Comparative Analysis of Climate Change Bills in the U.S. Senate

by Kenneth R. Richards and Stephanie Hayes Richards

Kenneth R. Richards is Associate Professor, School of Public and Environmental Affairs, and Affiliated Associate Professor, Maurer School of Law, Indiana University. Stephanie Hayes Richards is managing principal of Bloomington Energy and Environmental Intelligence, LLC.

The U.S. current financial conditions notwithstanding, climate change remains at the forefront of our national policy agenda. The question remains, however, whether the U.S. Congress will take decisive action on the issue before the U.S. Environmental Protection Agency (EPA) issues regulations under the Clean Air Act (CAA).[1]

On February 17, 2009, EPA began its reconsideration of whether carbon dioxide (CO_2) should be regulated as a criteria pollutant under the CAA. On April 17, EPA issued a proposed endangerment finding for greenhouse gases (GHGs) and will begin a period of public comment before beginning the regulation process.

As an alternative, President Barack Obama has asked the 111th Congress to send him cap-and-trade legislation that limits carbon emissions. On March 31, Reps. Henry Waxman (D-Ca.) and Edward Markey (D-Mass.) issued a discussion draft of a comprehensive climate change and energy bill.

This is not the first time that Congress has considered comprehensive climate legislation. During the 110th Congress, three climate change bills were considered in the U.S. Senate: the Bingaman-Specter Bill (S. 1766),[2] the Lieberman-Warner Bill (S. 2191),[3] and the Manager's Amendment to the Lieberman-Warner Bill (S. 3036).[4] In the midst of political disagreements and the urgency of the U.S. economic crisis, the Senate was unable to pass a climate change bill during the 110th Congress. However, a comparison of the bills and consideration of their timing suggests that the Senate was evolving toward an increasingly sophisticated and cost-effective approach to climate legislation.

Lawmakers can learn much from a careful analysis of previous climate legislation, particularly the key elements of broad climate legislation, the policy principles that should guide development of the legislation, and some pitfalls to avoid in the process.

This Article provides a summary of policy recommendations identified from an examination of the major Senate climate change bills. A more detailed analysis that provides additional insight into the most important differences among the Lieberman-Warner Bill, the Bingaman-Specter Bill, and the Manager's Amendment is available for online viewing.[5]

Working through the lens of sound policy principles, the more detailed report provides a comprehensive review of the three primary Senate bills in the 110th Congress. The report begins with a brief review of the criteria and fundamental principles used to evaluate policy options. Then, it works through the major elements of the bill with a side-by-side comparison, emphasizing the strengths and weaknesses of each bill and the remaining need for improvement.

The results are pleasantly surprising. While there remains substantial room for improvement from a policy efficiency perspective, the Manager's Amendment has incorporated many sound policy principles. Some of the improvements include:

- An environmental safety valve that places a minimum price below which the government will not sell allowances at auction;
- A requirement that any estimation methodologies adopted under the offsets lead to independently reproducible results when tested by teams of experts;
- Assignment of a portion of the auction revenues to the Deficit Reduction Fund;[6]
- Reduction in the number of provisions that interfere with the price signals that form the very basis of the cap-and-trade system, particularly by potentially reducing the use of subsidies to low-income consumers and reducing the magnitude of the carbon capture and storage (CCS) bonus allowances;

1. 42 U.S.C. §§7401-7671q, ELR Stat. CAA §§101-618.
2. S. 1766, 110th Cong. (2007).
3. S. 2191, 110th Cong. (2007).
4. S. 3036, 110th Cong. (2007). Although S. 3036 is also known as the Lieberman-Warner Bill, for purposes of clarity, it will hereinafter be referred to as the Manager's Amendment to distinguish it from S. 2191.
5. *See* Social Science Research Network, Kenneth R. Richards and Stephanie Richards, *The Evolution and Anatomy of Recent Climate Change Bills in the U.S. Senate: Critique and Recommendations*, *at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1368903.
6. S. 3036 §1401.

- Improved integrity of the emissions targets by elimination of the nearly four billion tons of allowances that comprised the initial balance in the account for CCS bonuses under the Lieberman-Warner Bill;
- Reduced technological lock-in, particularly by decreasing the number of allowances designated for CCS and auction revenues earmarked for specific technology programs;
- Acknowledgement of the critical relation between the pending climate change legislation and the CAA; and
- Smoothing the reductions in national emissions required in the first year by the initial Lieberman-Warner Bill.

The underlying question is whether the bills are likely to achieve their goals in the most cost-effective manner. The Manager's Amendment, is more than an amended version of the initial Lieberman-Warner Bill. The Manager's Amendment combines features of both the Lieberman-Warner and Bingaman-Specter Bills, and addresses aspects of climate change legislation that were neglected by both previous bills.

