

Americans Think the Climate Is Changing and Support Some Actions

Frederick Mayer, Sanford School of Public Policy, Duke University

Sarah Adair, Nicholas Institute for Environmental Policy Solutions, Duke University

Alex Pfaff, Sanford School of Public Policy, Duke University

Introduction

A recent Duke University survey of American public opinion on climate change and climate policies suggests that the percentages of Americans who think the climate is changing and that this change is caused by human activity have reached their highest levels since 2007. Opinions on climate change remain divided across party lines, but the survey found bipartisan support for regulating greenhouse gas (GHG) emissions and for clean energy requirements. However, neither support for carbon taxes nor understanding of carbon markets is widespread.

The survey—designed by researchers at Duke University’s Sanford School of Public Policy and Nicholas Institute for Environmental Policy Solutions and conducted January 16–22, 2013—is part of an ongoing effort to inform the climate policy debate, including through assessment of public opinion on policy alternatives.¹

Americans Think the Climate Is Changing, but Partisan Gap Persists

Our data suggest the percentage of the public convinced that climate is changing, and the percentage convinced that changes are caused by human activity, are at their highest levels since 2007.

We find that 50% of Americans are convinced that climate change is now occurring, and an additional 34% think it is probably occurring. Those groups combined—84% of Americans—appear to represent the highest level of belief that the climate is changing in at least five years, although comparisons across different surveys can be misleading due to differences in question wording and sampling methods (fig. 1).² A slim majority (54%) of Americans think that climate change is the result of human activity—also the highest level in many years.³

A partisan divide persists. Democrats remain substantially more likely than Republicans to think that climate change is occurring (table 1). Fully 70% of Democrats are convinced, compared to only 27% of Republicans. However, an additional 43% of Republicans in our sample say that it is probably occurring, although they’d like more evidence. The percentages of Independents fall between those of Republicans and Democrats and more closely mirror the overall population.

1. Survey instrument, topline results, and cross tabulations for all figures are available at <http://nicholasinstitute.duke.edu/climate-change-poll/>.

2. *Duke*: Is the earth’s climate changing? Yes, I’m convinced/Probably, but I’d like more evidence/Probably not, but more evidence could convince me/No, there is no solid evidence. *Pew*: From what you’ve read and heard, is there solid evidence that the average temperature on earth has been getting warmer over the past few decades, or not? Yes/No/Don’t know. *Brookings*: From what you have heard, is there solid evidence that the earth has been warming over the past four decades? Yes/No/Don’t know. *Yale/George Mason*: Do you think that global warming is happening? Yes/No/Don’t know. *Stanford*: World’s temperature has been going up over the past 100 years. Yes/No/Don’t know. Chris Borick and Barry Rabe, “Continued Rebound in American Belief in Climate Change: Spring 2012 NSAPOCC Findings,” Governance Studies at Brookings, June 11, 2012; The Pew Research Center for the People & the Press, “More Say There Is Solid Evidence of Global Warming,” October 15, 2012; Anthony Leiserowitz, Edward Maibach, Connie Roser-Renouf, Geoff Feinberg, and Peter Howe, “Climate Change in the American Mind: Americans’ Global Warming Beliefs and Attitudes in September 2012,” Yale University and George Mason University, Yale Project on Climate Change Communication; Jon A. Krosnick and Bo McInnis, “National Survey of American Public Opinion on Global Warming,” Stanford University with Ipsos and Reuters, September 2011.

3. *Duke*, *Pew*, *Yale/George Mason*: Human activity. *Stanford*: Things people do (excludes “both equally”).

