

**Testimony of
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on

Reducing U.S. greenhouse gas emissions cost-effectively

**submitted to
The Environment and Public Works Committee
United States Senate
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Chairman Boxer, Ranking Member Inhofe, and members of the committee, thank you for the opportunity to testify on the most cost-effective means of reducing U.S. greenhouse gas emissions. My name is Eileen Claussen, and I am the President of the Pew Center on Global Climate Change.

The Pew Center on Global Climate Change is a non-profit, non-partisan and independent organization dedicated to providing credible information, straight answers and innovative solutions in the effort to address global climate change. Forty-five major companies in the Pew Center's Business Environmental Leadership Council (BELC), most included in the Fortune 500, work with the Center in these efforts.¹

The Pew Center strongly supports reporting the America's Climate Security Act of 2007 from the committee on the schedule that you have announced, and looks forward to working with you and the rest of the Congress as the bill goes through the process. I would like to discuss several reasons for recommending that you move forward with this bill.

Cap-and-trade is the most cost-effective way of reducing greenhouse gas emissions

Senators, the bad news is that climate change poses real risks to our nation's security, economy and environment, and that these risks will grow dramatically if we do not begin to reduce our greenhouse gas emissions now.² The good news is that the market-based mechanisms found in the America's Climate Security Act of 2007 will allow us to address this problem cost effectively and in a way that enhances U.S. competitiveness.

Unlike most emissions this committee deals with, greenhouse gas emissions are essentially fungible. Greenhouse gases mix quickly throughout the atmosphere, which means that wherever you can reduce a ton of greenhouse gas emissions – whether from a car, a factory, or a power plant; whether in Los Angeles, London, or Lagos – the benefit to the climate is the same.

In most of our other environmental laws, Congress directs EPA to dictate how much of a given pollutant a facility can emit or which pollution control technology to use. We do not have to take that approach with greenhouse gas emissions. Instead, by using a cap-and-trade program, Congress can set the overall greenhouse gas reduction goals and let the emitters decide for themselves how to achieve the environmental goals of the program at least cost. When we used a market-driven approach in the acid rain program, it provided the best environmental result at the lowest overall cost to our economy.³ This does not mean that achieving our climate security goals will be cost-free, just that the cost can be kept as low as possible – and far less than the cost of not acting.

An economy-wide program will be more cost-effective than sector-by-sector programs

The Pew Center supports the proposal to apply the cap-and-trade program to all large sources of greenhouse gas emissions simultaneously. Congress has seen several proposals to cap and trade emissions from power plants only. Similarly, Congress has seen several proposals that address the transportation sector only, for example, by reducing the carbon footprint of transportation fuels. Certainly, such a sector-by-sector approach can work, but it will be more expensive and slower than an economy-wide approach.⁴

The most cost-effective approach is to bring power plants, factories and transportation together in one market, where all can benefit from the efficiencies and technological breakthroughs available in any sector at a given time. With an economy-wide program, we do not have to await the deployment of a single solution – such as carbon capture and sequestration, for example – to begin cost-effective reductions. The Pew Center’s research with leading companies demonstrates that there are numerous cost-effective and even cost-saving reductions available now from off-the-shelf technologies and fuels.⁵ This is especially true in reducing non-CO₂ emissions from industrial processes, increasing industrial and building energy efficiency, increasing the use of low-carbon fuels, and improving vehicle efficiency.⁶ In the medium and longer term, steeper reductions will be made possible through deployment of more advanced technologies, such as highly efficient vehicles, improved nuclear power plants, renewable energy combined with enhanced electricity storage capacity, and carbon capture and storage (CCS). An economy wide trading program will draw these technologies into the marketplace when they are ready, reducing the burden on any one sector, reducing the cost to the economy as a whole, and providing the broadest incentive possible for early emission reductions and technology innovation.

