Why Economics, Not Science, May Ultimately Determine the Outcome of the Global Warming Debate

William W. Beach
Center for Data Analysis
The Heritage Foundation

Overview

If Tip O'Neill, the former Speaker of the House of Representative, were alive today, he would be drawing a very familiar lesson from the latest chapter in the seemingly endless policy debate over global warming. He would remind us that political controversies ultimately turn on how people see themselves being affected by what is being debated.

That is what Speaker O'Neill meant when he famously said, all politics is local.[1] In the end, political debate is decided by personal, constituent driven considerations, like jobs, wages, and the price of important products and services. Forget these mundane factors and politicians risk losing their political contests.

To date, that is the story of the cap and trade debate. Obviously, no one can predict how the struggle over this version of global warming legislation will come out. Advocates of reducing carbon dioxide and other allegedly global warming gases may ultimately achieve their legislative goals. So far, however, cap and trade's champions have been frustrated by simple, everyday economics.

Indeed, it is this neglect of simple economic effects that explains more than anything else why the specter of cap and trade lifted from over the economy in 2010. Not only did the advocates fail to prepare the general public adequately for their purposeful increase in energy prices, but they continued to press for this policy change in the face of massive recession. It is one thing to ask voters for economic sacrifice during prosperous times; it is quite another (and astoundingly bad politics) to ask them when recession has forced those sacrifices already.

For example, energy intensive businesses have been acutely concerned over the past two years about the price effects of a cap and trade policy to reduce atmospheric carbon.[2] They have translated this concern into investment caution. Projects that could have been undertaken have had to pass a an analysis that now includes higher than expected energy prices and slower economic growth, except for those favored companies specializing in products and services thought to be created by the legislation: the so-called green job industries.

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[1] This phrase may have been uttered in one of its many forms during the 1982 Massachusetts election. See http://en.wikipedia.org/wiki/All_politics_is_local.

[2] Note that climate scientists usually count 6 molecular compounds as green house gases. Most policy analysts have adopted the convention of using carbon dioxide as the representative compound rather than write each of the six every time mention is made of green house gases. Thus, referring to the reduction of atmospheric CO_2 usually is taken to mean a reduction in all or some of the green house gases. Some adopt the convention of equating the warming capacity of each green houses gas as equivalent to a portion of the warming capacity of CO_2. This equivalent is referred to as the CO_2e amount.

When combined with the threats of higher taxes that punctuated the news from Washington throughout 2010, these expected higher energy costs could well have slowed the economy even before enactment of the legislation. While we will not likely have firm evidence for this possible advance economic effect, the prospect of higher prices and slower growth could not have helped the struggling, post-recession economy of 2010.

Which brings me to the principal points of this essay: the economy now and in the future proved the decisive enemy of cap and trade legislation. While the proponents of the legislation believed it would be enough to show the public struggling polar bears and describe the awful future of higher seas, more violent hurricanes, and overall warmer seasons; the public became focused on the immediate and near-term economic effects. These estimated effects ultimately overwhelmed the scientific and emotional appeals of cap and trade's advocates and doomed their initiative.

Key Background Factors in the Debate

One hardly knows where in the history of the global warming debate we now sit. After decades of building political and financial resources, advocates of climate change legislation have seen numerous legislative victories around the world. International organizations, both private and public, have embraced measures to reduce greenhouse gases; and international treaties binding countries to specific carbon reduction targets are now in force.

Oddly, the United States, itself a large producer of greenhouse gases, remained the most notable legislative holdout among the post-industrial countries. One could hardly blame the big developing countries like China and India for their refusal to substantially reduce economic activity at a time of their industrial emergence. After all, both countries likely would face major political upheaval if the pace of economic growth seriously subsided over a long period of time.

Few, however, in the environmental community could excuse the United States. Not only did it possess the financial means to make the desired conversions to less polluting technologies, but its very economic base was evolving to non-industrial products and services. Furthermore, Congress had already taken serious steps to regulate the content of motor fuels and some specific greenhouse gases, like sulphur dioxide. In other words, the US appeared to have no reason for further refusing to enact climate change laws intended to significantly reduce atmospheric carbon content produced by energy companies.