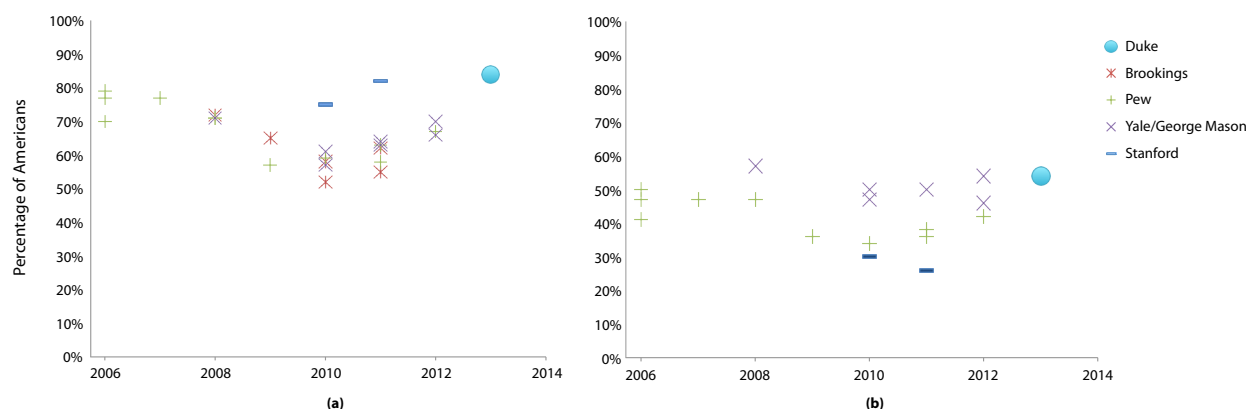


Figure 1. Trend of recent polls of Americans' beliefs that (a) the Earth's climate is changing and (b) that human activity is causing climate change.

Table 1. Belief that the Earth's climate is changing among Democrats (N=377), Republicans (N=306), Independents (N=389), and overall U.S. population (N=1089) in January 2013. Columns may not add to 100 due to rounding.

Is the earth's climate changing?	Democrat	Republican	Independent	Overall U.S. population
Yes, I'm convinced.	70%	27%	48%	50%
Probably yes, but I'd like more evidence.	24%	43%	35%	34%
Probably no, but more evidence could convince me.	3%	15%	9%	9%
No, there isn't any solid evidence.	2%	15%	8%	8%

Similar partisan differences show up on the question of whether climate change is the result of human activity or natural causes (table 2). Fully 73% of Democrats, but only 35% of Republicans, think climate change is caused by human activity.

Table 2. Belief that climate change is caused by human activity among Democrats (N=377), Republicans (N=306), Independents (N=389), and overall U.S. population (N=1089) in January 2013.

Is climate change primarily because of human activity or natural causes?	Democrat	Republican	Independent	Overall U.S. population
Human activity	73%	35%	50%	54%
Natural causes	21%	35%	31%	29%

A majority of Americans agree that climate change is at least a "somewhat serious" threat, but again there are strong partisan differences in the perceived seriousness of the problem (table 3). Approximately half of Democrats think that climate change is a very serious threat, while only a third of Independents and less than a fifth of Republicans agree. More than three times as many Republicans than Democrats believe that climate change is not that much of a threat.

Table 3. Perception that climate change is a threat among Democrats (N=377), Republicans (N=306), Independents (N=389), and overall U.S. population (N=1089) in January 2013. Columns may not add to 100 due to rounding.

How serious a threat is climate change?	Democrat	Republican	Independent	Overall U.S. population
Very serious threat	52%	17%	35%	38%
Somewhat serious threat	40%	52%	50%	46%
Not that much of a threat	7%	29%	13%	15%
Not a threat at all	1%	1%	1%	1%

Strong Majority Supports Regulations and Clean Energy

Despite partisan differences, support for both GHG regulation and clean energy crosses party lines. A large majority of Americans (64%) support a combination of GHG regulations for power plants and factories and fuel-efficiency standards for cars (fig. 2).⁴ Similarly, 64% support requiring utilities to generate "a large amount" of power from low-carbon sources such as wind, solar, natural gas, and nuclear (fig. 3).⁵ Although Democrats are more willing to support all policies than Republicans, slim majorities of Republicans (52%) support both approaches (fig. 4).

4. Regulating GHG emissions from power plants and factories and requiring automakers to build more fuel-efficient cars, trucks, and other vehicles.

5. Requiring electric utilities to produce a large amount of energy from low-carbon sources such as wind, solar, natural gas, and nuclear power.

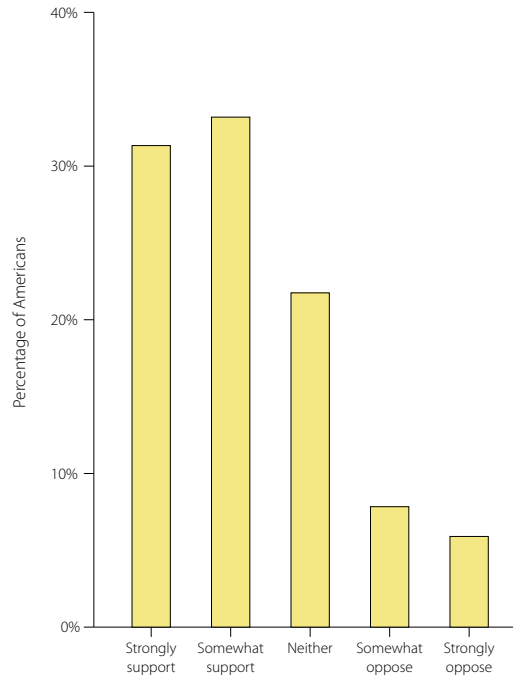


Figure 2. Public opinion of greenhouse gas regulation.

