

Market-Based GHG Emission Trading 2007 Discussion Draft

The 2005 Sense of the Senate resolution on climate change emphasized that the risks associated with a changing climate justify the adoption of mandatory limits on greenhouse gas (GHG) emissions and that an important first step towards addressing climate change can be taken at an acceptable cost. In that spirit, this discussion draft outlines a legislative proposal that would begin with a modest emissions-reduction target and strengthen gradually over time. The approach is consistent with that of the successful Acid Rain Program in that it sets a “forward price” on emissions to provide both the flexibility and incentive needed to accelerate technology development and deployment. The long-term price signal that a forward price creates would be critical for giving industry certainty and for focusing its decision-making on lower carbon options. However, the price signal initially imposed under any domestic regime would not likely be strong enough to motivate the development and deployment of the key technologies that will ultimately be needed to stop and reverse GHG emissions. Thus, in order to speed technology deployment, the discussion draft includes provisions to create incentives for new technology and provides significant new R&D funding for low- and no-carbon technologies.

Key Features and Approaches

Target, Timing and Price Cap

- **Emissions Target:** The target is designed to slow ghg emissions growth before reducing those emissions. This approach is intended to avoid abrupt harm to the economy by providing time to transition to lower carbon technologies. Over the first decade, emissions are slowed by roughly 70% and are stabilized at roughly 2014 levels before they begin to reverse. Instead of using a historic baseline, such as capping emissions at year 2010 levels, the targets reflect a reduction in carbon intensity. Congress is expected to review the targets every five years. This proposal establishes a policy framework for achieving a long-term trajectory of emissions reductions in what would necessarily be a phased process.
- **Safety Valve:** The safety-valve is designed to ensure that the costs of the program do not exceed expectations. The government would make additional GHG allowances available for sale at \$7 per allowance, rising at an annual rate of 5% above the rate of inflation. If technology advances effectively, the costs will remain low and the safety-valve will never be triggered. If technology develops less quickly, corporations may purchase permits from the safety-valve. In this instance, the program will achieve less emission reductions, but costs will not increase. By making additional allowances available at a known price, the proposal effectively caps the costs imposed on the U.S. economy and on consumers.

- **Changes from 2005 Bingaman Proposal:** Based on numerous comments received during the Committee’s discussion of this issue, implementation is delayed 2 years, from 2010 to 2012. This change will allow the current voluntary Administration program to run its full course before any new policy takes effect and will provide sufficient time to get the trading program in place. To compensate for the delay, the proposed bill accelerates the rate by which the cost cap increases, from 5% nominal to 5% above inflation. The bill also changes the targeted decline in emissions intensity from 2.4% per year to 2.6% per year in the first allocation period, and from 2.8% per year to 3.0% per year in the second period, to adjust for greater “business-as-usual” reductions in emissions intensity stemming from higher projected energy prices.

Scope and Point of Regulation

- **Scope:** The program is economy-wide.
- **Point of Regulation:** Carbon dioxide (CO₂) emissions from fossil fuels are regulated upstream at the point of fossil fuel production, and regulated entities are required to submit allowances equal to the carbon content of fuels produced or processed at their facilities. Placing the point-of-regulation relatively higher up in the progression from energy production to consumption reduces the number of sources that must be regulated and more efficiently captures all sources of emissions and all emissions reduction opportunities throughout the economy. A hybrid scheme, whereby some sectors are addressed upstream and other sectors are addressed downstream would also be feasible.
- **Regulated Entities:** Entities required to submit allowances include:
 - Petroleum refineries
 - Natural gas processing facilities
 - Coal mines
 - Fossil fuel importers (for petroleum, this includes refined products only) and importers of gases with high-global warming potential (GWP)
 - Non-CO₂ greenhouse gases: coal mine methane; N₂O from adipic acid production; high-GWP gases

Allowance Distribution and Offsets

- **Allowance Distribution Approach:** Under the proposal, allowance distribution transitions from an approach that fairly compensates sectors for past investments in carbon-intensive technologies to an approach that creates incentives for energy efficiency and lower carbon technologies. This is accomplished by gradually reducing the quantity of allowances given away without cost while gradually increasing the quantity of allowances auctioned. For the first five years of the program, the discussion draft allocates a majority of allowances (55%) freely to private sector entities and auctions 10% of the allowances. Free allocations to private sector entities would be phased out over 30 years, and the share of allowances auctioned would gradually increase to 65% over the same time period.

