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## Climate Change Debate Hinges On Economics

Lawmakers Doubt Voters Would Fund Big Carbon Cuts

By Steven Mufson  
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Here's the good news about climate change: Energy and climate experts say the world already possesses the technological know-how for trimming greenhouse gas emissions enough to slow the perilous rise in the Earth's temperatures.

Here's the bad news: Because of the enormous cost of addressing global warming, the energy legislation considered by Congress so far will make barely a dent in the problem, while farther-reaching climate proposals stand a remote chance of passage.

Despite growing public concern over global warming, the House has failed to agree on new standards for automobile fuel efficiency, and the Senate has done little to boost the efficiency of commercial office buildings and appliances. In September, Congress is expected to start wrestling with more ambitious legislation aimed at slowing climate change; but because of the complexity of the likely proposals, few expect any bill to become law. Even if passed by Congress and signed by [President Bush](#), the final measure may not be tough enough to slow global warming.

"I don't think there's any question that what is being talked about now would, over the long term, be insufficient," said Philip Sharp, president of the think tank Resources for the Future and a former House member. "The issue is: Will Congress get in place a larger architecture that sends a signal to the economy that accelerates change?"

The potential economic impact of meaningful climate legislation -- enough to reduce U.S. emissions by at least 60 percent -- is vast. Automobiles would have to get double their current miles to the gallon. Building codes would have to be tougher, requiring use of more energy-efficient materials. To stimulate and pay for new technologies, U.S. electricity bills could rise by 25 to 33 percent, some experts estimate; others say the increase could be greater.

Most of the technologies that could reduce greenhouse gases are not only expensive but would need to be embraced on a global scale, scientists say. Many projections for 2030 include as many as 1 million wind turbines worldwide; enough solar panels to cover half of [New Jersey](#), massive reforestation; a major retooling of the global auto industry; as many as 400 power plants fitted with pricey equipment to capture carbon dioxide and store it underground; and, most controversial, perhaps 350 new nuclear plants around the world.

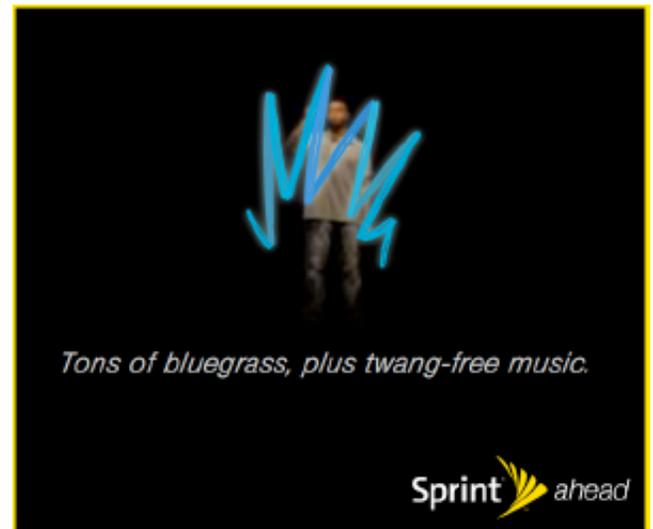
"The scope of the problem is really enormous," said Prasad Kasibhatla, associate professor of environmental chemistry at Duke University's Nicholas School of the Environment. Not only must Congress and the [White House](#) reach agreement on emissions limits, developing nations must also act to achieve temperature goals. "If the climate change bills go through Congress and could somehow be coupled to a multinational agreement, then things could really start to change," Kasibhatla said. "But I'd like to start seeing real agreements between countries before I call myself an optimist."

Measures taken by the world's governments to reduce greenhouse gases could cost 1 percent of world economic output, according to a report commissioned by the British government and written last year by former [World Bank](#) chief economist [Nicholas Stern](#). But Stern said the cost of not taking those steps would be at least five times as much, hitting the developing world hardest.

The shape of U.S. legislation targeted exclusively at climate change remains a matter of debate.

"I sincerely doubt that the American people are willing to pay what this is really going to cost them," [John D. Dingell](#) (D-Mich.), chairman of the [House Energy and Commerce Committee](#), said in a recent [C-SPAN](#) interview, adding that he intended to introduce legislation that would impose a carbon tax "just to sort of see how people really feel about this." He

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said his proposal would boost the gasoline tax by 50 cents a gallon and establish a "double-digit" tax on each ton of all carbon-dioxide emissions.

In the Senate, five climate change bills have been introduced recently -- with sponsors from both parties. They do not tax carbon but use variations on [Europe's](#) cap-and-trade system. Europe modeled its system on the 1997 [Kyoto Protocol](#), which the Senate rejected and President Bush later dismissed, saying it would cause the U.S. economy "serious harm."

A cap-and-trade system creates a new market where a limited, decreasing number of permits for emitting greenhouse gases, measured in metric tons of carbon dioxide, are traded. One hedge fund manager compared the importance of such a move to the creation of paper money. If implemented in the United States, it would alter the calculations of almost every business; hundreds of billions of dollars of energy investments would be redirected.

It's impossible to pinpoint the price a ton of carbon dioxide in the United States, because a cap-and-trade system would leave the price to the market. In Europe, however, the price for a permit to emit a ton of carbon dioxide in December 2008 is \$29.