Advocates of climate change legislation, particularly in Congress, had decided by 2007 to back a form of carbon taxation that used market mechanisms. Rather than impose a tax directly on carbon emissions,[3] policy makers hit upon the cap and trade mechanism. "Cap and trade" acts directly on carbon emissions by limiting them to a lesser amount each year: the co-called caps. However, it also issues a fixed number of pollution permits to all parties, often in proportion to the level of current emissions or by some other social or economic standard. These permits allow the holders to exceed the year's cap. Companies that meet or fall below their cap can sell or trade their unused permits to companies that need more of them. There's no limit on the price of these traded or sold permits.

[3] This is a Pigou tax, so named after the British economist of the early 20th Century, Arthur C. Pigou. The idea behind it is quite simple: if the cost of something is raised by imposing a tax on it, less of that thing will be produced or purchases. Thus, nuisances can be quietly eliminated through a semi-market means.

Theoretically, a cap and trade system for carbon reduction would put in place incentives to invest in carbon reduction technologies in order not to have to pay for additional permits. If such additional permits were needed, then the buying firm's costs would rise. In a competitive marketplace, these higher costs could not all be passed along to customers, largely because cap and trade advocates believed that competition would favor the lowest priced firm among income constrained customers.

Thus, steadily ratcheting down the caps should, over time, allow society to see lower levels of carbon content in the atmosphere. Indeed, many conservative economists were leading supporters of cap and trade when it first made its appearance in policy circles over 25 years ago. It appeared to draw elegantly on standard economics and seemed to put market forces in charge of the potentially painful process of cleaning up the atmosphere.

Armed with what appeared to be unassailable scientific proof of global warming and a conservative backed system of taxing carbon, the advocates of legislated atmospheric carbon reduction approached the recent global warming debate with exceptional confidence. Little did they know that they had only covered two of the three legs needed to keep their legislation upright. The third leg—economic analysis—was woefully ignored. More on this in a moment.

It is worth noting a major undercurrent that most thoroughly destabilized the advocates: the combination of apocalyptic passion with lyrical anti-capitalism.

Every movement, including stalwart defenders of the free market, has a fringe element that sometimes flavors debates with their overheated rhetoric. Certainly, that has been the case with advocates of climate change legislation. From Al Gore's *An Inconvenient Truth*[4] to the Intergovernmental Panel on Climate Change's *Fourth Assessment 2007*,[5] there has been a tendency to overstate the case, even in these seemingly serious publications. For example, Al Gore claimed record numbers of polar bear drowning because of warming in the Arctic, when the evidence he cites relates to four bears found drowned following a significant storm.[6] Critics also have focused on overstatements in the IPCC's work, principally claims of glacial melt in the Himalayas, sea water rise in the Netherlands, and rapidly falling crop yields in certain parts of Africa.[7]

These exaggerations were mild compared to the apocalyptic claims of some advocates. Exaggeration became an acute problem for the advocates when these claims brought the scientific basis for the policy change into doubt. After all, it was the science of climate change that drove the issue to the point of legislative debate in Congress.

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[4] "An Inconvenient Truth" appeared first as a documentary film directed by Davis Guggenheim and based on a slide presentation by former Vice President Al Gore. For a full background description of this film, the subsequent book, and the project's impact, see http://en.wikipedia.org/wiki/An_Inconvenient_Truth. (Last accessioned on October 18, 2010).

[5] Intergovernmental Panel on Climate Change, Fourth Assessment Report, 2007 at http://www.ipcc.ch/ipccreports/ar4-wg1.htm (last accessioned on October 18, 2010).

[6] For a thorough critique of Gore's presentation, see Marlo Lewis, Jr., "Al Gore's An Inconvenient Truth: One-Sided, Misleading, Exaggerated, Speculative, Wrong," Competitive Enterprise Institute, On Point, No. 108: September 28, 2006 at http://cei.org/pdf/5539.pdf (last accessioned on October 18, 2010).

