

# The Political Economy of Climate Change Legislation: An Economist's Perspective

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Credible efforts to reduce greenhouse gas emissions will help to reduce the impacts of climate change on our quality of life. While many agree about the benefits of such efforts, the world's leading economies have been slow to take significant action. This paper reports on new research investigating why legislation to combat climate change has not been enacted.

**A**s the world's population and per-capita income grows, the only way we can combat climate change is if we collectively commit to sharply reduce emissions per dollar of world economic output. In the absence of a global carbon tax or global cap-and-trade program, this is a daunting task. Nations such as China have said that they want to reduce their energy intensity (measured as energy consumption per dollar of GNP). So far, their announced goals have not been large enough to achieve the aggregate greenhouse gas emissions reductions that climate scientists say we must achieve to stabilize global atmospheric carbon at a safe level.

Mitigation optimists have hoped that the election of President Obama in 2008 would be a first step in setting off a "green chain reaction," in which the United States would pass credible legislation to battle climate change, and the whole world would benefit as our actions would trigger a green-tech revolution that would decouple economic growth from greenhouse gas production.

If the United States could develop "game changing" new energy-efficient technologies, then these could diffuse around the world and allow nations to enjoy the "win-win" of economic growth without increased greenhouse gas emissions.

But, the United States did not enact such regulation. Both in Copenhagen in late 2009 and in the U.S. Senate in the summer of 2010, diverse coalitions have not been able to hammer out a mutually agreeable deal to credibly incentivize polluters to internalize the social harm caused by greenhouse gas production.

Economists view voters and politicians as self-interested maximizers. If politicians are voting against certain legislation, then they must perceive that the total costs that their constituents would face from such legislation must exceed the benefits. While measuring the determinants of perceived costs and benefits from a specific piece of carbon legislation (such as higher gasoline taxes or higher electricity prices) is quite complicated, recent events provide some relevant clues for improving our understanding of the political economy of enacting climate change mitigation legislation.

## The Determinants of Congressional Voting on Carbon Legislation

The popular media has emphasized the growing political polarization between Republicans and Democrats on the broad issue of climate change. In 1997, 37% of Republicans and 27% of Democrats agreed with the statement "The seriousness of global warming is generally exaggerated in the news." In 2008, 59% of Republicans and only 17% of Democrats agreed with that statement. The causes of this divergence in attitudes remain an

open question, but in our democracy it raises a fundamental challenge for those who hope to see the Congress enact credible carbon legislation.

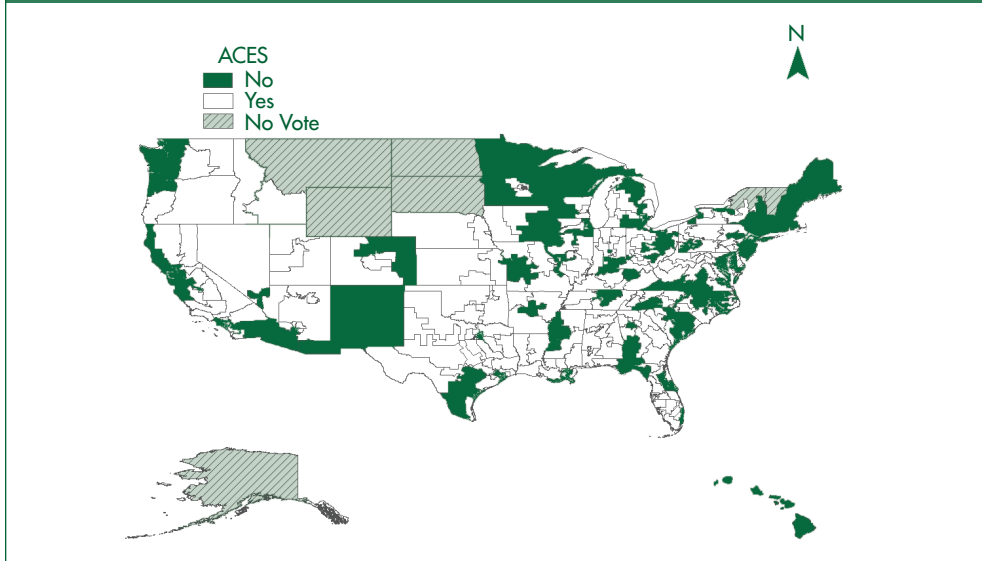
Evidence supporting this fact is based on recent research I have conducted with Michael Cragg, Kevin Gurney, and Yuyu Zhou. We examine U.S. Congressional voting trends on major pieces of legislation related to mitigating greenhouse gases. The most prominent example we study is the June 2009 Waxman-Markey American Clean Energy and Security Bill (ACES), which passed in the U.S. House of Representatives with 219 yes votes and 212 no votes. For each member of the House, we observe how the Congressperson voted. We seek to explain why some Representatives vote "yes" and others vote "no."

