

**Climate Change Legislation:  
How to Design Smart and Effective Legislation that  
Contains Cost and Minimizes the Volatility of  
Greenhouse Gas Allowance Prices**

**Testimony of  
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Mr. Chairman, Sen. Murkowski, Members of the Committee, thank you for the opportunity to testify on how we can best design climate legislation to contain costs and minimize greenhouse gas allowance price volatility. 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 an independent non-profit, non-partisan organization dedicated to advancing practical and effective solutions and policies to address global climate change. Our work is informed by our Business Environmental Leadership Council (BELC), a group of 44 major companies, most in the Fortune 500, that work with the Center to educate opinion leaders on climate change risks, challenges, and solutions. The Pew Center is also a founding member of the U. S. Climate Action Partnership (USCAP), a coalition of 25 leading businesses and five environmental organizations that have come together to call on the federal government to quickly enact strong national legislation to require significant reductions of greenhouse gas (GHG) emissions.

The Pew Center has long supported enactment of an economy-wide GHG cap-and-trade bill as a primary measure for reducing U.S. GHG emissions. A cap-and-trade program provides an excellent division of responsibilities: Government establishes the public policy objective – to reduce emissions by a certain amount in a given year – and businesses decide how to meet that objective as cost effectively as possible. The Pew Center believes, as does USCAP, that the most powerful way to contain costs is a robust cap-and-trade program. It is clear from economic

theory, from our experience with the U.S. acid rain program, and from a vast body of economic modeling analysis, that cap-and-trade will dramatically reduce the costs of reducing GHG emissions compared to traditional command-and-control regulatory approaches. Cap-and-trade minimizes cost because it provides industry the flexibility to reduce emissions at the lowest possible cost. It also provides a powerful incentive for industry to invent and commercialize the innovative clean energy technologies that will help us to achieve our climate protection goals.

That said, there are legitimate concerns that GHG allowance prices may get either too low or too high, or be excessively volatile. Too low a price could undermine long-term investments critical to moving to clean energy economy. Too high a price could cause economic harm. Too volatile a price could create risk and uncertainty for businesses.

Let us talk about each of these problems in turn.

### **Avoiding Excessively Low Prices**

While we would all like to keep the costs of reducing GHG emissions low, allowance prices that fall too low would discourage long-term capital investments in critical new clean energy technologies. In order to keep prices from going too low, we believe Congress should establish a minimum reserve price for the auction of allowances. We believe the reserve price that could accomplish this policy objective is approximately \$10 per ton at the outset of the program. This price should escalate over time at a rate greater than inflation and then flatten out, for example, by 2025. The reserve price should be reviewed over time to determine whether it should be adjusted, stay the same, or be phased out by the program's administrator.

### **Avoiding Excessively High Prices**

We know from a wide range of economic analyses that two factors are critical to avoid excessively high prices – the availability of significant quantities of domestic and international offsets and the availability of clean technologies, including carbon capture and storage (CCS) and nuclear power.

#### **1. The Critical Role of Offsets**

Recent economic modeling by the Energy Information Administration (EIA) suggests that barring the use of international offsets in a cap-and-trade program would increase allowance prices by 65 percent. (Modeling by the Environmental Protection Agency (EPA) similarly projects a price increase of 89 percent without international offsets.) These results are fully consistent with modeling being done by other organizations. Restricting offsets would lead to higher allowance prices and larger impacts on the overall economy.

We would recommend being restrictive on the quality of offsets, while being liberal on quantity. We want to make sure that offsets meet or exceed standards for what qualifies, while at the same time ensuring that there are adequate quantities available to support lower allowance prices. The potential for cost reductions is especially large from international offsets, where

there are huge opportunities for achieving low-cost emission reductions while assisting poor countries to develop in more sustainable ways.