[7] For a review of the criticisms leveled at the Fourth Assessment, see http://en.wikipedia.org/wiki/Criticism_of_IPCC_AR4 (last accessioned on October 18, 2010).

An even more devastating blow to the science occurred when thousands of emails from the University of East Anglia's Climate Research Unit became public. They showed many of the most prominent climate scientists engaged in inappropriate professional behavior. Some even suggested that the scientific claims of global warming had been cooked up, so to speak. My colleague Steven Hayward has addressed this matter in his fine essay contained in this volume.[8]

This perception of intemperate and, perhaps, deceitful science unfortunately combined with the popular perception that environmentalists are basically opposed to capitalism. On its face, this claim is insupportable: the term "environmentalist" covers a wide array of views on the free market system, including free-market environmentalism. However, there's more than enough truth to the view that politically active environmentalists generally find fault with capitalism. After all, it is a capitalist system of production that commonly is blamed for all of the carbon in the air.

When combined with an overly eager class of scientists, the case for climate change legislation was weakened by the company it kept. This is not to argue that the association with unscrupulous scientists and socialists doomed the legislation this time around: after all, similar combinations of supporters have not held up other important legislation. But, I do suggest that it so weakened legislative support that the fortunes of cap and trade depended on very shaky foundations. Nearly any shift in the political parameters would endanger the prospects of passage, which of course happened with the recession and the economic argument against the initiative.

The Economic Assessment of a Cap and Trade Policy

In one respect, the advocates of cap and trade correctly timed their campaign for the legislation: they launched the recent push during the rapid economic expansion starting in 2005. Obviously, it is much easier to ask families to make economic sacrifices for the environment when their incomes and asset values are rising.

Therein lies the undoing of the campaign, as well. By the time the legislation made it to the House and Senate floors, the economy had begun to turn sour, unemployment was rising, and the prospects of income and asset growth had all but disappeared. Again, obviously, nothing is much harder than asking families to make economic sacrifices for the environment when their incomes are falling.

More than a sour economy, however, affected the prospects of cap and trade. From the start, the advocates of the policy change failed to adequately answer the key economic question of the debate: When public policy causes energy prices to rise in order to reduce atmospheric carbon, will the economy quickly adapt by creating "green jobs," or will the economy slow down, thus passing the economic burden of the policy change on to those least able to bear it? Instead, the advocates led with their science and left the economic effects to be defined by those opposing the legislation.

The Heritage Foundation was one of those organizations that had considerable doubts about the economic merits of cap and trade as laid out in the recent legislation. Our concerns

[8] Steven F. Hayward, "The Climate Emperor's New Clothes: The Current Status of the Climate Change Debate," Paper Prepared for Hillsdale College Free Market Forum 2010 (October 1, 2010).

stemmed from a strong suspicion that rising energy prices (a necessary component of the cap and trade program) would slow the economy and not be entirely offset by the growth of "green" companies. After all, the U.S. economy's ability to make rapid changes to its industrial base is limited, which strongly implies a long period of slower growth if energy prices rise significantly.

We addressed our concern the same way economists work through many other economic issues that trouble them: we modeled the cap and trade legislation using a mainstream model of the economy and the energy industry and estimated the legislation's effects on the economy. Our energy model mirrors the model developed by one of the leading energy economics practices in the United States: the energy group at Global Insight, Inc. in Lexington, Massachusetts. We also use Global Insight's U.S. macroeconomic model to translate the effects of changes in energy policy into changes in overall economic activity. It is worth noting that the Global Insight U.S. model is the same one used by the White House to estimate the economic effects of proposed policy changes.

Here's what we found, under the assumption that Congress passes cap and trade and its first year as the law of the land is 2012.

Both the legislation proposed by Senators Joe Lieberman (I-CT) and John Warner (R-VA) in 2008 and Senators John Kerry (D-MA) and Barbara Boxer (D-CA) in 2009 reduced economic activity in our simulations, principally through higher energy mandates and caps that raised the price of energy produced from carbon-based fuel sources. While the Center for Data Analysis examined both proposals, I will focus here just focus on Boxer-Kerry.