John M. Deutch, former [CIA](#) director and now a physical chemistry professor at [MIT](#), thinks that price is about right. He has been pressing policymakers to speed development of technology that would capture carbon dioxide gases released by power plants and store them underground for centuries. This so-called carbon capture technology, currently applied in a handful of pilot projects, costs at least \$200 million to \$300 million per plant and hasn't been demonstrated on a commercial scale.

Deutch says that the technology, seen as a vital part of almost any strategy to slow global warming, won't be commercially viable until carbon dioxide reaches \$30 a ton. That would translate into a 25 percent average increase in electric bills nationwide, Deutch said.

"It's certainly affordable for our economy and our society," Deutch said.

But the price might be too high for members of Congress and voters. [Jeff Bingaman](#) (D-N.M.), chairman of the Senate Energy and Natural Resources Committee, is the lead sponsor of one of the cap-and-trade bills. Like Europe's system, it would establish a ceiling for emissions and let companies buy or sell extra allocations, or credits. But unlike Europe's plan, Bingaman's would create a "safety valve" so that the price of a ton of carbon dioxide would not surpass \$12 in 2012. When the price hit that level, the government would sell permits until the price goes down. The ceiling level would rise 5 percent a year above the inflation rate.

In response to critics, Bingaman would also give a certain number of extra credits to carbon capture and storage projects.

[Sen. Joseph I. Lieberman](#) (I-Conn.), who chairs the subcommittee that will draft a law, opposes a safety valve, and he is planning another proposal with [Sen. John W. Warner](#) (R-Va.), but they haven't worked out details. In 2003, Lieberman worked with [Sen. John McCain](#) (R-Ariz.) on an earlier cap-and-trade bill, which garnered support from 43 senators. With today's greater sense of urgency about climate change, there may be more support for a cap-and-trade bill now.

But countless technical details each worth billions of dollars to regions and companies remain a matter of debate. Utilities like PNM Resources based in [New Mexico](#), which burns coal for 64 percent of its power, want more allowances for current emitters like itself; environmentalists call these companies "pollution squatters" seeking rewards for bad past behavior. By contrast, [California](#)-based [Sempra Energy](#), which has efficient natural gas plants that emit relatively few greenhouse gases, fears it will be penalized for its good behavior. Sempra president Neal Schmale says California, which has high electricity rates, shouldn't subsidize the rest of the country.

"The thing I'm struck by is the magnitude of the challenge," said James Rogers, chief executive of [Duke Energy](#), after listening to a talk on carbon capture and storage. Rogers said that he feared that the United States is far -- "we're not even three Zip codes away" -- from a price that would make that technology economically viable.

In Europe, there is a much greater sense of urgency about combating climate change, as Bush discovered at last month's meeting of the [Group of Eight](#) major industrial nations. German Chancellor [Angela Merkel](#) wants to slash greenhouse gas emissions by 40 percent by 2020 and 80 percent by 2050. Merkel is expected to push for big increases in power plant productivity and more renewable energy, although [Germany](#) is already the leading country in Europe for wind and solar power. [Spain](#) and [Italy](#) are offering incentives of about 40 cents a kilowatt hour for solar-power installations.

While some energy-intensive industries complain that the European cap-and-trade program is driving manufacturers to developing countries where greenhouse gases aren't regulated, German government officials say that the campaign to reduce emissions will foster new technologies and jobs, helping the German economy.

Neither Congress nor the Bush administration is considering figures anywhere near the cuts Merkel supports. Bingaman's bill would take effect in 2012 and bring emissions back to 2006 levels by 2020. The Bush administration has talked about lowering carbon intensity, meaning the amount of gases emitted for every unit of economic output. But in a growing economy, it could still mean additional emissions overall.

The deepest proposed U.S. cuts are in the bill introduced by [Sens. Bernard Sanders](#) (I-Vt.) and [Barbara Boxer](#) (D-Calif.). Falling in between are proposals by [Sens. Dianne Feinstein](#) (D-Calif.), [Thomas R. Carper](#) (D-Del.), [John F. Kerry](#) (D-Mass.), [Olympia J. Snowe](#) (R-Maine), McCain and Lieberman. The bills also differ over whether to cover all industries or just utilities; on whether to distribute allocations or auction them; and how much to allow offsetting credits for projects, such as reforestation, that reduce greenhouse gas emissions.

One issue for U.S. lawmakers is that the impact of greenhouse gas restrictions would vary by region and lifestyle. Some utilities rely more heavily than others on coal, which faces a big challenge if progress isn't made on carbon capture and storage. Other utilities are poised to take advantage of new regulations. Areas where wind can power huge turbines might benefit. Wealthier Americans might be better able than poor Americans to afford new equipment -- more efficient air conditioners, better insulated windows, solar panels -- to cut energy costs. In recent lobbying, utilities from [Southern states](#), who said they would be disadvantaged, successfully dissuaded the Senate from adopting renewable-energy standards that would have applied evenly across the country.

In 2009, one of the first issues to confront the new U.S. president is likely to be climate change legislation. In addition to domestic pressures, the [European Union](#) will want a deal including the United States because the [Kyoto](#) framework it is using expires in 2012, and it takes time for all the member countries to ratify a new plan.

"Doing something about global warming requires an intelligent use of lead time," said David Hawkins, director of the climate change section of the [Natural Resources Defense Council](#). "Changing the way our economy functions so that it isn't polluting is like turning a supertanker. You can't wait until you're on the reef before deciding how to steer the ship."

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