To be an effective cost containment measure and an effective environmental policy tool, however, safeguards must be in place to ensure that all such reductions are environmentally additional, verifiable, permanent, measurable, and enforceable. We recommend the following:

- The offset program administrator (which could be, for example, the EPA, the U.S. Department of Agriculture (USDA), or a joint effort of the two agencies) should be directed to establish an offset program using a standards-based approach within 18 months of enactment. Under a standards-based approach, rules should identify specific categories of offsets that are eligible to qualify, along with clear procedures to achieve certification, and clear guidance to offset providers about how they can meet the standards. The eligible categories of offsets should be added to or modified over time based on experience, and standards should be periodically updated to ensure environmental integrity.
- The program administrator(s) should be directed to establish a transparent process for evaluating and approving high-quality international offsets. These offsets would be approved during the early years of the program, with a schedule to assure that over time developing countries are encouraged to move as rapidly as possible to curb their emissions through national or sector emission reduction commitments, while ensuring that the overall quantities of offsets and international allowances are adequate for cost containment.

We recommend the following approach for managing the amount of offsets used:

- Set an overall upper level limit on the use of offsets for compliance in any year of 1.5 billion metric tons domestic and 1.5 billion metric tons international offsets and specifying that initially 2 billion metric tons of offsets in total would be allowed.
- Allow the program administrator (e.g., EPA, USDA or a Carbon Market Board) to increase the upper limit of offsets to 3 billion metric tons per year, should additional cost containment be needed. In making this adjustment to the annual offset limit, the program administrator should take into account the number of banked offsets in the private sector, the degree to which the criteria for offset quality described above have been effectively implemented, the potential supply of offsets in the market and the size of the “strategic reserve pool” described later in this testimony.

While there is an inherent tension between striving to ensure adequate offset availability and offset quality, we believe it is in the best interest of all parties to ensure that a balance is reached. This balance will be easier to achieve if agencies start now – even in advance of legislation – to begin laying the groundwork for a GHG offset program. Early efforts of agency personnel could include assessing existing protocols and existing offset programs, starting work on new protocols, and identifying experts for advisory roles. With respect to international offsets, our international agencies could begin to work with developing countries to improve

their emission inventories, develop forestry plans and generally engage in reforms currently being discussed within the existing international offset mechanisms (i.e., the Kyoto Protocol's Clean Development Mechanism (CDM) and Joint Implementation (JI) programs).

Some have criticized these existing international offset mechanisms, especially CDM, and without a doubt, there has been and is room for improvement. Work is now underway to fix many of the problems that have been identified, including streamlining the very bureaucratic (and, some would argue, overly rigorous) process. We believe, for example, that movement by the CDM's Executive Board toward more standardized protocols and a more efficient project review process are good steps forward. U.S. engagement could only make this tool better and more efficient.

## 2. Accelerating Technology Development

Economic modeling studies also show that the timely availability and reasonable costs of key technologies, such as CCS and nuclear power, play an important role in determining the costs of climate protection. For example, EIA's modeling projects that when critical technology is not available, compliance costs could be 10 percent higher. EPA's modeling shows that when the use of nuclear power is constrained, compliance costs increase by 15 percent. Both demonstrate the need to accelerate technological innovation. We recommend doing this by combining a cap-and-trade program with increased funding and incentives for research, development and deployment (RD&D), since the price signal from a cap-and-trade program alone may not be adequate to drive the low-carbon innovation that we need. Numerous studies indicate that a combination of "market push" (such as RD&D) and "market pull" (such as cap-and-trade) are much more cost-effective in tandem than they are by themselves. For example, a Pew Center study written by Dr. Lawrence H. Goulder of Stanford University finds that it can be up to 10 times cheaper to push and pull technology in tandem than relying on either push or pull by itself. We strongly recommend measures to support development and deployment of CCS technology and clean vehicle technologies, to facilitate expansion of nuclear power and renewable technologies, and to create a new energy technology deployment administration.