Figure 1
Employment Effects from Enactment of Boxer-Kerry

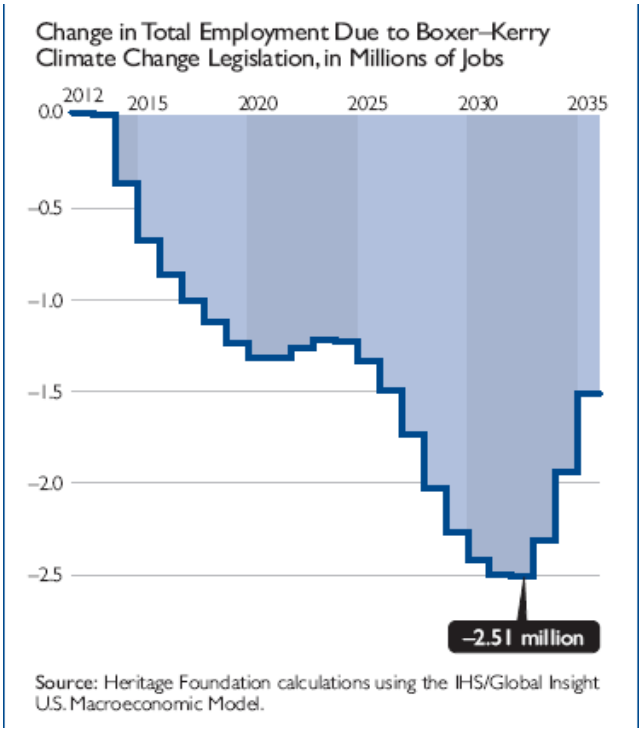
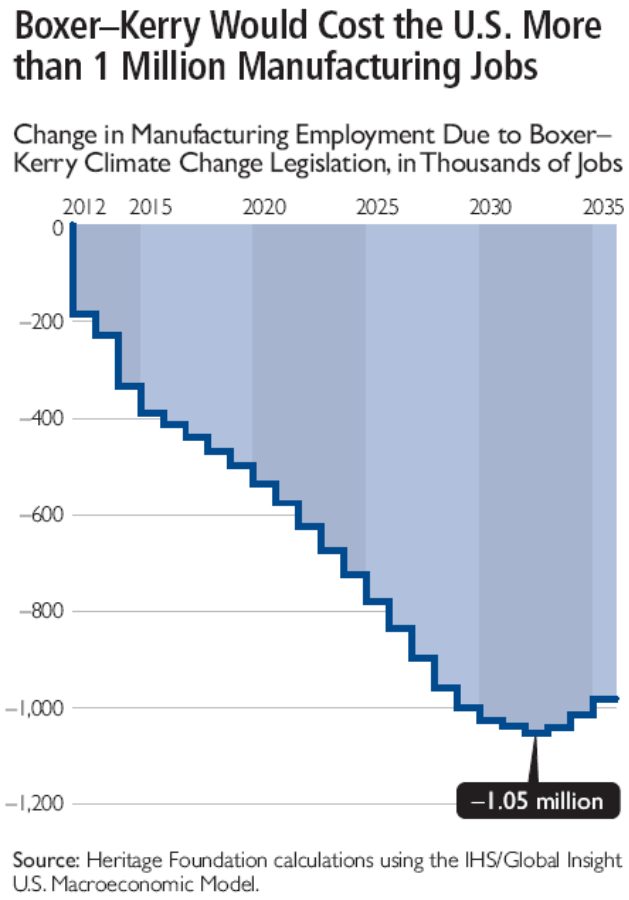


Figure 1 shows our estimates of changes in total non-farm employment if the Boxer-Kerry cap and trade legislation had become law. The minor increase in employment at the beginning of our forecast period reflects the impact of firms buying energy saving capital equipment. However, this investment increase is not enough to offset the overall slowing in economic activity as the price of energy rises. By 2017, employment is below its no cap-and-trade baseline by 1 million jobs. By 2032 the employment is 2.5 million below potential.

