

The bumpy road to federal CO₂ caps

There are often five stages to enacting major legislative reforms: Initial enthusiasm, a sobering recognition of the complex issues to be solved, excruciating negotiations over those issues, hand-to-hand combat with supporters of the status quo, and resignation that the final product only deals with part of the problem. Congress has reached Stage 2 as it considers a cap-and-trade system for reducing carbon emissions. Now the real work begins.

By Craig Gannett and Dan Adamson, Davis Wright Tremaine

In January and February, members of the U.S. Congress introduced with great fanfare a dozen comprehensive carbon cap-and-trade bills that compete with each other to impose the most stringent standards possible. Soon afterward, Speaker of the House Nancy Pelosi called for consideration of a bill by the full House by this summer.

Then reality began to set in. House Commerce Committee Chairman John Dingell said his committee could not possibly refine such a complex piece of legislation so quickly. After considerable skirmishing, including the creation of a new House committee to advise on climate change, Pelosi scrubbed her timetable and turned her attention to less-complicated, less-contentious energy legislation. Senate Majority Leader Harry Reid has followed suit, and the prospects for enacting cap-and-trade legislation before a new president takes office in January 2009 now appear scant.

of carbon. Although some respected economists and industry leaders favor a carbon tax for its simplicity and ease of administration, the success of the acid rain program and the political charge of the word "tax" make the cap-and-trade approach a better bet.

But those are only two issues, and many more of equal importance remain. Following are eight raised by carbon bills introduced in the Senate. Most are sure to be the focus of debate in the House as well.

How much GHG reduction is necessary, and how soon?

From a political perspective, the question of whether climate change is real and caused by human activity has been answered (yes). Unless and until dramatic new evidence comes to light, federal legislators will assume that the future well-being of Americans, and everyone else, depends on slowing rises in

In light of these questions, there is substantial variation in the aggressiveness of the bills that have been introduced. In the Senate, the most aggressive bill, S. 309 (introduced by Senators Sanders, Boxer, and others) explicitly requires that GHG emissions be reduced by 2050 to 80% below 1990 levels. At the other end of the spectrum, a draft bill being circulated by Senators Bingaman and Specter uses a more complex regulatory mechanism that might not reduce GHG emissions below 1990 levels by 2050. According to the Department of Energy's Energy Information Administration (EIA), the Bingaman-Specter draft bill would reduce carbon emissions by about 14% below 2004 levels by 2030.

Other Senate bills plot a course somewhere between these two poles. The estimated effect of S. 280 (introduced by Senators McCain, Lieberman, and others) would be a reduction in emissions of about 65% below 1990 levels by 2050. Meanwhile, S. 317 (introduced by Senators Feinstein and Carper) would reduce emissions by about 40% below 1990 levels by 2050. By comparison, the Kyoto Protocol was intended to reduce GHG emissions 7% below 1990 levels by 2012. In other words, all but the most modest bill would far outstrip the reduction goals of the Kyoto Protocol, but over a much longer period of time.

What would enacting carbon caps cost? The EIA estimates that the Bingaman-Specter bill would increase 2030 electricity prices by less than 11% over forecasted levels and would reduce GDP by 0.1%, or \$232 billion, between 2009 and 2030. The EIA has not yet run the numbers on the other bills, but it's likely that they would have a bigger cost impact than the Bingaman-Specter bill. For example, the EIA estimated that the version of the bill that McCain and Lieberman introduced in 2003, which is similar to their current bill, would raise 2025 electricity prices 46% over currently forecasted levels.

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Consequently, congressional Democrats now have a choice. They can try to move legislation through both houses of Congress within the next 18 months and then try to make political hay out of an almost certain veto by President Bush. Or, they can spend the next 18 months developing a bill to be sent to the next president. All indications are that they will follow the latter course.

Two important issues may already have been resolved. First, any greenhouse gas (GHG) reduction program almost certainly will be mandatory, not voluntary. Second, it appears likely that regulation of the electric power sector's CO₂ emissions will be via a carbon cap-and-trade system—similar to the one used to address acid rain by reducing SO₂—rather than by a tax on the production

atmospheric concentrations of GHGs. Any doubts that remain pertain to how serious the problem is, how much time we have to solve it, and therefore how radical the solution must be. Members of Congress are increasingly sure that there's no time to lose and that the actions to be taken must be fairly aggressive.

