes on electricity price. This is virtuous from the standpoint of how it protects electricity to consumers, but as I mentioned in my opening remarks it has the disadvantage that it raises allowance prices economy-wide by about 15 percent. That means if you happen to drive a car or happen to use a natural gas to heat your home, et cetera, you are going to see even greater increases in those other fuels.

Mr. CROWLEY. Dr. Stone.

Dr. STONE. Yes. To follow-up on that first, we are very critical of the proposal to give it to the local distribution companies as a sole means of delivering consumer relief because for low income consumers, less than half of the total impact of higher costs from climate change and legislation would be in their home energy bills.

There is a bunch of it, about a quarter of it, that's from gasoline; and then there's a part of it, the rest of it, another near quarter, that comes indirectly from the fact that it costs money to produce goods and services with energy. Your food: energy goes into the production of food and the transportation of food; and that fees also into cost. So, if you focus just on utility bills, you're not getting at those. As Dr. Burtraw just said, if you keep the price of electricity down in a cap and trade system, that's going to force more other sectors to bear more of the burden of meeting the cap; and, prices are going to go up there in that other half of the consumer pod.

Dr. STONE. So, that would be a concern. On the positive side of the rebates, as I mentioned to representative Tiberi, it's easy to bring seniors, veterans, people on railroad retirement benefits, into a rebate-type system.

Mr. CROWLEY. Which we did in the last bill as well, so you're advocating, if I'm reading correctly, through the broader way in terms of Tax Code as opposed to the benefit through the company.

Dr. STONE. Right, plus our proposal for getting people not in the tax system for the electronic benefit transfer delivery mechanism.

Mr. CROWLEY. Dr. Dinan, would you comment on that as well?

Dr. DINAN. I just wanted to point out that seniors that receive Social Security benefits would receive some type of compensation automatically through the COLA. So, to the extent that their income is coming from Social Security and those higher prices are reflected in the COLA, they would automatically receive some compensation for those higher prices.

Mr. CROWLEY. Thank you. Thank you for your comment.

I appreciate it and I yield back the balance of my time.

Chairman MCDERMOTT. Mr. Linder.

Mr. LINDER. Mr. Chairman, I ask unanimous consent to have this gallop poll and its results inserted in the record. That portion of the record I have exchanged with Mr. Levin.

Chairman MCDERMOTT. Without objection, so ordered.

[The information follows:]

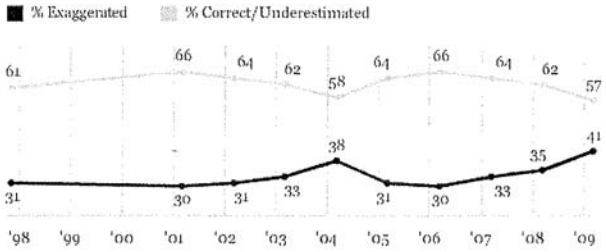
March 11, 2009

Increased Number Think Global Warming Is "Exaggerated"

Most believe global warming is happening, but urgency has stalled

PRINCETON, NJ -- Although a majority of Americans believe the seriousness of global warming is either correctly portrayed in the news or underestimated, a record-high 41% now say it is exaggerated. This represents the highest level of public skepticism about mainstream reporting on global warming seen in more than a decade of Gallup polling on the subject.

Thinking about what is said in the news, in your view is the seriousness of global warming -- [generally exaggerated, generally correct, or is it generally underestimated]?

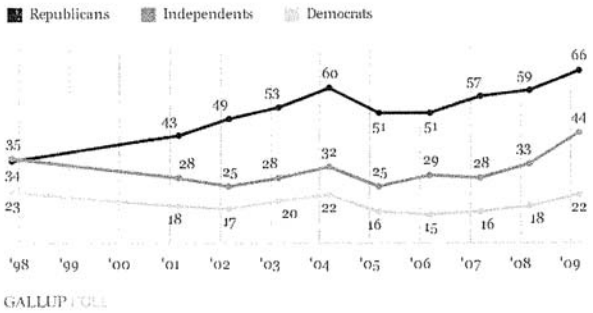


As recently as 2006, significantly more Americans thought the news underestimated the seriousness of global warming than said it exaggerated it, 38% vs. 30%. Now, according to Gallup's 2009 Environment survey, more Americans say the problem is exaggerated rather than underestimated, 41% vs. 28%.

The trend in the "exaggerated" response has been somewhat volatile since 2001, and the previous high point, 38%, came in 2004. Over the next two years, "exaggerated" sentiment fell to 31% and 30%. Still, as noted, the current 41% is the highest since Gallup's trend on this measure began in 1997.

Since 1997, Republicans have grown increasingly likely to believe media coverage of global warming is exaggerated, and that trend continues in the 2009 survey; however, this year marks a relatively sharp increase among independents as well. In just the past year, Republican doubters grew from 59% to 66%, and independents from 33% to 44%, while the rate among Democrats remained close to 20%.

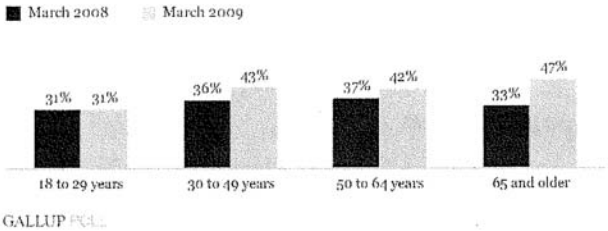
Percentage Saying News of Global Warming Is Exaggerated, by Party ID



Notably, all of the past year's uptick in cynicism about the seriousness of global warming coverage occurred among Americans 30 and older. The views of 18- to 29-year-olds, the age group generally most concerned about global warming and most likely to say the problem is underestimated, didn't change.

Percentage Saying News of Global Warming Is Exaggerated, by Age

Recent trend



Dampened Concern

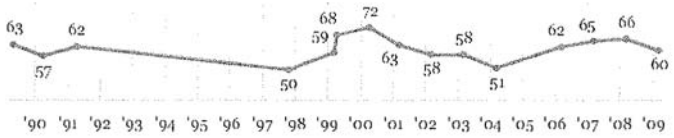
Apart from these findings about news coverage of global warming, the March 5-8 poll shows in a similar vein that Americans are a bit less concerned about the seriousness of global warming per se than they have been in recent years.

Six in 10 Americans indicate that they are highly worried about global warming, including 34% who are worried "a great deal" and 26% "a fair amount." Overall worry is similar to points at the start of the decade, but is down from 66% a year ago and from 65% in 2007.

I'm going to read you a list of environmental problems. As I read each one, please tell me if you personally worry about this problem a great deal, a fair amount, only a little, or not at all.

The "greenhouse effect" or global warming

% Great deal/Fair amount

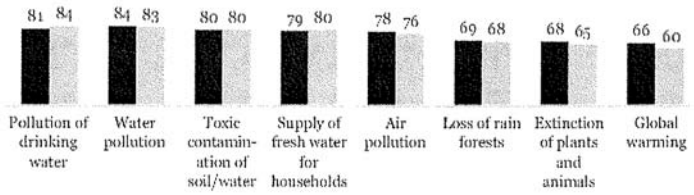


GALLUP POLL

The 2009 Gallup Environment survey measured public concern about eight specific environmental issues. Not only does global warming rank last on the basis of the total percentage concerned either a great deal or a fair amount, but it is the only issue for which public concern dropped significantly in the past year.