Figure 1 (page 10) presents a map of the votes on this bill, based upon the location of the Congressperson's district. Our statistical model is based on three key explanatory variables. For each Representative, we collected data on: 1. Her district's average household income (based on year 2000 Census data); 2. her ideology score—a standard measure used by political scientists to judge whether a Representative is a liberal or a conservative; and, 3. the per-capita tons of carbon created within the district.

This last measure has been created under the Vulcan Project at Purdue University ([www.purdue.edu/eas/carbon/vulcan/research.php](http://www.purdue.edu/eas/carbon/vulcan/research.php)). It represents a measure of the "stake" that the Representative has in avoiding legislation that puts a price on carbon.

Our empirical results are intuitive. Representatives who are liberal, represent richer districts, and whose districts have a small per-capita carbon footprint are much more likely to vote

Figure 1. Congressional Voting Record for Waxman-Markey American Clean Energy and Security Bill (ACES)



yes (think of Nancy Pelosi). Representatives from a poor, conservative district, whose members have a larger carbon footprint, are much more likely to vote no on this carbon mitigation legislation. Political ideology is the dominant determinant of voting on the ACES bill.

While many environmentalists are concerned about the consumption-scale effects associated with income, these results highlight that Representatives from richer districts are more likely to support carbon regulation. My prior work documents that more educated people are more likely to support environmental regulation (Kahn 2002), and education and income are highly correlated.

Our results highlight the fundamental political economy challenge of persuading the U.S. Congress to support carbon mitigation legislation. President Obama faces the challenge that there are too many pockets of the country where the districts are poor, conservative, and have high carbon emissions. Most of the residents of these areas do not prioritize climate change as a serious threat, and they are aware that their district relies on coal-fired power plants to produce electricity. Some of these districts have low population density and are reliant on private vehicles. Many of these

districts are located off of the coasts in humid, hot areas that require ample electricity to combat summer humidity. During a time of deep budget deficits, the Obama Administration faces the challenge of how it can offer “carrots” to such swing districts to compensate them for the expected transition pain that significant carbon incentives would pose.

### The Prolonged Recession Has Chilled Interest in Carbon Mitigation Legislation

The prolonged recession poses another major challenge to enacting credible carbon mitigation regulation. In November 2010, the major ballot initiative in California was Proposition 23. This proposition sought to suspend California’s landmark AB 32 climate change legislation until the state’s unemployment rate drops below 5.5%. Although Proposition 23 was defeated at the polls, its sponsors were no fools. They recognized that during a deep recession, voters might be willing to scuttle such innovative regulation due to basic pocketbook concerns. While this conjecture is intuitive, surprisingly little economic research has formally examined it.

In joint work with Matthew Kotchen, we investigate how changes in economic conditions—proxied with state monthly

unemployment rates—affect three different indicators of environmental concern. We first use data on keyword searches through the Internet, as compiled by Google Insights. Recent studies have also shown that Google searches are a powerful tool for predicting economic activity such as product demand for automobiles, home sales, retail sales, and travel behavior (Choi and Varian 2009).

Using panel data by month for each state, we find that an increase in a state’s unemployment rate is associated with a decrease in keyword searches within the state for “global warming,” and an increase in searches for “unemployment.” We also find that in more Democratic-leaning states, the decline in global warming searches is larger, but the increase in unemployment searches is smaller.

We also use more conventional survey data in which households are polled about their public policy priorities. We find, after controlling for standard demographic factors such as age and education, that respondents who live in counties with a higher unemployment rate are less likely to rank the environment as a major policy priority and are more likely to emphasize basic economic concerns.

Figure 2 provides a sense of our data. For California, I present a graph of the Google Search Volume per month searching for the term “Global Warming” versus the state’s unemployment rate in that month. A clear negative correlation is observed. It is relevant to note that Google scales the data so that units on the y-axis are not informative in absolute value, but month-to-month relative comparisons can be made.

Our work supports the conventional wisdom that the deep recession has hindered efforts to embrace carbon legislation. There is a certain irony here. Many environmentalists view economic growth as the cause of environmental degradation. After all, the American Dream of a private home, a lawn, and

two cars is resource-intensive, but as documented in the work on Congressional voting patterns and individual Google search behavior, richer people who live in areas featuring lower unemployment rates are more willing to support anti-climate change regulation.