### **Avoiding Price Volatility**

To avoid excessive allowance price volatility, we recommend that Congress provide as much "when" flexibility as possible in the cap-and-trade program. The legislation should allow banking of offsets and allowances, along with a multi-year compliance period and multi-year allocations. It is clear from past cap-and-trade programs that banking and multi-year compliance periods are extremely effective tools for smoothing out price fluctuations. Banking allows firms the ability to save their offsets and allowances for future use. It also promotes near-term reductions as firms seek to do more so they can save their allowances for a day when prices might be higher. The absence of banking between the initial "learning phase" of the EU's Emissions Trading Program (2005 – 2007) and the current five year phase was one of the main reasons the EU allowance prices crashed as the learning period came to a close at the end of 2007. While this limit on banking between the two periods was intended to keep problems from the learning phase from spilling over into the current phase, it also clearly illustrated how not

having banking can impact the price of allowances. Notably, today, the EU program does allow banking between the current phase and the next.

The EU also has effective multi-year compliance, as does the Regional Greenhouse Gas Initiative (RGGI) trading program that has been established by ten northeastern U.S. states. Giving firms a compliance obligation that covers more than one year at a time means that firms do not have to turn in their allowances and offsets yearly. The EU essentially has a two year compliance window, while RGGI has a three year window. Multi-year compliance adds “when” flexibility, which in-turn can help control price volatility.

With regard to multi-year allocation, EPA in the Acid Rain Program allocated 30 years worth of allowances at the beginning of the program. I do not believe that we need to allocate allowances that far into the future at the beginning of a climate program, but we certainly need to allocate enough (maybe 5 or 10 years worth) to provide sufficient market liquidity. Markets just getting started tend to have a more price volatility, in part because people are uncertain about whether there is going to be adequate liquidity (supply and demand) in the market. Having more allowances in circulation, even if they cannot be used for compliance before their vintage year, will help provide market liquidity, increase certainty and dampen price volatility.

We must, however, also understand that some price fluctuations are inevitable and, under some circumstances, even desirable. Changes in allowance prices would result from changes in supply and demand for allowances, which in turn could be affected by how fast or slow the economy grows, by shifts in the relative prices of fuels, and even by short-term fluctuations in the weather. One particular advantage of a cap-and-trade over a tax is that if the overall economy turns down, so will allowance prices, reducing the economic costs of compliance. Under a tax regime, further government intervention would be required to make similar adjustments.

### **Insurance Against Higher Prices**

The smart design of a domestic cap-and-trade regime, including the mechanisms described above (offsets, banking, multi-year compliance and multi-year allocation), along with proper incentives to spur technological change, should go a long way to minimizing the economic costs of climate protection. Nonetheless, given the uncertainties that remain (rate and costs of new technologies, availability of offsets, the extent that increased energy efficiency can be mobilized), and especially given the large role energy plays in our economy, it is also critical to include additional safeguards to insure that GHG allowance prices will not be excessively high.