Percentage Worried Great Deal or Fair Amount About Each Problem

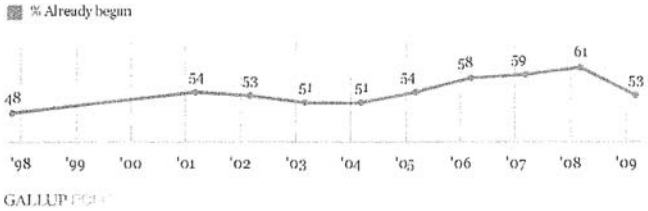
March 2008 March 2009



GALLUP POLL

Also, compared with last year, fewer Americans believe the effects of global warming have begun to occur. The figure is now 53%, down from 61% in March 2008. At the same time, a record-high 16% say the effects will never occur. (Prior to now, Gallup polling found no more than 11% of Americans saying the effects of global warming would never happen.)

Which of the following statements reflects your view of when the effects of global warming will begin to happen -- [they have already begun to happen, they will start happening within a few years, they will start happening within your lifetime, they will not happen within your lifetime, but they will affect future generations, (or) they will never happen]?

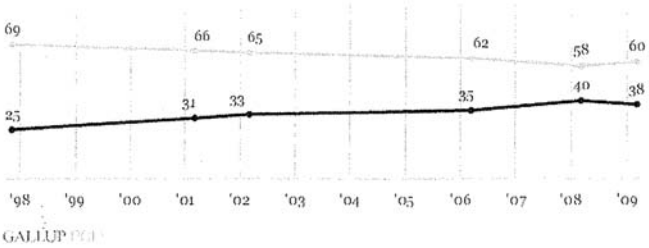


Most Doubt Warming Is a "Serious Threat"

Altogether, 68% of U.S. adults believe the effects of global warming will be manifest at some point in their lifetimes, indicating the public largely believes the problem is real. However, only 38% of Americans, similar to the 40% found in 2008, believe it will pose "a serious threat" to themselves or their own way of life.

This fear that global warming will pose a serious threat in one's lifetime steadily expanded from 25% in 1997 to 40% in 2008. The drop this year to 38% is not statistically significant; however, it is the first time since 1997 that the rate of concern has not increased.

Do you think that global warming will pose a serious threat to you or your way of life in your lifetime?



Bottom Line

Americans generally believe global warming is real. That sets the U.S. public apart from the global-warming skeptics who assembled this week in New York City to try to debunk the science behind climate change. At the same time, with only 34% of Americans saying they worry "a great deal" about the problem, most Americans do not view the issue in the same dire terms as the many prominent leaders advancing global warming as an issue.

Importantly, Gallup's annual March update on the environment shows a drop in public concern about global warming across several different measures, suggesting that the global warming message may have lost some footing with Americans over the past year. Gallup has documented declines in public concern about the environment at times when other issues, such as a major economic downturn or a national crisis like 9/11, absorbed Americans' attention. To some extent that may be true today, given the troubling state of the U.S. economy. However, the solitary drop in concern this year about global warming, among the eight specific environmental issues Gallup tested, suggests that something unique may be happening with the issue.

Certainly global warming has received tremendous attention this decade, including with Al Gore's Academy Award-winning documentary "An Inconvenient Truth." It is not clear whether the troubled economy has drawn attention away from the global warming message or whether other factors are at work. It will be important to see whether the 2009 findings hold up in next year's update of the annual environmental survey.

Survey Methods

Results are based on telephone interviews with 1,012 national adults, aged 18 and older, conducted March 5-8, 2009. For results based on the total sample of national adults, one can say with 95% confidence that the maximum margin of sampling error is ±3 percentage points.

Interviews are conducted with respondents on land-line telephones (for respondents with a land-line telephone) and cellular phones (for respondents who are cell-phone only).

In addition to sampling error, question wording and practical difficulties in conducting surveys can introduce error or bias into the findings of public opinion polls.

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Chairman MCDERMOTT. Well, before we close, I said at the beginning, half in jest to you, Lord Monckton, that I could mark you down as doubtful. I want to just ask one question of you, because it seems to me that we are dealing with a huge problem about which there may be some controversy, which can have long-term,

perhaps catastrophic effects, on society. In 1987 you wrote in "The American Spectator."

Lord MONCKTON. Sir.

Chairman MCDERMOTT. I am sure you know this quote, but I know you said there is only one way to stop AIDS, that is to screen the entire population regularly and to quarantine all carriers of the disease for life. Every member of the population should be blood-tested every month. All those found to be infected with the virus, even if only carriers, should be compulsorily, immediately, and permanently confined.

Now, I understand in 1987 I was in Zaire, right in the middle of the explosion of the AIDS epidemic, so I know the time when this statement was made. Do you have any doubt whatsoever that there is climate change going on that global warming is caused by human beings, or are you as rock hard as you seem in your testimony?

Lord MONCKTON. Right. Thank you for that question and I am happy to answer it as follows.

First of all, since I wrote the standard public health policy should have been applied to the AIDS virus just like any other fatal infection, at least 25 million people have died over the last 20 years who might not have died, had the usual public health policies been followed.

So, there are consequences, if for whatever reason, however emotional, one does not take the tough decisions that however nasty they seem may be necessary to prevent a catastrophe. I may also add on AIDS that in this country the current prevalence is 0.7 percent and rising. When it reaches 1 percent, that's the epidemic threshold. It will then pass very rapidly through the population and very large numbers even here could die.

However, I am also trying to work on a cure, and we are getting some very promising results, and I hope to come back to you on that in due course. As to the climate, the climate is defined by the United Nations panel on the subject. As a nonlinear, complex, chaotic system about which no longer term predictions can be reliably made, now, they're there citing a paper 1963 by the late Edward Lorenz, one of your most formidable numerical weather forecasters in the paper in which he founded chaos theory in which he said that because we cannot know the initial state of the climate to a sufficient degree of precision, no long-run prediction on what will happen in the climate can be made. I am therefore not going to try to attempt to do what the U.N. then attempted to do and make long-term climactic predictions.

What I can say is that there is a very considerable body of evidence in the peer review scientific literature, which establishes that what is called climate sensitivity, in other words the effect of increased CO_2 concentrations on temperature is around one-seventh of what the U.N.'s climate panel has said it is. If that is correct, and there's a growing number of papers in the literature saying that it is of that order, then on any view there is no climate problem. So, I will give you that rather long scientific answer, because it is not a yes or no answer.

Chairman MCDERMOTT. Your basic answer is you haven't changed your mind on AIDS and you don't see any possibility that

global climate change can be affected by human beings changing their behavior?