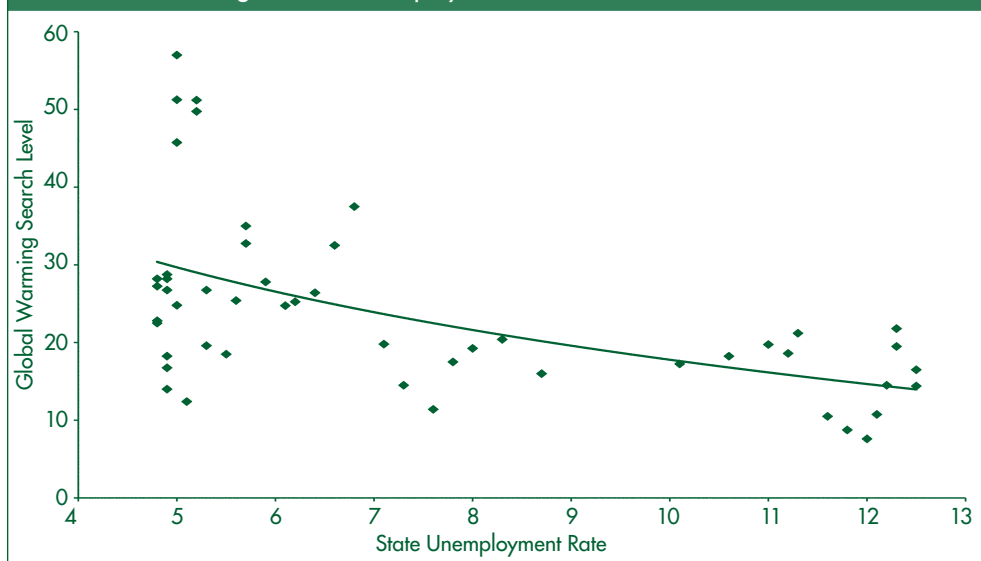
### Political Economy Failure Makes it Even More Important for California to be a “Green Guinea Pig”

Given the failure globally and domestically to enact significant carbon regulation, California’s nascent efforts with rolling out AB 32 become even more crucial. As highlighted by the recent debate over California Proposition 23, even the progressive state of California faces key political economy issues concerning support for this regulation. New ideas are public goods. If California’s entrepreneurs, universities, and state government incentives embedded in AB 32’s implementation could generate new “green tech” ideas, then these new approaches can be exported around the world and decouple economic growth and greenhouse gas production. I believe that AB 32 will accelerate green learning and experimentation, and some of the resulting ideas will be game changers.

A surprising fact that has emerged is the diversity among the business community in its support for climate change regulation. California’s venture capitalists actively raised money to support AB 32 and to oppose Proposition 23. They view the continuation of AB 32 as offering a credible set of incentives and “carrots” that will make their investments in the nascent green economy more likely to payoff.

For example, a big piece of AB 32 is the electric utility renewable portfolio standard which mandates that 33% of the state’s power will be generated by renewables. If investors have the assurance that this mandate will remain in place, then this increases their willingness to invest in such new and risky technology. While venture

Figure 2. Relationship between California Google Search Activity on Global Warming and the Unemployment Rate: 2006–2010



capitalists have supported this effort, there are traditional manufacturing interests that are energy-intensive (such as primary metals) which could face an increase in cost if AB 32 significantly raises energy prices.

The fact that some businesses will be “winners” due to AB 32, while others may suffer from facing higher costs of doing business, highlights how carbon regulation shakes up the status quo. A fundamental asymmetry exists. The current beneficiaries from not having carbon regulation know that they benefit from the status quo. In contrast, the new firms that will thrive because of carbon regulation may not even exist yet and thus do not have a seat at the bargaining table to lobby Sacramento politicians. To fully appreciate both the benefits and costs of regulation requires imagination. Those who will face higher costs because of regulation have an incentive to overstate the size of the costs that they will face.

At a time when China and India are growing and the federal government is unable to pass significant regulation, California has the opportunity to play a crucial role as a “green guinea pig.” Some of our ideas will fail, but I am optimistic that others will succeed. Will our new good ideas create the vaunted

“green jobs”? This is uncertain but if we believe this claim, then this will tilt public opinion, and thus politicians, to support legislation such as AB 32 in the United States and abroad, regardless of whether they are genuinely concerned about battling climate change.

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*Note: The two papers discussed in this article are NBER Working Papers #14963 (Cragg and Kahn) and # 16241 (Kahn and Kotchen).*

#### For additional information, the author recommends:

- Kahn, Matthew E. “Green Cities: Urban Growth and the Environment.” Brookings Institution Press, 2006.
- Costa, Dora L. and Matthew E. Kahn. “Heroes and Cowards: The Social Face of War.” Princeton University Press, 2009.
- Kahn, Matthew E. “Climatopolis: How Our Cities Will Thrive in the Hotter Future.” Basic Books, 2010. [www.climatopolis.com](http://www.climatopolis.com)