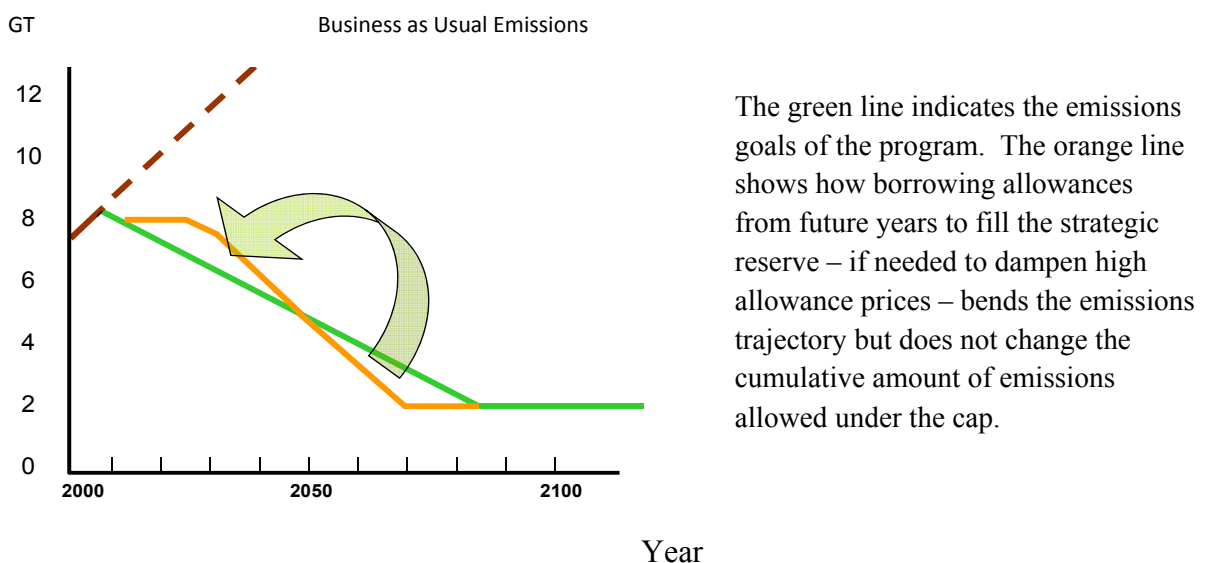
If allowance prices spike to a high level and stay there, one obvious response would be simply to make additional allowances available, thus bringing down the price. The fundamental issue is how to do this without breaking the cap on GHG emissions and therefore undermining the environmental integrity of the program. USCAP recommends an approach that meets both of these objectives – it makes additional allowances available to drive down excessive prices, but does so by creating a pool of allowances that does not break the long-term cap. This would be done by creating a “strategic reserve pool” that would be filled with a combination of offsets and

allowances borrowed from future years, both of which would insure that the integrity of the cap is maintained over time.

The offsets in the pool would include both domestic and international offsets that meet high quality standards and would be certified by the U.S. government. We would envision that the pool would also include “forest carbon tons,” offsets generated from avoided tropical deforestation. The allowances in the pool would be borrowed by the program administrator from future compliance periods. If the borrowed allowances were not used, the emissions cap over time would stay fixed; if they were used, future emission reduction targets would be made more stringent.

To serve as an insurance mechanism against sustained high prices, offsets and allowances in the strategic reserve pool would be released into the market when allowance prices exceed a specific threshold price. This threshold price should be set at a level that is low enough to prevent undue economic harm from excessively high allowance prices but that is high enough to encourage technology transformation, including the deployment of CCS and nuclear power. Figure 1 illustrates how the strategic reserve would essentially bend the emissions cap over time, even while it maintains the program’s environmental objectives.

Figure 1: Bending, rather than breaking, the emissions cap.



The USCAP Blueprint recommends that a Carbon Market Board decide the threshold price, but USCAP is currently discussing the possibility of recommending a specified threshold price in the legislation, instead. The Blueprint also contains details on how the offsets and allowances would be brought into the strategic reserve, how the strategic reserve would be replenished, what rules would be established for auctioning off strategic reserve allowances, and what role a program administrator, like the Carbon Market Board, could play.

I want to stress that the strategic reserve would perform much the same function as a price cap (also sometimes called a “safety valve”), but without undermining the environmental integrity of the program. It would provide additional supply into the market to reduce allowance prices; increase certainty about market price; function automatically by means of regularly scheduled auctions; and be adjusted to accommodate economic conditions. Neither a price cap nor a strategic reserve would provide perfect cost certainty, but with the strategic reserve the environmental outcome would be assured.

## **Conclusion**

Climate legislation is critical to both our future economic prosperity and our environmental well-being. I am convinced that if we draw from experience to enact measures that reward innovation and limit costs, we will prove once again that no challenge is beyond our reach.

Thank you. I look forward to your questions.