The America’s Climate Security Act uses other important measures to lower the cost of greenhouse gas reductions as well. The bill allows companies to offset some of their emissions with reductions from sources not covered by the program. Allowing the use of offsets motivates emission reductions throughout the economy from sources too small or dispersed to be specifically targeted by the program. Companies would also be allowed to use credits from the markets of other countries, thus making use of the global fungibility of greenhouse gases and expanding the scope of the program. Again, the larger the program, the lower the cost. We see opportunities to increase the use of these measures even beyond what is already in the bill.

A greenhouse gas cap-and-trade program will enhance U.S. competitiveness

The America's Climate Security Act will enhance U.S. competitiveness. Given what the peer-reviewed science tells us about climate change, we must move quickly from our current economy to one in which our greenhouse gas footprint shrinks even as our standard of living increases. That will require a profound worldwide technological revolution. The United States can and should be leading that revolution, and positioning itself to reap the economic benefits associated with decreased dependence on foreign oil and increased export potential of low carbon technology. We currently are not leading, however, and federal R&D subsidies alone will not change that. An appropriate price on greenhouse gas emissions, in combination with "technology push" policies, will.

Some have asserted a false dichotomy between the need for mandatory climate policy on the one hand and support for climate-friendly technology on the other. In fact, a well-designed mandatory climate policy that leverages the power of the market is essential for driving deployment of climate-friendly technology. When combined with subsidies for specific technologies, it is the most cost-effective method of driving deployment. Government would have to spend roughly ten times the amount in incentives alone in order to achieve the same environmental result as a price signal coupled with incentives.⁷ The America's Climate Security Act wisely combines mandatory greenhouse gas constraints and technology subsidies.

I would like to mention three other important issues before I conclude: how to deal with transportation, the use of allowance allocation as a tool, and the need for cost certainty and reliability.

Reducing emissions from the transportation sector

Transportation emissions account for roughly one-quarter of total U.S. emissions and are growing rapidly. Reversing that trend is essential, and can only be done by (1) increasing vehicle efficiency, (2) reducing vehicle miles traveled (VMT), and (3) reducing the carbon footprint of transportation fuels. The America's Climate Security Act would include transportation fuels in the cap-and-trade program, providing a price signal that would promote all three – especially if complemented by the other measures currently being proposed by the White House and Congress to increase vehicle efficiency and promote low carbon fuels, and with VMT-reduction measures, such as those in the Transportation Equity Act.⁸

Using the allocation process to aid transition

While the use of a well-designed cap-and-trade program ensures the lowest overall cost, many important sectors of the economy will face real transition costs that can and should be dealt with through the allowance allocation process. Allocation, contrary to the impression some stakeholders may be creating, has no effect on the greenhouse gas reductions mandated by the cap. Given this, we should use the allocation process, in the early years of the program, to address the legitimate transition costs some sectors will face as we move to a low-greenhouse gas economy.

Take coal-based electricity, for example. Coal is cheap and plentiful, and the United States is going to use it for the foreseeable future. Even if we did not, China and India would, so rapid development and deployment of climate-friendly technologies is essential. The best hope, at the moment, lies with carbon capture and sequestration, which most experts believe will take at least a decade to deploy throughout the power sector. While we need not wait until then to begin cost-effective reductions, it would be appropriate to allocate initially a significant amount of allowances to this sector to help with transition.⁹ The bill does this and also appropriately uses bonus allowances and a clean coal technology program funded out of auction proceeds to accelerate CCS deployment and speed and smooth the transition. There is a similar need for transition assistance in other sectors of the economy, most particularly energy-intensive industries that face significant foreign competition. As the need for transition assistance diminishes, the allocation of free allowances should phase out, which the bill does as well.

In addition, the bill includes provisions to mitigate any effect the program may have in increasing energy prices, especially for low- and middle-income Americans. A significant percentage of the proceeds from the auction have been dedicated to help these consumers and to help states assist their residents.¹⁰

Addressing price volatility and cost containment

Some stakeholders fear that, in the early years of the program, the market price of an allowance might be volatile and might swing too high too rapidly. Similarly, concerns have been raised about market liquidity, hoarding of allowances, and manipulations of the market.