Every sector of the private economy is affected by the price-driven slowdown in the economy, but none more than manufacturing employment. The effects are so dramatic here principally because the manufacturing sector is such a large user of energy. As Figure 2 shows, manufacturing employment under Boxer-Kerry falls steadily and stays down throughout the forecast period. By 2033, over 1 million fewer jobs are to be found in that sector compared to a US economy without the Boxer-Kerry cap and trade policy.

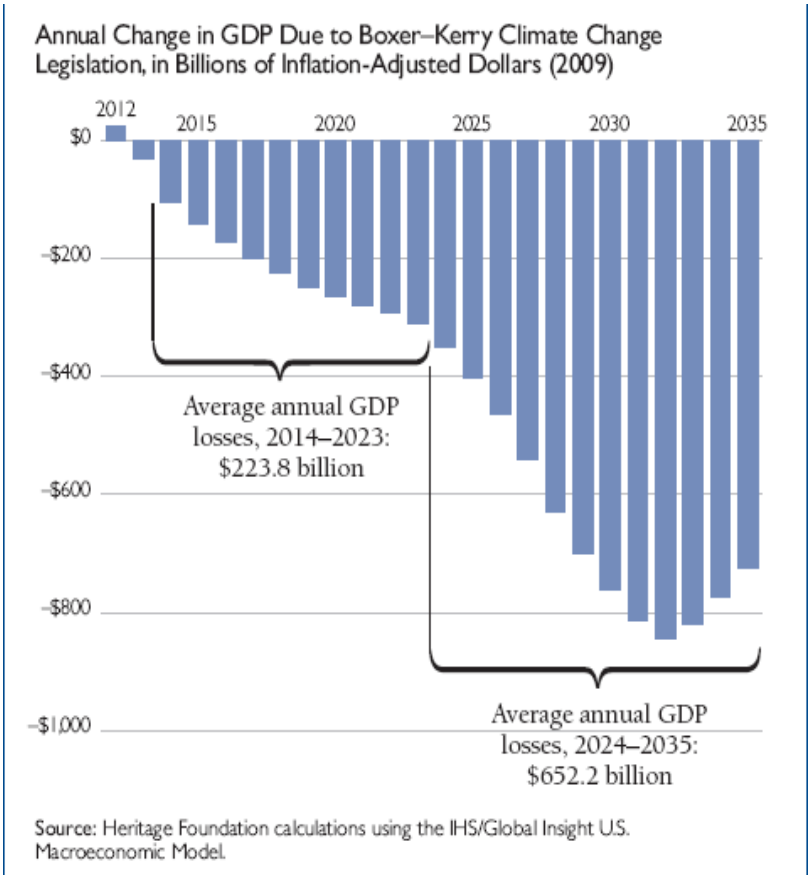
Figure 2
Manufacturing Job Losses Under Cap & Trade



When one looks out at the general economy, the magnitude of the damage that potentially could be done by cap and trade is even more apparent. The broadest measure of economic activity is inflation-adjusted Gross Domestic Product, or the value of all goods and service sold in the economy during the year. Again, GDP jumps slightly in the first year of our forecast

because of the spending on new carbon-efficient equipment before falling steadily below its potential levels had Boxer-Kerry not become law. The thing to keep in mind as you look at Figure 3 is that the shortfalls in GDP are permanent losses in output.