Some of the key questions are:

- How much of an increase in energy costs can the economy tolerate?
- What are the economic consequences of unchecked climate change?
- Is there an environmental "tipping point," a point at which the effects of climate change either dramatically accelerate and/or become irreversible?

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Which sectors of the economy should be regulated?

Once Congress determines how much and how soon GHG emissions should be reduced, the next question is the scope of the regulation necessary to achieve those goals. The obvious targets are:

- Electricity production
- Transportation
- Industrial/manufacturing
- Commercial buildings and activities
- Residential buildings and activities
- Agriculture

Another question is how to share the pain. For example, the same level of GHG reduction could be achieved by imposing a cap-and-trade program on power plants, by raising Corporate Average Fuel Economy (CAFE) standards, or by mandating more-efficient residential electrical appliances.

The sectors covered by the legislation, and the demands placed on them, will affect not only the fairness but also the prospects for success of the overall strategy. For example, imposing stringent GHG standards on power plants without raising CAFE standards would penalize electric utilities more than car makers and overlook the low-hanging fruit that could be gathered by increasing vehicle fuel efficiency.

Among the pending bills, the Bingaman-Specter draft and the McCain-Lieberman and Sanders-Boxer bills are economywide in scope. Although the Feinstein-Carper bill targets only power generation, Senator Feinstein has pledged to introduce additional bills to cover the other sectors. Understandably, utility industry lobbyists argue that all sectors should be included and that each should bear a burden commensurate with its contribution to global climate change.

Where in the energy supply chain should GHG emissions be regulated?

One camp would regulate emissions upstream in the energy supply chain—for example, at refineries and mine mouths. Using this approach, producers of fossil fuels would be responsible for submitting emission allowances to the regulatory agency. Others favor a more downstream point of regulation, such as at the level of electric generation facilities.

The main advantage of the upstream approach is that it facilitates regulation of all sectors of the economy by imposing caps on a relatively small number of entities. On the other hand, advocates of downstream regulation worry that placing the regulatory obligation upstream could obscure the price signals

that will be needed to change the behaviors that cause GHG emissions.

How should the burden of GHG reduction be shared within the electricity sector?

The next question involves how to distribute the burden of CO₂ reduction within each sector. For example, for the transportation sector, should a mandated increase in fuel efficiency be the same for heavy trucks as for hybrid cars?

For the power generation sector, this is an extremely important question. Utilities that rely heavily on zero-emission hydroelectric and/or nuclear power have fewer opportunities to cost-effectively reduce GHG emissions than utilities that rely heavily on old, inefficient coal-fired plants that continue to operate only because they were "grandfathered" under the Clean Air Act. If both groups are required to reduce their GHG emissions by the same percentage, the former would bear a burden disproportionate to their contribution to the problem. From a policy perspective, utilities that have successfully harnessed clean energy resources should be rewarded, or at least not punished, for doing so.

The fairness of the approach will depend on the method used to allocate initial GHG emissions allowances. Allowances could be distributed based on either the amount of electricity produced or on the amount of GHGs emitted by a generator in a recent year. If power production is the basis, a low-emission utility would have excess allowances until the cap declined to the point where it matched the level of that utility's GHG emissions. This would mitigate the cost of GHG regulation for low-emission utilities and require high-emission utilities to take the lead in CO₂ reduction.

If, on the other hand, allocations are based on the amount of GHGs emitted, low-emission utilities would receive few allowances and coal-heavy utilities would receive enough allowances to cover most of their inefficient, high-emission plants. As the cap declined in succeeding years, the pressure to reduce emissions would be the same on both the high-emission and the low-emission utilities, even though the high-emission utilities are a bigger part of the problem and have much bigger and more cost-effective opportunities to reduce their emissions.

Consider a utility that relies heavily on old and inefficient coal-fired plants. Having received many initial allowances for having been a big carbon producer, that utility could free up some of those credits for sale by making its units more efficient or by replacing them with newer gas-fired units, which

emit far less CO₂. By comparison, a low-emission utility with less fossil fuel-fired capacity would both receive fewer allowances and have fewer opportunities to free them up for sale.