Lord MONCKTON. I am saying that one of the greatest failures of my career was the failure to persuade governments at the request of your U.S. Army Infectious Diseases Research Institute because they begged me. I went to see them, and you are one of the few people that will dare to say what needs to be said on this. They said, "Millions will die, unless we treat this just like any other fatal infection and isolate the carriers."

That's the normal public health procedure. It wasn't done. 25 million people are on my conscience, because 25 million people died. 40 million are infected and suffering, and I am very unhappy about that. That is one reason why on this particular question of climate change, where again millions are dying, not because of warmer weather, but because it is colder weather, not warmer weather, that tends to kill people more.

They are dying because the biofuel scam that arose out of this scare has taken one-third of the agricultural land of the United States out of production. It has taken a lot of agricultural land elsewhere out of production; and, therefore, instead of providing food for people who need it, we are providing fuel for automobiles that don't. The consequence of that has been major food riots in 12 different regions of the world in the last 18 months alone as the price of food doubled, because of the taking out of use of agriculture land.

There are very severe consequences in merely believing, because it may be expedient or attractive, that global warming is a problem, but there has now been 7 years of rapid global cooling that is causing even the U.N. to rethink its figures. I hope, therefore, that this Committee will also rethink whether or not it is quite as certain as some of its Members seem to be that we have a problem, when on the evidence, on the data, and on the outturn, we do not.

Chairman MCDERMOTT. Thank you all for your testimony.

The hearing is adjourned.

[Whereupon, at 12:01 p.m., the Subcommittee was adjourned.]

[Submissions for the Record follow:]

Statement of H. Sterling Burnett, PhD, National Center for Policy Analysis

Mr. Chairman and members of the Subcommittee, please accept my comments for the record regarding the March 12 hearing on the effects of climate change legislation on low- and moderate-income families. I am Dr. Sterling Burnett, a senior fellow of the National Center for Policy Analysis, a nonprofit, nonpartisan public policy research organization dedicated to developing and promoting private alternatives to government regulation and control, solving problems by relying on the strength of the competitive, entrepreneurial private sector.

Current proposals to regulate greenhouse gas emissions will raise energy prices, reduce economic growth, and disproportionately affect low- and moderate-income families. As the Subcommittee considers the potential harm to families, I urge you to carefully scrutinize the regressive effects of the various climate change proposals.

Higher Energy Costs

Though current climate change bills with cap and trade provisions have yet to be finalized, in previous sessions of Congress several bills have been considered that would cap CO_2 emissions and allow the trading of excess allowances. The United States Environmental Protection Agency (EPA) analyzed three bills that would cap

and trade greenhouse gas emissions[1] The least restrictive, sponsored by Senators Jeff Bingaman (D–NM) and Arlen Specter (R–PA), would have required trimming U.S. emissions by less than 4 percent by the year 2050. A more stringent bill, by Senators Joe Lieberman (I–CT) and John McCain (R–AZ), would have required reductions in U.S. emissions of nearly 16 percent by 2050. One of the most restrictive bills, introduced by Lieberman and John Warner (R–VA), would have forced businesses and consumers to cut their emissions by 44 percent by 2050.

According to EPA and the Congressional Budget Office (CBO), each of these bills would substantially raise energy prices and reduce economic growth. A June 2003 analysis by the U.S. Energy Information Agency of the probable economic effects of McCain-Lieberman bill found that by 2025[2]:

Gasoline would cost 40 cents more per gallon than it would otherwise.
The average household would spend $444.00 more per year on energy including a 46% increase in electricity prices.
Gross domestic product would be $675 billion to $1.63 trillion lower, in present dollars.

A study by an economic research institute, the American Council for Capital Formation, underscored these findings, estimating that under the McCain-Lieberman bill[3]:

By 2020, gasoline prices would increase 30 to 50 cents per gallon.
Electricity prices would increase 43 percent and average household income would fall by as much as $2,255 per year by 2020
By 2025, U.S. GDP would be reduced by $164 billion to $525 billion per year.
More than 600,000 jobs could be lost in the U.S.

The EPA also documented severe economic consequences beyond consumer energy prices. The agency found by 2050 the Bingaman-Specter bill could cost the United States as much as $1.2 trillion annually (in 2005 dollars) from lost economic production. Lieberman-McCain could cost as much as $1.3 trillion annually, and Lieberman-Warner could cost nearly $3 trillion per year[4]

It should be noted that previously considered bills would have given out all or most of the initial carbon emission credits to affected industries. This stands in contrast to the bills currently, according to press reports, being debated before Congress and what President Obama assumes in his recently introduced budget proposal, in which the initial credits would be auctioned off to industry. Charging for the initial credits ensures that industry will face substantially higher costs at the outset of the program, and much of these costs will undoubtedly be passed onto consumers. Indeed, the Obama administration assumes that the carbon credit auction could bring in more than $650 billion in revenue. That's a $650 billion dollar energy tax on top of the costs estimated for previous bills. In addition, much of the present discussion centers setting a goal of cutting carbon emissions 80 percent lower than 2006, a much more stringent goal than any bill previously analyzed. Deeper cuts equal higher costs. Government gets the gold (carbon credit income) and consumers get the shaft.

Disproportionately Hurts the Poor

Energy taxes are extremely regressive, disproportionately affecting seniors and low income households. Analyses of previous bills confirm that any cap and trade bill, acting as nothing less than an indirect energy tax, will harm the poor the most. This is because the poor and those on fixed incomes spend a greater portion of their disposable income on food and fuel than the average household and are least able to afford newer, more fuel-efficient technologies. Energy costs already consume 15 percent of the poorest households' income, compared to only 3 percent for average households. CBO found that cutting carbon dioxide emissions by merely 15 percent would reduce the disposable income of the poor by an additional 3.3 percent, com-

[1] Environmental Protection Agency, *Analysis of the Lieberman-Warner Climate Security Act of 2008*, March, 14, 2008.

[2] U.S. Energy Information Agency, *Analysis of S. 139, the Climate Stewardship Act of 2003*, June 2003

[3] American Council for Capital Formation, Estimated Costs of the McCain-Lieberman Bill, July 2004

[4] Environmental Protection Agency, Analysis of the Lieberman-Warner Climate Security Act of 2008, March, 14, 2008

pared to a 1.7 drop for the richest Americans[5] Deeper carbon dioxide cuts would inflict still more severe economic harm on low-income citizens.

Recognizing that energy taxes disproportionately impact the poor, the Obama administration has proposed giving some of the carbon auction revenue back to middle income Americans to pay for the continuation of the Administration's "Making Work Pay" refundable tax credit that has already been enacted. However, this refund will only cover a portion of the increased energy costs, for a portion of the citizenry—and does nothing to mitigate the impact on the nation's energy providers. In addition, since taxpayers are already receiving the tax credit, they are unlikely to perceive the rebate starting in 2011 as recompense for the new indirect tax imposed by a cap-and-trade regime as it comes online.