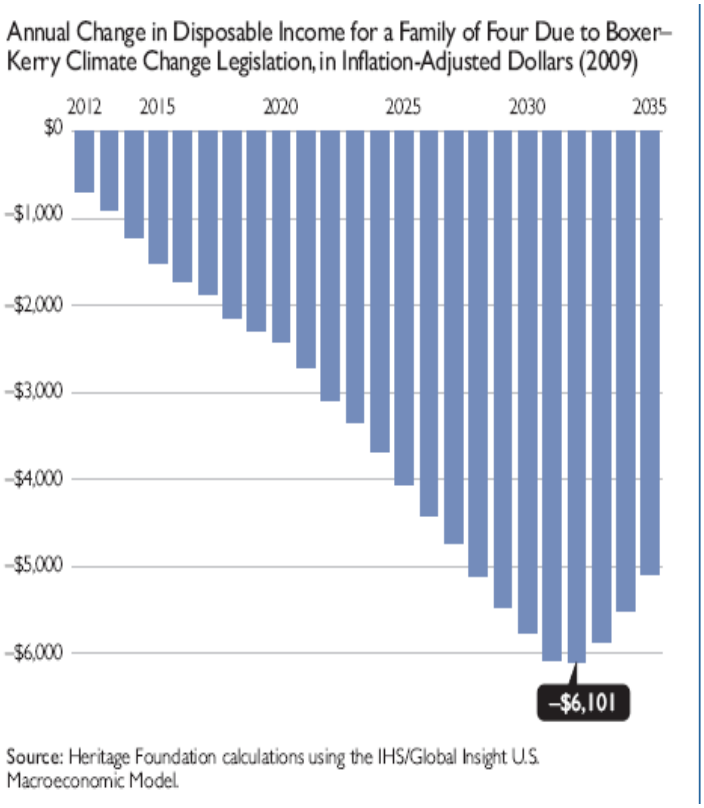
Figure 3
Losses in Output Due to Boxer-Kerry Cap and Trade Policy



As is evident in Figure 3, the losses of GDP get larger and larger until the 2030s, when the shortfalls modestly subside. However, there is no positive interpretation that can be constructed for this result. When the macro economy performs so substantially below its potential, nearly everyone will be adversely affected. The political question then becomes, are the modest environmental gains more valuable than the economic costs?

This question is hard to answer at the level of Gross Domestic Product. It becomes more tractable for the average voter when these big picture results are translated into change in after-tax income. As Figure 4 shows, the advocates of cap and trade can take no more comfort in these estimates than they could in employment or product change.

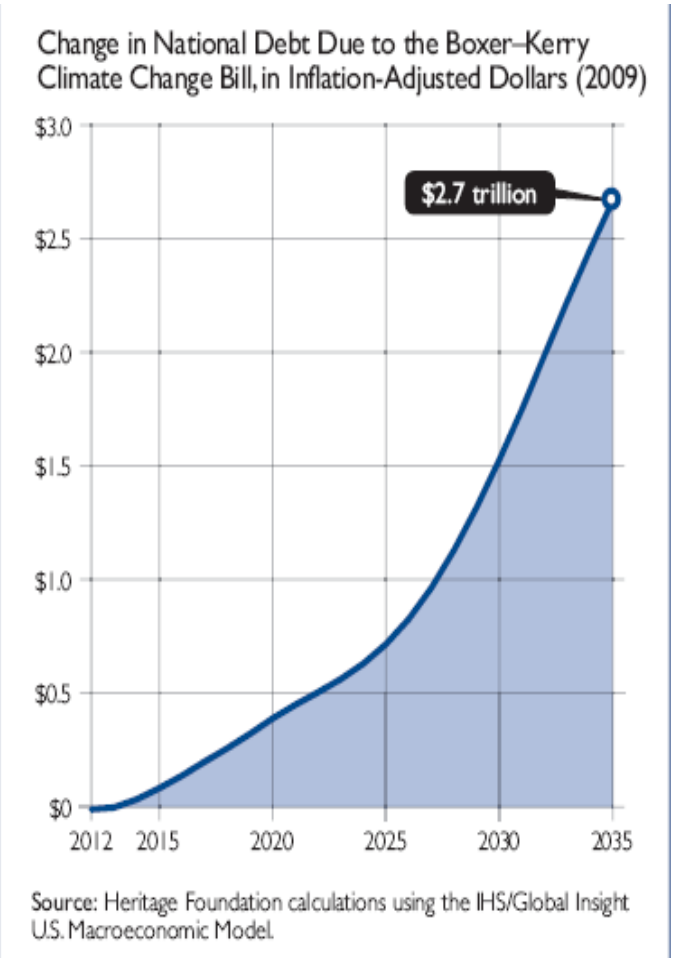
Figure 4
Change in Disposable Personal Income for a Family of Four



Over the course of the 33 years of our forecast, a family of four will lose thousands of dollars each year in inflation-adjusted, after-tax income. This is where the rubber hits the proverbial road. Voters can immediately translate these losses into house repairs never done, violin lessons never taken, and college savings never made. The politics of this issue becomes local when voters see the effects of the policy change on their incomes.