Moreover, there are signs that the evolution of the bills has been generally positive. The changes embodied in the Manager's Amendment, taken as a whole, represent important improvements over either of the predecessor bills. For example, the inclusion of the Deficit Reduction Fund demonstrates an inclination to follow one of economists' prescriptions to auction allowances and use the revenues to support the public finance system. The Bill also eliminates the initial Bonus Allowance balance and fixes the borrowing provisions of the Lieberman-Warner Bill, modifies the Technological Accelerator Payment ("safety valve") scheme of the Bingaman-Specter Bill, and adds a kind of environmental safety valve.

However, there is substantial room for improvement in the Manager's Amendment. Based on the analysis above, there are several principles that Congress should observe as it develops the next generation of climate legislation.

I. Address Efficiency and Politics

The analysis in the full report is anchored in good policy principles, motivated by an efficiency-seeking orientation. The philosophy here is that whatever goals Congress sets for the country, those goals should be pursued in the most cost-effective manner. As such, it is likely that some of the recommendations are not politically feasible. Ultimately, it is up to Congress to determine the extent to which efficiency must be compromised to accommodate political reality.

II. Clarify the Role of the CAA

Unlike its predecessors, the Manager's Amendment at least acknowledges the important relation between new climate change legislation and the CAA. Given the U.S. Supreme Court ruling in *Massachusetts v. U.S. Environmental Protection Agency (EPA)*,[7] it is possible that EPA could be petitioned, and even be forced by the courts, into a dual regulatory system that would be both burdensome and counterproductive. Congress should clarify that the new legislation is intended to supersede the CAA in matters of GHG emissions.

III. Allow the Price Signal to Work

One of the primary advantages of cap-and-trade systems, like those employed in these three bills, is that they use prices to distribute CO_2 emissions allowances to their highest-valued users—they promote economic efficiency even as they protect the environment. Consequently, Congress should be careful to avoid provisions that might compromise the power of the price signal. While the Manager's Amendment may have moderated some of the provisions that would compromise the price signal, there is still room for improvement. There are three particular aspects of allowance allocation in the Manager's Amendment that should be addressed.

First, the new Bill would allocate allowances to the electric power sector without discriminating between regulated and restructured states. Under the ratemaking procedures in the regulated states, it is likely that utilities will be unable to include in their rate base the value of the allowances that have been freely allocated to them under these programs. As such, rates in regulated states will not reflect the real cost of electricity. Conversely, consumers in states that have restructured are likely to pay more for electricity, something closer to real cost. In those states, the stockholder will be the primary beneficiaries of the allowances allocated to the electric power sector.

Second, the Manager's Amendment continues the practice of awarding bonus allowances for CCS, albeit at a lower rate. The purpose of the CCS program incentives is to encourage firms to make investments in the research and development that will be needed to deploy the technology. By giving bonuses for the amount of CCS, the program runs the potential of encouraging firms to process more carbon than is efficient. It also runs the risk of programmatic lock-in to a particular technology. Given the goals of the program, it would be more consistent for the government to invest directly in research, development, and information programs that would reduce the cost of engaging in CCS. The Manager's Amendment does, in fact, provide additional funding to develop the technology in the near term.

Finally, Congress should avoid the temptation to influence entry and exit into manufacturing and electricity generation sectors. The new bill subsidizes new entrants to the electric power and manufacturing sectors by establishing an annual allocation of allowances for those entities. This subsidy should be eliminated, as it could encourage inefficient new entities that are not bearing the full cost of their operations.

Similarly, Congress should avoid the mistaken practice of insisting that any entities that shut down must return the allowances allocated to them. This could potentially induce

7. 127 S. Ct. 1438, 37 ELR 20075 (2007).

inefficient firms to remain in business even though their best option is to liquidate their assets to make way for more efficient firms.

IV. Auction Allowances and Direct the Revenues to the General Fund

The Manager's Amendment has at least acknowledged the benefits of auctioning allowances and assigning them to the U.S. Treasury's General Fund. Many of the regulatory design problems—price distortions, unanticipated distributional effects, technological and programmatic lock-in—are ameliorated or eliminated by adopting a more principled approach: auction all allowances and assign all revenues to the federal government's General Fund. The programs and projects supported by the Bill could then compete on an even footing with other important public investments and goals, including the reduction of highly distortionary taxes.

All three bills allocate, rather than auction, a substantial portion of allowances. Some degree of allocation may be necessary to ensure passage of cap-and-trade legislation, but allocation should be treated with caution, because it can interfere with price signals and forfeits potential gains from lowering inefficient taxes.

One objection that has been raised to the auction of allowances is that it reduces the ability to help the states that will experience the greatest costs of compliance, particularly those that produce and consume the most coal. However, it is also possible to direct the proceeds of the auction to state treasuries, thereby offsetting distortionary state taxes. This would preserve some of the revenue recycling function of the auction while increasing the political palatability.