Energy is the lifeblood of the economy, yet it is unclear whether the Administration has considered the impact that increasing the costs to energy providers will have on the overall economy. While we all share the Administration's hope that the economy will have recovered from its current downturn by the year 2011 when energy companies and other industries will be required to purchase the initial round of carbon credits at auction, it may well still be in recession. Raising taxes on energy production and consumption during a recession is virtually guaranteed to prolong it. On the other hand, if the economy is just beginning to recover, or the recovery, underway for a while, is tentative or fragile, low energy costs would be a critical factor in continuing economic progress. As such imposing a substantial tax at such a critical time could stall the recovery or at least slow it. There is a third, rose colored glasses scenario (which few economists are predicting), under which the economy has fully recovered and growth is on the horizon for the foreseeable future. If this comes to pass, energy prices will already likely be higher than at present and rising as a result of increased demand from industry, the commercial and retail sectors and consumers. At a time of rising energy prices, it is doubtful that consumers will think kindly of a legislature that ladles additional costs onto already higher energy prices. Just recently, voters were calling on legislators to do something—almost anything—to reduce high fuel and electricity prices. Voter's wrath will only multiply if high energy prices driven by demand are exacerbated by new costs, or worse, fuel scarcity, stemming from a new carbon cap-and-trade scheme coming online.

Ineffective for Climate Change

Advocates of climate change legislation argue that avoiding the cumulative environmental impacts of climate change—including higher sea levels, more powerful hurricanes and the spread of tropical diseases—far outweigh almost any economic costs. However, there is little reason to believe the emission reductions called for in the legislation would stop or even substantially slow global warming. Thus, they will not prevent the harms warming is predicted to exacerbate.

For instance, research from the National Center for Atmospheric Research reveals that even if all the signatories of the Kyoto treaty met emissions targets by 2012, global temperatures would still be only 0.07 to 0.19 degrees Celsius cooler in 2100 than without Kyoto[6] This would not be enough to avoid the two to six degree increase in average global temperatures some scientists claim will irreparably harm the environment.

Of the three bills discussed above, only Lieberman-Warner would provide more emission reductions than those required of the United States under Kyoto—the others would fall far short. Yet, even Lieberman-Warner would be ineffective because it is unilateral. Developing countries—such as China, India, South Korea, Brazil and Indonesia—are exempt from current international climate change agreements and would not be covered by domestic legislation. Even if all developed countries stopped using energy entirely, there would be little impact on overall greenhouse gas emissions or atmospheric concentrations. Why? Because fast-growing developing countries are expected to account for 85 percent of emissions growth in the next two decades and beyond. Indeed, China has already passed the United States as the world's largest CO 2 emitter and its economic growth rate is more than three times greater than ours.

The EPA's own analysis indicates that just to significantly slow emissions growth (not even stabilize emissions), the United States would have to meet its emission reduction targets under Lieberman-Warner, other developed countries bound by Kyoto would have to slash their emissions by more than 50 percent below their 1990

[5] Congressional Budget Office, Trade-Offs in Allocating Allowances for CO_2 Emissions, April 25, 2007

[6] Wigley, T. M. L., 1998: *The Kyoto Protocol: CO_2*, CH4 and Climate Implications. Geophysical Research Letters, **25**, 2285–2288.

levels, and developing countries would have to cut their emissions to 2000 levels by 2035[7].

Conclusion

The benefit promised by recently proposed climate change legislation—lower global temperature—-is unlikely to materialize because they don't include developing nations. Moreover, every economic analysis to date indicates domestic legislation proposed to regulate greenhouse gas emissions will harm the U.S. economy and specifically, the most vulnerable in our society—the poor. Lawmakers should not adopt laws that sacrifice the economic well-being0 of those living in the United States for nonexistent environmental gains.

Thank you.

Statement of Stephen A. Smith, Southern Alliance for Clean Energy

My name is Stephen Smith. I am the Executive Director of the Southern Alliance for Clean Energy (SACE). Since 1985, SACE has been working on behalf of citizens in the Southeast to promote responsible energy choices that create global warming solutions and ensure clean, safe and healthy communities throughout the Southeast.

SACE applauds the work you have done to promote effective climate change legislation and pledges to work with you and your staff to ensure the bill ultimately adopted by Congress embraces the most effective and responsible approach to reducing greenhouse gas emissions.

In this statement, I would like to focus on one particular and critical aspect of a well-designed cap-and-trade program for carbon emissions—the need to auction 100 percent of the credits immediately to offset the costs associated with mitigating carbon emissions. As this statement will demonstrate, auctioning all the credits is a critical predicate to ensuring the environmental, economic and political success of a carbon cap-and-trade program.

Unprecedented Resources at Stake

The science of pollution mitigation has advanced significantly since Congress enacted the first cap-and-trade program to address the problem of acid rain back in 1990.

In the 18 years that followed, study after economic study have lent critical support to the idea that a properly constructed cap-and-trade program must auction 100 percent of the carbon credits. Anything less than 100 percent auctions needlessly increases the cost of the program to the economy and consumers, while potentially resulting in windfall profits for shareholders and executives of electric utility companies and other industries.

Recently, SACE, in conjunction with our regional partners, released an economists statement detailing the need to auction credits in a cap-and-trade program. The statement says, among other things, that any free allocation of carbon credits to utilities is tantamount to corporate welfare. To date, the statement has been signed by over 600 economists from across the country.

Under a cap-and-trade program, a carbon credit authorizes the holder to emit one metric ton of carbon dioxide, or its equivalent, per year. These credits will be extremely valuable—worth hundreds of billions of dollars in revenue each year—and they represent an important resource in our nation's efforts to address global warming.

In fact, President Obama and OMB Director Peter Orszag echo this sentiment. According to OMB Director Orszag:

If you didn't auction permits, it would represent the largest corporate welfare program that has ever been enacted in the history of the United States—Whatever the value is would go in a sense almost directly into corporate profits rather than being available to fund energy efficiency investments and to provide a cushion or some compensation to American households.

The cumulative value of these credits over the life of the program is simply unprecedented, and any decision on the allocation these resources should be made only after extensive examination of their potential utility. Properly structured, these revenues could be used to offset the cost of higher prices and to speed the development of important renewable energy and energy efficiency technologies.

[7] Environmental Protection Agency, Analysis of the Lieberman-Warner Climate Security Act of 2008, March, 14, 2008

We have seen great progress over the past twelve months with regard to climate legislation. Just last year, the Senate considered legislation that would have freely allocated over 75 percent of carbon permits to utilities. Now, we are pleased to see the approach taken by Representative Chris Van Hollen who has introduced legislation calling for a cap-and-trade program with 100 percent auctioning of the carbon credits. This is the only economically viable approach to ensure that Congress is able to protect low-income and vulnerable communities from potentially higher energy costs associated with a cap-and-trade program.

No Windfalls for Polluting Industries

Utilities and other greenhouse gas emitting industries argue that Congress should allocate some or all of the credits to them for free to minimize the energy costs they pass on to their ratepayers. Just last month, the U.S. CAP proposal called for large amount of allocations at the outset of a cap-and-trade program as a means to protect ratepayers from higher energy prices. The proposal said:

Consequently, USCAP recommends allocating a significant portion of emission allowance value (e.g. 40 percent directly to these entities [LDCs] specifically to dampen the price impact of climate policy on electricity and small natural gas consumers, particularly in the early years of the carbon constraint.