- **Allocation to Private Sector Entities:** Under the proposal, allowances are not allocated solely to regulated entities, nor are they allocated solely on historic emissions, fuel use, or output to different sectors. Permits are allocated in order to spur investment in innovative technology and protect U.S. competitiveness and consumers. Economic sectors are also affected in different ways by a mandatory climate program and an equitable allocation approach requires that these differences be addressed. For example:
 - **Primary Fuel Producers:** In the proposal, 7% of the total pool of allowances available under the emissions target would be allocated to coal producers. Oil and gas producers would receive 4% and 2%, respectively, of that total allowance pool.
 - **Downstream Electric Generators:** The draft allocates 30% of the total pool of allowances available under the emissions target (equal to roughly 75% of electricity sector emissions) to fossil-fuel fired generation.
 - **Allocations for Carbon-Intensive Industries:** Energy-intensive industries, such as steel, aluminum, chemicals, pulp and paper, and cement, would not be regulated in an upstream trading system. However, the proposal allocates 10% of the total annual allocation towards carbon-intensive industries to help protect the competitiveness of these industries.
- **Auction Proceeds for Technology R&D** Auction revenues would be used to accelerate the commercialization of low carbon. Virtually all experts agree that significant technology advancements will be needed to adequately and affordably address climate change over the next century. Reserving proceeds from the auction for energy research, development, and deployment would provide the revenue to support significant new development and deployment of the breakthrough technologies needed to address climate change. Additional auction proceeds would be used to reduce the deficit.
- **Distribution by States or the President:** A significant portion of allowances (30%) is reserved to focus on additional policy goals, such as addressing economic impacts, creating incentives for energy efficiency or other “climate friendly” technologies, and enhancing energy security. The proposal presents two options for distributing these allowances: either States would distribute the allowances or the allowances would be distributed according to a process designated by the President.
- **Agricultural Sequestration:** The proposal creates a significant new pilot program to encourage and evaluate the benefits of agricultural soil sequestration. 5% of allowances would be reserved for sequestration projects undertaken by farmers. The proposal recognizes that sequestration of carbon in agricultural soils is a potentially important option for addressing greenhouse gases and could eventually create a significant new source of revenue for farmers. However, there is relatively little long-term experience with monitoring, reporting and verifying agricultural sequestration. Providing agricultural sequestration projects with allowances *from within the pool of allowances established under the program target* would allow the nation to benefit from large-scale

demonstration projects aimed at resolving some of these issues, while still ensuring that the program achieves its intended environmental goals. Moreover, these incentives for sequestration will achieve additional emission reductions *over and above* those expected to be achieved by the emissions target alone.

- **Early Reduction Credits:** 1% of the total quantity of allowances allocated under the emissions target for each of the first 10 years would be set aside for an early reduction credit program that would award allowances to companies or other organizations that reduced emissions prior to the implementation of a mandatory program. These include reductions reported through DOE/EIA's 1605b program, and reductions made through other government-sponsored and private programs identified by the Secretary of Energy.
- **Offset Projects:** Offsets would be provided for cost-effective emissions reductions not otherwise covered by the trading program (e.g., capturing and using methane from landfills). The proposal would establish a tiered system whereby the most easily verified project types could use a streamlined procedure to apply for allowances. This approach recognizes that offset projects can provide low-cost emission reductions and create incentives for new technologies and approaches. The proposed approach would encourage investor certainty and lower transaction costs while ensuring that offset projects have environmental integrity.

International Linkages

- **Review of Actions by Trade Partners and Large Emitters:** Planned increases in the stringency of the target and in the safety valve price could be halted or modified if, during a review process that would occur every five years (Five-Year Review), it were determined that major trade partners and other large emitters were not taking appropriate actions to address greenhouse gases. The proposal acknowledges that the U.S. should show leadership by taking action on greenhouse gases. However, after the initial stage, further steps would be contingent on a review of progress by other nations in addressing their GHG emissions.
- **Consider Implications of Linking to Other Trading Programs:** The Five-Year Review Process also provides an opportunity to consider linking the U.S. program to other countries' domestic GHG reduction programs. Differences in the design of domestic trading programs (e.g., different target levels, different monitoring and verification systems) might complicate efforts to link programs internationally, especially in the near-term. Thus, rather than providing a provision for formal linkage now, the draft leaves further consideration of these issues to the Five-Year Review process.