V. If Allocation and Earmarking Are Unavoidable, Keep It Simple

The Manager's Amendment introduces an unnecessarily complicated scheme for supporting state-level programs and promoting technology development and adaptation. All three of those categories are supported through both direct allocation and earmarking of auction revenue. While neither of these approaches is favored on policy grounds, if they must be used, Congress should choose one or the other to promote administrative simplicity.

VI. Develop a Clearer Approach for Offsets

The Bill does not cover—indeed, no bill could cover—all activities that affect GHG emissions. As such, the Bill stipulates provisions to encourage activities with expected positive effects on emissions. The Bill uses two primary sources for rewards: allocating allowances from the annual schedule (on-budget rewards); and creating new allowances in addition to the amounts in the annual schedule (off-budget offsets).

It is important that Congress protect against compromising the environmental integrity of whatever emissions cap it adopts. To this end, it is necessary that there be real reductions in emissions or increases in sequestration equal to or exceeding any new allowances created in an offset program. The Manager's Amendment not only directs the Administration to develop rules to assure the integrity of the proposed offset systems, but requires that the methods employed for estimation produce results that are consistently reproducible by independent teams of evaluators. This is a step in the right direction.

Unfortunately, there remains ambiguity in the Manager's Amendment regarding the role of the new estimation methods. At no point is the role of the offset estimation methods clearly stated. Congress should clarify the role that the offset estimation methods play. Moreover, international offset projects should be subject to the same set of rules, including rigorous estimation methods leading to independently reproducible results, as the domestic offset program.

In general, the best arrangement is one in which offset projects are encouraged and the estimation methods used to evaluate the projects are highly credible and low cost. Unfortunately, this outcome seems unlikely, at least for some types of projects. To protect against compromising the environmental integrity of the program, Congress can adopt two options. The first is to limit the amount of allowances that can be issued under the offset provisions. The second is to reward only these projects with on-budget allowances. The first approach may compromise the cost-effectiveness of the program by limiting the number of truly effective projects. The second, by allocating allowances to an offset category, runs counter to the previous prescription to auction all allowances and recycle the revenue into the General Fund or related public finance purpose such as tax reductions.

This creates a tension among the goals of the program that Congress will have to resolve. One possibility is to use off-budget credits for those projects that are most likely to meet the rigorous standards discussed above and to pay for the inputs to projects where estimation is more likely to be a problem.

VII. Address Potential Problems With Cost Containment Provisions

There is a high degree of uncertainty about the future costs of abating CO_2 emissions. Cost containment provisions are intended to address reasonable concerns about runaway costs, but they could also undermine the program's environmental integrity by creating allowances in excess of stated emissions reduction goals. The Manager's Amendment addresses this trade off by restricting its cost containment auctions to the sale of allowances taken from future years' budgets only. This avoids flooding the market with off-budget allowances, but introduces questions about intergenerational equity. The final Bill should consider this trade off.

If Congress retains a cost containment auction similar to the one employed in the Manager's Amendment, the allowances should be subject to a simple auction each year without a price cap. This facilitates the movement of the allowances to their highest value users. Under the scheme in the Manager's Amendment, it is possible to develop excess demand.

VIII. Develop Rules to Protect Against Borrower Default

Another provision of the Manager's Amendment allows facilities to borrow allowances from future years. The Manager's Amendment provides more clarity regarding this provision than the Lieberman-Warner Bill did, but the interest rate applied to these transactions should be further clarified so that borrowers can accurately estimate the costs of borrowing. The final Bill should also address how the program will protect against borrowers who are likely to default.

IX. For Broad Coverage and Lower Administration Costs, Regulate Upstream

Focusing the cap-and-trade provisions further upstream limits the number of covered entities, even as it provides broader coverage, more opportunities for low-cost emissions abatement, and simpler administration. Wisely, the Manager's Amendment has adopted a largely upstream approach to covered entities, focusing on oil refineries, natural gas processors, and coal-fueled electric utility plants. The breadth of coverage could be further improved by covering coal mines, rather than electric utilities.

X. Think Broadly

One final point emerges, not from the discussion above, but rather from an observation about what is missing entirely. Like its predecessors, the Manager's Amendment continues to reflect a technology-oriented, supply-side emphasis on mitigation of GHG emissions. Very little is offered in the way of understanding and changing consumer demands for polluting goods and services. In some cases, the Bill is antithetical to reducing energy-related emissions. Moreover, the Bill does not place sufficient emphasis on the adaptation to climate change that will be required even if the United States and other nations mount an aggressive mitigation program.

To be truly comprehensive, Congress' Bill should not only try to encourage "technological fixes," such as increased energy efficiency and alternative fuels, but incorporate substantial programs for public education, research in the psychology of consumption and satisfaction, and adaptation as well.