USCAP's claim is misleading. Gifting billions of dollars in pollution credits to utilities will not lower energy bills for ratepayers because the marginal cost of abating a unit of greenhouse gas is the same regardless of whether a firm buys the permits or is allocated the permit for free. As the Congressional Budget Office observed in their testimony before the Senate Energy and Natural Resources Committee in May:

By attaching a cost to CO_2 emissions, a cap-and-trade program would thus lead to price increases for energy and energy-intensive goods and services. Such price increases would stem from the restriction on emissions and would occur regardless of whether the government sold emission allowances or gave them away. Indeed, the price increases would be essential to the success of a cap-and-trade program because they would by the most important mechanism through which businesses and households were encouraged to make investments and change their behavior to reduce CO_2 emissions.

Further, the CBO notes:

Giving all or most of the allowances to energy producers to offset the potential losses of investors in those industries—as was done in the cap-and-trade program for sulfur dioxide emissions—would also exacerbate the regressivity of the price increases. On average, the value of the CO_2 allowances that producers received would more than compensate them for any decline in profits caused by a drop in demand for energy and energy-intensive goods and services. As a result, the companies that received allowances could experience windfall profits.

Harvard Economist Greg Mankiw accurately points out that freely allocating carbon credits to polluting industries is nothing more than corporate welfare.

To understand why this is the case, consider a utility that is given credits equal to its historic level of carbon emissions, as many utilities have suggested should happen. How will that allocation affect the utility's behavior? Very little, as it turns out.

If the utility has a history of emitting 100 tons of carbon dioxide or equivalent per year and is given 100 credits that can be used to emit one ton of carbon each. The utility considers options for reducing its carbon emissions and determines that the cost of reducing its emissions from 100 to 99 tons is $10. If each credit is worth $15 dollars, then the utility will spend the $10 to reduce its carbon emissions by one ton, sell the credit, making its shareholders $5 in the transaction. The utility will continue to reduce its emissions and sell its credits until the cost of reducing another ton of carbon emissions is equal to the market value of the credit. If the cost of reducing emissions from 60 to 59 tons is equal to $15, then the utility will stop there. In the end, it uses 60 credits and sells 40.

Now consider the case where the utility is given zero credits, and it has to buy them in order to continue operations. Once again, the utility will have to balance the cost of credits verses the cost of reducing its carbon emissions. In this case, the utility will buy credits until the $15 cost of buying a credit is equal to the cost of reducing the next ton of carbon emissions. Here, the utility buys 60 credits, and invests in mitigation technologies to reduce the other 40 tons of carbon.

The important point here is that the firm's behavior is the same regardless of whether it is given the credits or it has to buy them like everybody else. In both cases, the utility produces the same amount of electricity as well as carbon. And ratepayers will face similar costs.

What about Costs to Industry?

There is very little doubt that gifting permits to industry will do little other than create windfall profits for utility executives. From the Administration, to Wall Street, academia and the European Union's experience with a cap-and-trade program, the general consensus is that any economically-viable cap-and-trade program must start with 100 percent auctions of carbon credits. According to President Obama in his FY2010 budget proposal:

This program will be implemented through a cap-and-trade system, a policy approach that dramatically reduced acid rain at much lower costs than the traditional government regulations and mandates of the past—Through a 100 percent auction to ensure that the biggest polluters do not enjoy windfall profits, this program will fund vital investments in a clean energy future totaling $150 billion over 10 years, starting in FY 2012—The balance of the auction revenues will be returned to the people, especially vulnerable families, communities, and businesses to help the transition to a clean energy economy.

In recent years, considerable research has gone into assessing what level of credit allocation is necessary to "compensate" the owners of utilities and other industries for losses associated with a carbon cap and trade program. One study found that allocating between 9 and 21 percent of the credits under the Kyoto Protocol would be sufficient to offset the agreement's costs to energy and electricity producers.

Other studies, however, found the regulatory regime of a cap-and-trade program without auctions could increase the opportunity for profits by affected industries. As Resources for the Future noted in a 2002 study:

By compelling fossil fuel suppliers to restrict their outputs, the government effectively causes firms to behave like a cartel, leading to higher prices and the potential for excess profit. To the extent that the environmental policy enables firms to retain these rents—such is the case under CO_2 policy involving freely offered tradable permits—the firms can make considerably higher profit under regulation than in its absence.

Wall Street apparently agrees. The Wall Street Investment firm of Bernstein Research reported its analysis of the potential impact of a cap-and-trade program on utility industry financials. The title of the report—"U.S. Utilities: Unregulated Generators' Profits Could Surge Under Senate Bills to Cap CO_2 Emissions"—reflects its findings that implementing a cap-and-trade program could increase profits for some utilities. As the report notes:

If the U.S., in implementing its own cap-and-trade regime for GHG emissions, also allocates allowances for free, we can expect unregulated power generators in this country to behave similarly, passing through the value of allowances consumed to wholesale power prices. And as these generators will bear no offsetting cost, their earnings can be expected to increase materially.

Whatever the costs or benefits to industry, the more pertinent question to ask is simply this: If a cap-and-trade program affects everyone—energy consumers and producers alike—why should polluting industries alone get compensated?

Global warming affects everyone. No industry should be given special status and protected from the responsibilities that the rest of us will face.

Economic Efficiency and Low-Income Families

Effectively addressing climate change will impose a certain level of costs on the economy. The question before Congress is how to best structure a cap-and-trade program to minimize the impact to the economy while helping low-income families and other energy consumers most vulnerable to changes in energy prices. The answer to this question, again, is to auction the credits and use the revenues raised to reduce the program's overall cost to the economy.

The CBO estimated that giving away credits under a cap-and-trade program would cost nearly twice as much than if the credits were auctioned and the revenues used to cut taxes. Who would bear the additional costs of giving away credits to polluting industries?

Of the four allowance-allocation and revenue recycling scenarios that CBO analyzed, the share of policy costs borne by households in the lowest income quintile would be largest if the government gave allowances away and used the revenue received—to reduce corporate taxes.

Further, the CBO noted in their June 17, 2008 letter to Senate Energy and Natural Resources Committee Chairman Bingaman that lawmakers have several options for assisting those most effected by increased energy costs, including collecting the resources from the auction of carbon credits and issuing rebate checks to households across the United States. The CBO noted that:

Lawmakers could choose to offset the price increases experienced by low- and moderate-income households by providing for the sale of some of all of the CO_2 emission

allowances and using a portion of the revenues to compensate such households. For example, the Congressional Budget Office (CBO) found that lower-income households could be financially better off as a result of a cap-and-trade program (compared with no program—and without consideration of any benefit in terms of reduced risk of damage from climate change) if the government chose to sell the allowances and used the revenues to pay an equal lump-sum rebate to each household in the United States. In that case, the size of the rebate would be larger than the average increase in low-income households' spending on energy-intensive goods.