It also becomes local when Washington politicians see the likely effects of this policy change on public finances. The much slower economy translates into sluggish revenue growth. A failing economy, however, means that public assistance for indigent people increases, thus boosting outlays above a forecast without cap and trade. On top of all of this is the fact that capital costs more due to higher risk that investors must bear, which is reflected in higher interest rates, including on the public debt; and you have the perfect prescription for growth in public debt. As Figure 5 shows, this increase in debt is substantial over the forecast period of our simulation.

Figure 5
Cap and Trade Increases National Debt



These public finance results resonate with the same theme: there are significant economic costs associated with the cap and trade approach to reducing atmospheric carbon, and even the federal government is not exempt from feeling the pain. Some in Washington have tried to dismiss this analysis of high economic costs as the work of free-market partisans. However, nearly every group—left and right and unaligned—found that significant economic sacrifices would be required if cap and trade legislation passed Congress. Indeed, the analysis by Heritage's Center for Data Analysis stood roughly in the middle of seven studies in terms of economic impact, a group that included MIT, EPA and the US Department of Energy.[9]

[9] Bryan Buckley and Sergey Mityakov, "The Cost of Climate Regulation for American Households," The Marshall Institute (2009): Tables 1 and 3 and elsewhere. See http://www.marshall.org/pdf/materials/636.pdf, last accessioned on October 25.

Lessons Learned

Students of federal policy change have little doubt that the House and Senate will soon return to energy and climate change legislation, regardless of which party leads these bodies. The voting public generally supports policy change that improves energy efficiency, promotes cleaner air, and addresses long-term, avoidable climate change. Congress doubtless will react to this public interest.

It would be wise, however, for policy leaders to ponder the lessons from the defeat of cap and trade legislation at a time when the Democrats ran all of the policy making bodies. I think there are four lessons from the economic front:

1. There is little question that seasoned politicians allowed the alarmist scientific argument to cloud their political instincts. As a consequence, policy makers who would not forget the effects of policy change on households did so in this crucial debate.

2. The second political mistake stemming from the heavy reliance on the scientific argument was the poor calculation that this body of evidence was irrefutable. Indeed, it is a striking feature of the recently completed legislative debates that the scientific argument dissolved so quickly among the general public. By resting the case for cap and trade on climate data that ultimately was challenged, the advocates of the policy change took a risk that undid their campaign.

3. In retrospect, it would have been much safer politically had advocates built their case on the benefits stemming from the new "green" economy rather than on reducing atmospheric carbon. The atmosphere, it turns out, is not politically local, while jobs are. The failure to build the green jobs argument until well into the legislative debate fatally weakened the cap and trade champions: they simply had no credible counter argument to the economic critics.

4. Finally, timing matters. Cap and trade proponents suffered from the rapid collapse of the macro economy in late 2008 and throughout 2009. While any legislation that called for economic challenges would have traveled a bumpy road to success during the Great Recession, cap and trade was almost completely unprepared for the adverse economic context that surrounded the debate. As GDP turned south, so did the fortunes of climate change legislation.

Politicians as a class learn from their political mistakes. The highly competitive political arena does not tolerate repeated failure. This is good news for ordinary Americans. Those of us who own businesses, have families, work for a paycheck, and make investments hope that the next time Congress attempts to pass climate change that they care as much for their constituents as they do for carbon dioxide molecules. If they don't, the human element will react just as powerfully as it did this past year and frustrate again the proponents of global warming efforts.