

# Leading the Way: A U.S. CARBON CAP AND TRADE SYSTEM

By Senator Jeff Bingaman\*



In 2007, the Nobel Prize-winning Intergovernmental Panel on Climate Change (IPCC) released a comprehensive report summarizing the current state of climate science. In their Summary for Policymakers, the panel concluded that warming of the climate system is “unequivocal” and that the historic rise in global temperature is (with over 90 percent confidence) due to human activities, mainly fossil fuel burning and deforestation.

In effect, this report, which also included contributions on impacts, adaptation and mitigation, confirmed what many scientists and climate researchers had known for many years — that human-induced global warming is real, that the impacts of unchecked warming will likely be severe, and that effectively tackling the problem will require new, innovative policy solutions. On Capitol Hill, there is now a palpable eagerness to confront this challenge, and I am pleased that we have started to grapple with the many complex issues related to implementation.

Of course, given the magnitude of the task at hand, we would be wise to consider our options carefully. Legislative proposals have so far focused on two types of market-based solutions: a tax on carbon emissions and an economy-wide cap-and-trade system, which would cap the overall level of greenhouse gas emissions, issue or sell tradable permits to emitters, and allow such entities to trade with one another in order to achieve reductions at the lowest possible cost. Because permits have value, a cap-and-trade system also imposes a price on carbon; the only difference is that the price is determined by the market, not set by the regulator.

In theory, both mechanisms can foster economically efficient outcomes. The two differ primarily in their response to future uncertainty. Simply put, a carbon tax yields certainty in the price of carbon at the expense of certainty in the environmental outcome, while a cap-and-trade system yields certainty in the environmental outcome at the expense of certainty in the price of carbon.

In examining these different approaches, I have come to the conclusion that a cap-and-trade system — modified slightly to enhance economic certainty — is by far the most sensible response that our nation can take to the threat of global warming. This is why Senator Specter and I, along with several

Continued on page 3

# The Path to Energy Independence: A U.S. TAX ON CARBON

By Senator Christopher Dodd\*



It is gratifying to see Congress finally moving towards critically needed action on climate change. This is one of the most far-reaching and momentous issues facing our nation and the world. But in these discussions, too often we are presented with a false dichotomy — a choice between saving the environment and keeping our economy prosperous. However, if we act responsibly, not only can we avert potentially devastating climate change, but we can strengthen our economy by leading the world in developing new green technologies while simultaneously reducing our dangerous dependence on fossil fuels from unstable parts of the world.

In this debate, however, one promising solution to the problem of climate change advocated by some of the world’s foremost economists and scientists from across the political spectrum is too often overlooked. That solution is a carbon tax — a fee placed on each ton of carbon dioxide emitted from fossil fuels. Indeed, our own Congressional Budget Office determined that a carbon tax would be the most efficient way to address the climate problem. It is a solution endorsed by everyone from NASA scientist James Hansen and former Secretary of the Treasury Lawrence Summers to conservative Harvard economist N. Gregory Mankiw, a former advisor to President George W. Bush.

The idea is a simple one. We know how much carbon is emitted from the burning of various fossil fuels, and data needed to figure out how much to tax each sale of fossil fuels is already collected for other purposes. Therefore, all that we need to do is set a price for a ton of carbon that will increase over time, leading to decreased carbon emissions as the cost of using dirty fossil fuels overtakes the cost of investing in clean, renewable technologies.

Under a cap-and-trade system, by contrast, the government would set a cap on total emissions for each year, with the cap declining over time to achieve long-term emissions reductions. Within the cap, emissions allowances would be allocated to various sectors of the economy based on historical emissions levels and other factors. Once allocated, entities controlling emissions allowances would be free to buy and sell them on a newly-created carbon emissions market.

A crucial problem with this proposal is that, in addition to the great complexities of creating and overseeing a new market, most proposals for a cap-and-trade regime would give away a large percentage of the pollution permits for free to the indus-

Continued on page 3

## Leading the Way: A U.S. Carbon Cap and Trade System

(continued)

other co-sponsors, introduced the Low-Carbon Economy Act of 2007.