In addition to the cap-and-trade itself, which provides for flexibility in meeting the environmental target, this legislation includes powerful cost containment mechanisms, including banking and borrowing. Allowing firms the ability to bank excess allowances or credits for future use helps firms manage the normal swings of the market. Allowing firms access to offset credits further lessens the danger of supply shortages, which in part create this price volatility. The bill also draws from the excellent work of Senators Warner, Landrieu, Graham and Lincoln and the Nicholas Institute at Duke University in establishing a Carbon Market Efficiency Board, which can gauge market activity and step in should unexpected problems arise. We look forward to working with the authors of this bill, Chairman Boxer, and others as the bill moves forward to refine measures to provide additional assurances of a smoothly functioning market, so long as they do not undermine the integrity of the greenhouse gas emissions cap.

Conclusion

In conclusion, the America's Climate Security Act of 2007 is an excellent foundation for an environmentally effective, cost-effective greenhouse gas reduction program. Continuing to move it through the legislative process will engage important stakeholders whose contributions will improve the bill. We applaud the committee's work to date, and urge the committee to report the bill.

¹ For more on the Pew Center, see www.pewclimate.org.

² For more on the science of climate change and the threat to our environment and economy, see the Pew Center's extensive body of reports available at www.pewclimate.org/global-warming-in-depth and the most recent findings of the Intergovernmental Panel on Climate Change at <http://www.ipcc.ch/>

³ For more on our experience with emissions trading programs and on the design of a greenhouse gas reduction program, see Ellerman, Denny A., *Emissions Trading in the U.S.: Experience, Lessons, and Considerations for Greenhouse Gases*, Pew Center on Global Climate Change, May 2003, and Nordhaus, R., *Designing a Greenhouse Gas Reduction Program for the U.S.*, Pew Center on Global Climate Change, May 2003.

⁴ The benefits of a wider trading program have been repeatedly demonstrated in all of the credible economic models - including the large number which participate in Stanford's Energy Modeling Forum. See www.stanford.edu/group/EMF/

⁵ For more on the Pew Center's work with companies on strategies to address climate changes, see http://www.pewclimate.org/companies_leading_the_way_belc

⁶ For example, 37 of the 45 companies in the Pew Center's Business Environmental Leadership Council have set voluntary targets, 22 have achieved those targets, and all have done so from a combination of efficiency improvements and process changes. DuPont, for example, has reduced its emissions 65% through a combination of energy efficiency and process change and has saved over \$2 billion. See also the proceedings from a workshop co-sponsored by the Pew Center on Global Climate Change and the National Commission on Energy Policy, *The 10-50 Solution: Technologies and Policies for a Low-Carbon Future*, found at http://www.pewclimate.org/global-warming-in-depth/workshops_and_conferences/tenfifty/proceedings.cfm and Reilly, John M., *Multi-gas Contributors to Global Climate Change: Climate Impacts and Mitigation Costs of Non-CO₂ Gases*, Pew Center on Global Climate Change, February 2003.

⁷ For more on the benefits of combining R&D and a carbon constraint, see Goulder, L., *Induced Technological Change and Climate Policy*, Pew Center on Global Climate Change, October 2004.

⁸ For more on policies to reduce emissions in the transportation sector, see Green, David L., *Reducing Greenhouse Gas Emissions from U.S. Transportation*, Pew Center on Global Climate Change, May 2003.

⁹ For more on the policy and technology options to deal with GHG emissions from coal see the Pew Center's new Coal Initiative series found at http://www.pewclimate.org/white_papers/coal_initiative

¹⁰ For more on on community adjustment and worker transition to climate change policy, see Greenwald, Judith M.; Roberts, Brandon; Reamer, Andrew D.; *Community Adjustment to Climate Change Policy*, Pew Center on Global Climate Change, December 2001, and Barrett, Jim, *Worker Transition and Global Climate Change*, Pew Center on Global Climate Change, December 2001.