As a result, the low-emission utility might have to purchase, at considerable cost, allowances from the high-emission utility. This could lead to a perverse outcome: Complying with GHG limits would be far more costly for low-emission utilities than for big CO₂ producers, penalizing the former group and rewarding the latter. For this reason, it is essential that the initial allocation of GHG allowances to generators be based on the amount of electricity they produce.

Of the bills introduced thus far, only the Feinstein-Carper bill allocates initial allowances based on electricity produced. The Bingaman-Specter draft bill allocates allowances within the power sector on the basis of GHG emissions, and the McCain-Lieberman bill simply delegates allocation authority to the EPA administrator.

Should there be a "safety valve" to provide cost certainty?

One key feature of the Bingaman-Specter draft bill is that it contains a safety valve that may be exercised should the price of allow-

ances become "too high" for any reason. Following the recommendation of the National Commission on Energy Policy, the draft bill allows a regulated entity to purchase allowances from the federal government for \$7 per ton in the first year, with the price rising 5% in each subsequent year.

This safety valve would give regulated utilities cost certainty, no matter how haywire the allowance market becomes or how technologically difficult complying with the declining GHG cap proves. In other words, it assures them of the availability of credits at a relatively modest price.

What compliance options should exist?

A generator would have two obvious ways to comply with a carbon cap: reduce the GHG emissions from its facilities after enactment of the cap or purchase allowances. However, the pending climate-change bills provide several other compliance options.

For example, several bills allow regulated entities to receive credits for GHG reduction efforts undertaken before the cap came into effect. The McCain-Lieberman bill provides credit for certain GHG reduction efforts initiated since 1990.

As another example, all of the bills allow

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regulated entities to satisfy at least some of their obligations by submitting "offsets" from a project to reduce GHG emissions in other nations, if the project meets certain criteria. The McCain-Lieberman bill also allows entities to satisfy up to 30% of their obligations by submitting allowances from an overseas trading market if the EPA administrator determines that the market is complete, accurate, and transparent, and has enforceable GHG limits. The regulated entity also would have to certify that the credit has been retired in the other nation's market.

What is the appropriate role of the states?

Defining the appropriate role of the states in GHG reduction efforts is likely to be contentious. In the absence of a federal cap-and-trade program, states are banding together in an effort to create regional programs. Assuming that these regional programs become a reality before Congress acts, what should happen to them once it does? Will it be possible to reconcile the requirements of a federal and a regional program, or will the latter have to be preempted to avoid duplication and inconsistent requirements?

The Bingaman-Specter draft bill is silent on whether states may have their own cap-and-trade program, but the Feinstein-Carper bill appears to allow states to continue operating their own cap-and-trade system after a federal trading system is in place. The McCain-Lieberman bill authorizes states to require additional emission reductions, but it does not clearly state whether the additional emission reductions can be achieved through a cap-and-trade program.

How can America's and others' GHG reduction efforts be reconciled?

Perhaps the most important goal for this Congress—and the next Congress and administration—is obtaining the support and cooperation of developing nations in pursuit of a substantial worldwide reduction in GHG emissions. Without an effective international strategy that includes the participation of China and India, the sacrifices imposed by domestic U.S. legislation will likely be in vain. China derives almost 70% of its electricity from coal and is expected to surpass the U.S. as the leading emitter of GHGs by 2020. India, with its fast-growing economy and ample coal reserves, is not far behind.

Several of the pending bills address this issue. The Bingaman-Specter draft bill, for example, requires the president to establish an interagency group to review the effectiveness of programs the bill would create vis-à-vis the programs of certain other countries (including China, India, Brazil, Mexico, Russia, and Ukraine). The group would determine whether those countries have taken action that is "significant, contemporaneous, and equitable compared to action taken by the United States." Based on this review, the president would recommend changes in U.S. programs to Congress every five years, beginning in January 2017.

Climate change legislation will require Congress to resolve a daunting number of extremely complicated public policy issues. We have described only the most contentious issues. Even assuming that Congress does not pass legislation before the next president takes office, it has no time to waste. The initial enthusiasm for mitigating climate change and the realization of how hard that will be are the two easiest stages of the legislative process. The tougher stages lie ahead. ■

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