Different studies may suggest different optimal options, but they are universal in finding that the free allocation of credits to industry produces the worst outcome, both for the economy as a whole and for at-risk populations. Freely allocating credits needlessly surrenders resources that could be used to ensure the best outcome for the economy and low-income families.

Auction, Not Allocation

Congress should auction all credits under a cap-and-trade program and use those resources to assist consumers with their energy costs while investing in the development of critical technologies necessary to speed the future reduction of greenhouse gas emissions and using remaining revenues to assist those most affected by increased energy costs.

Such an approach represents the surest means of meeting emission targets in the most equitable and economically efficient manner. Anything less is simply corporate welfare to those industries that have contributed the most to climate change.

I thank the Subcommittee for holding this hearing and for advocating solutions for reducing our nation's global warming pollution. SACE looks forward to working with the Subcommittee to produce the most effective climate change legislation possible.

Southern Alliance for Clean Energy (SACE) is a nonprofit, nonpartisan organization that promotes responsible energy choices that create global warming solutions and ensure clean, safe and healthy communities throughout the Southeast.

Since 1985 SACE has been working on behalf of citizens in the Southeast to provide independent analysis of the energy supply system in the region, help state utility commissions evaluate proposed energy projects, work with state and local governments to develop new programs to improve the energy efficiency of government facilities and vehicles, and support the siting and development of clean, renewable energy sources in our region.

SACE has been a leading voice for energy reform protecting our communities and our region's natural resources for more than 20 years with offices and staff throughout the Southeast.

Statement of the National Community Action Foundation

A fair Climate Change policy ensures reduction of greenhouse gas emissions at the same time it protects small consumers, especially vulnerable working families and retirees, from losing their purchasing power or access to affordable home energy and transportation.

Many of the current proposals aim for such fairness, and, as originators of the Fair Climate Change Principles endorsed by a wide variety of consumer advocacy groups, we applaud the President's proposal and others that auction all allowances. We are pleased with the intent to seek mechanisms to ensure most households and small businesses are held harmless from the substantial price increases expected in fuels and most goods and services. We also support using a share of revenues for the Weatherization Assistance Program and LIHEAP and for developing more sustainable low-income communities.

However, we are concerned that neither the analyses available to Congress so far nor the mechanisms proposed for implementing the "hold-harmless" or "mitigation" policy are adequate to the challenge.

Consumers' expenditures on fuel vary today based on the kinds of fuel they use at home and the distances they drive. Under a climate change policy, the cheapest fuel—coal and the electricity it generates—will cost far more relative to cleaner fuels; so will fuel oil and liquid propane gas. That means some households will see their bills change far more than others.

The only study of cost impacts that uses household energy usage data, the 2007 review by Oak Ridge National Laboratory[1] found low-income residents of the South and Midwest would experience far larger increases in household fuel bills than consumers in the Northeast and West.

Further, while gasoline bills would rise in the same proportion everywhere, rural households, would lose a far greater share of their income than most because they drive 60% further yearly than others. Clearly, rural residents of the South and Midwest will be particularly hard-hit.

Unfortunately, the proposals for delivering rebates through today's tax credit and income maintenance programs will provide essentially uniform awards to households at the same income level, no matter where they live. This can mean a majority of low- and moderate-income households in one highly impacted region or a majority of rural households everywhere will get rebates worth far less than the increased costs they are paying. Others who live in urban areas, especially those on the two coasts, would get significantly more back in rebates than the increases in their expenditures. We urge the Committee to devote more analysis and more complete consideration to the "how" as well as the "what" of the question of revenue recycling.

First, better impact analysis using energy bill and energy use data is essential. The Department of Energy and EPA should be required to support analysis that includes modeling of household impacts and identifies variations in the patterns under different scenarios, especially those affecting low-and moderate-income working families and retirees.

Next, it is time to consider a fresh program design to ensure that the climate change policy for the next generation does not rely on the mechanisms for general family income support suitable for the early 21st century. Among the options we believe should be considered are:

- Provide a base, flat rebate that does not exceed the costs that consumers in the least-affected geographic regions will bear.
- Use state grant mechanisms to direct incremental income support resources through direct income transfers in highly impacted states.
- Design geographically targeted tax credits for rural consumers.
- Add funding to the state LIHEAP programs to assist highly-impacted households in every state.

Of paramount importance is to have a policy ensuring that the design of an auction revenue distribution regime remains responsive to the sure-to-come, but unpredictable, changes in energy markets and consumer conditions over the generation-long span of the legislation. We have proposed that a governing body be responsible for evaluating the impact and effectiveness of policies to protect consumers and for making proposals to Congress regarding their implementation.

Attached are the Fair Climate Principles on which these comments are based and a brief review of the technical analyses that indicate cost impacts on consumers in one place may be very different from the costs borne by those in a different place.

Thank you for considering these concerns.

Contact information for these organizations:

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National Consumer Law Center, Boston, MA and Washington, DC; Olivia Wein, Staff Atty., owein@nclcdc.org

Public Citizen, Washington, DC Tyson Slocum Energy Program Director, tslocum@citizen.org

Friends of the Earth, Washington, DC, Erich Pica, epica@foe.org

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[1] Eisenberg, J., 2008, "The Impact of Carbon Control on Electricity and Gasoline Expenditures of Low-Income Households," Oak Ridge National Laboratory, Oak Ridge, TN. www.weatherization/ornl.gov

Attachment 1

National Community Action Foundation

National Consumer Law Center *for its low-income clients* **Public Citizen**

Friends of the Earth

FAIR CLIMATE CHANGE POLICY:

Principles for Protecting Low- and Moderate-Income Consumers from the Costs of Climate Change Policy and for Re-building Their Communities

The United States must meet its obligation to promote the common good of all peoples and reduce its greenhouse gas emissions; the policy framework for this change must fairly share the immediate economic costs and future benefits of change. It must ensure that vulnerable populations do not suffer greater hardship as a consequence of the policy.

Policies to address climate change through mechanisms that raise the price of carbon will directly raise the price consumers pay for the use of energy and transportation and indirectly raise costs for other products and services, such as food and medical care. Legislation must ensure that low-income individuals and families do not find the cost of basic necessities to be even further beyond their reach than before.

New climate change policies should be designed, implemented and governed based on the following principles:

THE DESIGN of any climate change mitigation policy that raises the cost of energy and other essential consumer goods must be fair to all Americans. *Climate change policies must:*

- Ensure that all consumers can afford the quantities of residential and transportation energy that meet their basic needs;
- Ensure that no households experience economic insecurity as a consequence of climate change policies;
- Ensure that vulnerable consumers who lack the capital or credit to reduce or eliminate their use of carbon-based energy in their homes and vehicles have access to cost mitigation programs such as weatherization, energy efficiency programs and clean energy technologies;
- Ensure that disadvantaged communities have access to a fair share of any funds designated for investments in infrastructure such as green homes and buildings, renewable energy technologies and easy access to low-emissions transit.
- Ensure that emissions of greenhouse gases are subject to regulation by government acting for the public and that any value created by the regulation belongs entirely to the public.