Why is cap-and-trade the right approach? First and most importantly, this approach is more likely to achieve our desired environmental objectives. By design, a cap-and-trade system emphasizes the kind of long-term emissions reductions that will be necessary to stabilize the climate at safe levels. A tax, by contrast, does not include any explicit caps on carbon emissions.

Critics will point out that domestic reductions will do little to stave off dangerous consequences unless such actions are reciprocated by other nations, including major emerging economies like China and India. While this concern is valid, I firmly believe that an explicit, binding schedule of domestic reductions is far and away the single-most important step toward international action. If we are wrong, our bill includes several specific measures to make sure that our economy does not bear a disproportionate share of the global mitigation burden.

Secondly, a cap-and-trade system is more politically sustainable than any of the other alternatives. Familiarity with cap-and-trade in this country, through our successful experiences with the sulfur dioxide trading program (to reduce acid rain) builds confidence and increases political support. Moreover, the fact that valuable emissions permits can be banked from one year to the next ensures that regulated entities will themselves have a large stake in the continuity of the system. In short, a cap-and-trade program contains within itself the mechanisms to enhance political durability, in a way that a tax system does not.

Finally, a cap-and-trade system is more flexible than a tax. It can incorporate many positive features of other systems, like cost certainty, while retaining the basic elements that ensure environmental integrity and political viability. For example, the Bingaman-Specter bill proposes a “technology accelerator payment” (TAP) program, under which regulated entities may purchase, at a specified price, permits to emit. This caps the market price of carbon, and by extension, the overall cost of the program. Others have suggested alternative mechanisms to accomplish similar goals, but the point is that the underlying structure of cap-and-trade is flexible enough to accommodate such tailoring.

I am pleased to see so much support in the Senate for a national cap-and-trade system, and I am hopeful that this momentum will result in meaningful progress, in the form of a mandatory program, in the near future. If it does, I am confident that the United States can lead the way to a new, prosperous low-carbon world. **BLB**

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## The Path to Energy Independence: A U.S. Tax on Carbon

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tries that create the bulk of the greenhouse gases. This essentially results in a multi-billion dollar handout to large polluters, while consumers will see their energy bills rise and get little in return.

A carbon tax, on the other hand, will create a substantial new revenue stream for the government. In my view, some of this revenue should be used to spur research and development into renewable energy; however, most of it should go towards offsetting the rising costs of energy for consumers. This could take many forms, such as reducing federal payroll taxes or providing rebate checks to taxpayers. Revenue raised through a carbon tax should also be weighted towards helping low-income families, who spend a much higher percentage of their household budget on energy and will be disproportionately affected by increased energy prices. For instance, some of the raised revenue should be put to increase funding for the Low-Income Home Energy Assistance Program (LIHEAP), which provides critical assistance to low-income families struggling to pay their heating and cooling bills.

A carbon tax can achieve carbon emission reductions much more efficiently than a cap-and-trade program. The Congressional Budget Office, in a February 2008 study, found that “a given long-term emission-reduction target could be met by a tax at a fraction of the cost of an inflexible cap-and-trade program.” This is because a tax provides long-term predictability for the price of emissions, whereas a carbon allowance market could be subject to extreme volatility. Therefore, companies can more effectively implement long-range plans for reducing emissions when the cost of doing so is low.

Additionally, a carbon tax could be much more easily administered and overseen than a cap-and-trade program. The administrative infrastructure already exists to levy taxes on the upstream sources of fossil fuels, and the carbon contents of various fossil fuels are known quantities. A cap-and-trade program, by contrast, would require a complex new administrative structure to oversee and regulate the carbon market.

As Greg Mankiw wrote in his September 16, 2007 op-ed in the *New York Times*, “Among policy wonks like me, there is a broad consensus. The scientists tell us that world temperatures are rising because humans are emitting carbon into the atmosphere. Basic economics tells us that when you tax something, you normally get less of it. So if we want to reduce global emissions of carbon, we need a global carbon tax. Q.E.D.” There will still be some who advocate for a cap-and-trade program. But with such a diverse coalition of support, a carbon tax should play a central role in the coming debate on climate change. **BLB**

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