THE IMPLEMENTATION of programs, policies and investments that achieve these goals will include resources that are sufficient in size, distributed in proportion to the anticipated impact of cost increases, and available to affected low-income families and communities in a timely and efficient manner, *as follows:*

- **Adequate resources:** Funding must be adequate to hold low-income consumers harmless against costs resulting directly or indirectly from the climate change policy. Policies should reduce the burden of fuel prices to affordable levels, and support complementary policies, including significant reinvestments that adapt low-income homes, community facilities and equipment to a low-carbon economy.
- **Proportional Distribution:** The resources for mitigating costs and adaptation must be distributed in direct proportion to the economic burdens of climate change policies on vulnerable consumers and communities and in inverse proportion to their ability to afford energy and to make investments in sustainable buildings, equipment and community improvements.
- **Timely Distribution**
  1. Investments to prevent harm due to rising energy costs and changing climate conditions such as the low-income weatherization program must begin in advance of the time that added costs will be incurred;
  2. Funds that mitigate harm from loss of purchasing power and unaffordable bills for energy and transportation fuel must be delivered in the period when the damage is sustained; and

- **Efficient Distribution:** Assistance to vulnerable consumers must be managed through proven, efficient program mechanisms such as LIHEAP, the Weatherization Assistance program, EITC, and Social Security, provided that such programs are administered so as to distribute these resources proportionately and timely.

THE GOVERNANCE of climate change regulation and investment policy must be fair and responsive to emerging conditions. *Governance mechanisms authorized must have sufficient flexibility to allow for adjustments and policy changes to be considered over the lifetime of any Greenhouse Gas regulatory framework.*

- An entity governed by Directors who represent the interests of rural and urban low income consumers must be established to direct, oversee and report to the President and Congress on the operations and impact of programs for low- and moderate income consumers and for redeveloping communities that are authorized by climate change legislation. It should:
- Develop standards for the distribution of funds and other resources intended to mitigate cost impacts on low-and moderate-income consumers and for reports on the uses of those resources, and
- Develop strategies for integrating resources for sustainable re-development of low- and moderate-income communities, and
- Evaluate and make recommendations regarding the effectiveness of the programs to mitigate adverse impacts of climate change policy on vulnerable consumers;
- All entities established to administer resources to implement climate change policies should follow clearly defined procedures for thorough and transparent public reporting of all transactions and uses of funds, and for full compliance with federal regulations for fiscal accountability.

Supporting Organizations 11/01/08:

State and Regional:

Community Action New Mexico, Connecticut Legal Services, Inc., Greater Hartford Legal Aid (CT), Iowa Community Action Association, Illinois Association of Community Action Agencies, Missouri Association of Community Action Agencies, Maine Community Action Association, Massachusetts Association for Community Action, Ohio Partners for Affordable Energy, Oklahoma Association of Community Action Agencies, Tennessee Association of Community Action Agencies, Wisconsin Association of Community Action Agencies, The Utility Reform Network (CA),

Local and Other Organizations:

Tri-CAP, Malden, MA; CAA of Somerville (MA), Inc., Democracy and Regulation (MA), A.W.I.S.H., Inc (WA)

Attachment 2

ECONOMIC OPPORTUNITY STUDIES

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Carbon Emission Auction Rebates for Working Families and Retirees:

Research Shows Uniform Payments Would Be Unfair
Lynn Schneider and Meg Power, PhD.
March 2009

Proposed cap-and-trade policies could harm America's working families and retirees because their purchasing power drops as the cost of energy rises. The lower a household's income, the more its capacity to afford basic necessities will be impacted. Most major climate change bills filed in the 110th Congress in some way acknowledges the regressive impact of emission caps or taxes and proposed mechanisms to alleviate the impact, as does the Obama Administration's policy outline.

New proposals for "recycling" revenues or "rebates" from the Treasury's auction revenues to consumers generally involve remitting cash transfers or tax reductions that vary by income. In other words, all households with a given income would receive the same rebate, perhaps varied for household size. Very little research has been conducted on the incidence of the consumer costs that will result from an auction system, but all of that analysis suggests a "flat" rebate is simple, but unfair. If the goal of a rebate or "dividend" mechanism is to mitigate the loss of purchasing power of the most vulnerable households, one size does not fit all.

A rebate, even varied by family size, will significantly overcompensate some and under-compensate others because of their location and the fuels their utilities use. The key factors which were found to cause significant variation in the costs of climate policy to low-income households are: *rural vs. non-rural residency and geographic region*. Further research is needed in this area in order to ensure proposed revenue "recycling" is fair and progressive.

Study #1: Oak Ridge National Laboratory [1]

The Oak Ridge National Laboratory (ORNL) conducted a study on the impact that the Climate Change Stewardship and Innovation Act of 2007 (S.280) [2] would have on LIHEAP-eligible households' direct expenditures on gasoline and residential energy across rural and non-rural residencies, and across geographic regions.[3] This remains the only published analysis based on data that includes the fuels used in homes. Of course, limits on CO_2 emissions will raise the price of fuel oil, propane, and coal-based electricity more than the cost of other fuels. The bill analyzed, S.280, exempted natural gas from caps and had longer-range horizons on reductions than subsequent proposals; therefore, the costs to households seem low by contrast to the later proposals.

The important figures are the differences between groups of households rather than the level of allocation values. Rural residence may entail substantial price increases for delivered consumer goods and food as well, but these prices are probably reflected in the base period prices, which are higher in many rural areas. ORNL looked only at the two types of direct household energy purchases: household fuels and gasoline because variability was the subject under study and inflation as an indirect result of energy price increases is not thought to vary greatly.

Variation between Rural and Urban Area Households

Rural areas' residents in all regions drive far longer distances than do others. Table 1 displays ORNL's findings that there will be significant *variation between rural and non-rural consumers' increased gasoline expenditures and therefore in the percent of income they must spend on transportation. Rural low-income households spend 45% more on average per year on gasoline than other low-income households.*

Table 1. Incease in Annual Gasoline Expenditures above Baseline by 2030

National Average	$323
Rural	$424
Non-rural	$291

Source: ORNL. p. 6–8.

Variation Among Regions

The carbon intensity of heating fuel and electricity generation will lead to very different cost increases in different residential fuels. As seen in Table 2, ORNL's findings reveal *dramatic variation in impacts across regions* by 2030, with vulnerable consumers in the South and Midwest incurring price increases more than double those of lower-income consumers in the Northeast and West. This disparity appears to be mainly due to the reliance of the South and Midwest on coal for electricity, as well as the high use of coal-fired electric heating in the South.

[2] S.280 was designed to reduce greenhouse gas emissions over time through a cap-and-trade system that would begin in 2012. The cap would be lowered drastically in 2020, 2030, and 2050. Some emission allowances would be allocated freely to emitters, and an unspecified number of allowances would be auctioned. The bill establishes that some of the proceeds of the auctions would go toward cash rebates, discounts, and subsidies for consumers to offset increasing costs of energy, climate change adaptation and mitigation programs targeting low-income populations, support of technology innovation and deployment, assistance to dislocated workers and communities, among other things.

[3] ORNL developed projections of impacts on the expenditures of low-income households on gasoline and residential energy by integrating the Energy Information Administration (EIA) National Energy Modeling System's price projections for electricity and gasoline under S.280 with the EIA Residential Energy Consumption Survey and the EIA National Household Transportation Survey, both from 2001.

Table 2. Percent Increase in Annual Electricity Expenditures above Baseline by 2030

National Average	20%
West	14%
Midwest	28%
South	21%
Northeast	12%

Source: ORNL. P.4–6.

Study #2: Resources for the Future[4]

Resources for the Future (RFF) evaluated a variety of climate policy mechanisms and their impacts on the 20% of households with the lowest incomes. The analysis shows what happens first when a flat rebate is provided (the "dividend" approach, which provides a uniform rebate to all individuals) and then when other uses of auction revenues are added to a flat rebate. The results are stated in terms of percentage of annual income lost or added. No data on the type of fuel used by the households was included.

Variation among Regions under Different Policy Scenarios

Table 3 shows the impact of five policies on households in the lowest 20% of income and the range of impacts in percent of annual income lost/gained for those households by state or grouping of states.[5] The percentages shown here are not comparable to the ORNL results. However, these results compare the fairness of various rebate proposals.

Table 3. Impact of Selected Policies on Annual Income in 2015 Loss or Gain on Percent of Annual Income for Bottom One-fifth of Households

	Cap-and-Dividend (taxable)	**Plus Free Allocation to Emitters**	**Plus Invest in Efficiency**	**Plus Exclude Transportation Fuel**	**Plus Exclude Home Heating**
National Average	1.97%	−6.15%	7.81%	0.03%	1.59%
Range of Impact on Regions	−1.23% (NE) to 3.80% (TX)	−9.04% (NE) TO 05.12% (NW)	−1.17% (NE) TO 3.50 (TX)	−2.74% (NE) TO 1.72% (TX)	−1.52% (FL) TO 2.81% (TX)

Note: NE=New England
Source: RFF. 2008. The Incidence of U.S. Climate Policy: Where You Stand Depends on Where You Sit.

[4] Burtraw, D., et al., 2008, "The Incidence of U.S. Climate Policy: Where You Stand Depends on Where You Sit," Resources for the Future, Washington, D.C.

[5] For these projections of impacts, RFF used data on household expenditures from the U.S. Bureau of the Census Survey of Consumer Expenditure 2004–2006. To develop their sample, RFF used a national population sample from the Bureau of Labor Statistics, grouped households by income decile, and aggregated those households into 11 regions. Those samples exclude Alaska and Hawaii, and due to a small number of observations, five other states were excluded from the study (Iowa, New Mexico, North Dakota, Vermont, Wyoming). The 11 regions into which the remaining 43 states and District of Columbia were aggregated are: Ohio Valley (IL, IN, KY, MI, MS, OH, WV, WI), Northeast (CT, ME, MA, NH, RI), Mid-Atlantic (DE, MD, NJ, PA), Plains (KS, MN, NE, OK, SD), Southeast(AL, AR, DC, GA, LA, MS, NC, SC, TN, VA), Northwest (ID, MT, OR, UT, WA), Mountains (CO, AZ), California and Nevada, Florida, Texas, and New York.

RFF found that Texas, the Northwest, California, and Nevada are the only areas whose lower-income households incur net income gains under all policies except free allocations to polluters. Under that scenario all low-income consumers incur dramatic losses.

Low-income households in New England incur higher losses than those in any other region under most policies, except the exclusion of home heating fuels. If heating fuels are excluded, Floridians incur the greatest real income losses. However, the losses in New England (not shown) are only a little lower.

While ORNL found that low-income households in the entire Northeast Census region, including New York and Pennsylvania, would be harmed less by the direct cost of cap-and-trade relative to other regions, RFF found that New Englanders would be most harmed under any variation of cap-and-trade policy that returns a flat dividend. Texas' low-income consumers are net winners under four of five RFF scenarios; their collective real incomes would be 2–4% higher after the flat dividend is distributed. This finding reflects that the Texas share of U.S. families in the bottom 20% of income is much higher than New England's. These variations do not change the fact that a flat rebate creates unintended income transfers among low-income households in different locations.

Consumer Mitigation Proposals and the Distribution of "Mitigation" Resources

The best-developed blueprint for a rebate to lower-income households delivered through existing tax and income support systems was proposed by the Center on Budget and Policy Priorities.[6] The analysis supporting the proposal does not examine how the direct cost of fuels would lead to different household impacts.

Since today's tax credits and income support systems vary only by adjusted income, family size and employment status, changes or new approaches would be required to solve the re-distribution problem. The Center proposes a small set-aside of auction revenues to provide to states to use for offsetting household burdens in unspecified ways and proportion.

Cap-and-dividend proposals circulated by several groups give every individual in the nation the same "climate dividend." Since low-income households are smaller on average than others, the plan not only locks in, but actually, exacerbates the regressive nature of the increase in direct and indirect increases in the price of energy.

The Analysis Tools Limit Undersrtanding: or Better Thinking Comes from Complete Information

The analyses of consumer impacts offered by CBO, the Center on Budget and Policy Priorities, and RFF all use the Consumer Expenditure Survey (CEX) to determine what low- and moderate-income

Americans spend on energy directly and also on other products whose costs change because of the price of energy. The CEX is a snapshot of the past, but using it limits the predictive power of these analyses because it does not reflect the type of household fuel used. Those homes with the highest CO_2 content, including coal-fired electricity, will cost far more proportionately than natural gas and nuclear power. What's more, there will be a proportional shift among the consumer groups based on fuel and location. Those now using coal-based power have some of the lowest-cost electricity in the nation; it will rapidly become the most expensive. Electric bills make up the majority of low-income household expenditures today.

The 2005–2006 CEX data patterns will not be the burden distribution in a carbon-constrained future. In fact, the residential energy expenditures in those years were lower than normal so that expenditures that were below normal weather requirements are the basis for those analyses predictions about future needs.

The combination of the DOE Residential Energy Consumption Survey and the National Energy Modeling System, as used by ORNL, can offer fuels data that can be projected for different auction scenarios (and different weather forecasts). It lacks the data on all expenditures that would allow calculations of total household burden. However, those increases will be essentially the same percentage increase nationwide.

Conclusion: The analysis of what a cap-and-trade policy will cost households and what to do as a remedy is incomplete, and its tools are too limited. The 30-year framework proposed for re-distributing revenues requires imaginative and flexible policy tools; the analyses result in recommendations that are limited by today's income redistribution mechanisms and by the faulty analytic base.

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[6] Stone, C., et al., 2009, "Cap and Trade Can Fight Global Warming Effectively While Also Protecting Consumers," Center on Budget and Policy Priorities, Washington, D.C.

A thorough investigation of the direct and indirect household impacts of the major policy alternatives is an essential first step. The second is to undertake a fresh approach to designing program tools, including, but not limited to, targeted tax "rebates" to protect all American consumers equally as well as the economy they support while a future-directed climate change policy drives up the cost of all fossil fuels.

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