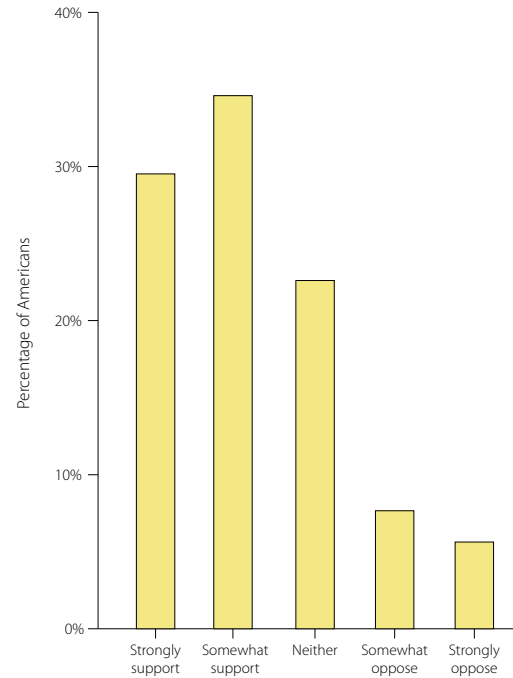


Figure 3. Public opinion of a clean energy standard.

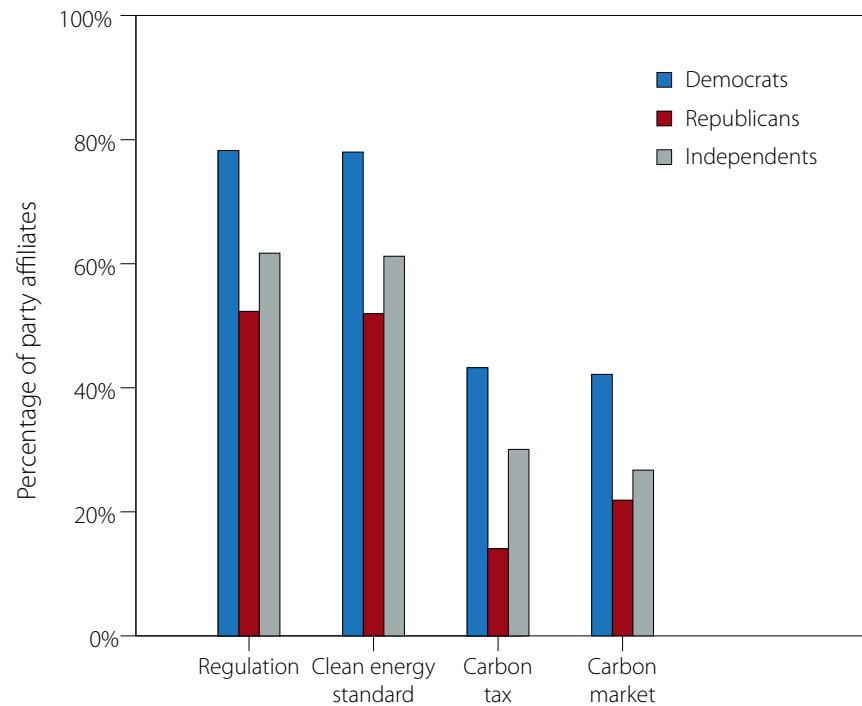


Figure 4. Support of climate policies by political affiliation.

Little Public Support for Carbon Taxes

While a majority of Americans agree that climate change poses some degree of threat, there is little support for market-based policy approaches such as a carbon tax or a carbon market (“cap and trade”).

Only 29% of Americans strongly or somewhat support a carbon tax (fig. 5).⁶ Indeed, only a slim majority of those who perceive climate change to be a “very serious threat” express support (53%). And the carbon tax is decidedly unpopular among those who believe climate change is a somewhat serious threat (27% support). Democrats express some—but not overwhelming—support (42%). Both Republicans (66%) and Independents (45%) oppose (fig. 4). Coupling a carbon tax with a \$500 energy rebate for individual taxpayers⁷ only slightly increases support, from 29% to 34% (fig. 6).

High Uncertainty about Carbon Markets

Although there is less outright opposition to carbon markets, there is little support either. Americans appear unsure about a carbon market approach,⁸ with nearly 36% neither supporting nor opposing (fig. 7). This is consistent with our finding that many Americans are unfamiliar with the approach.⁹ Only 8% have heard “a great deal” about cap and trade, while 44% have heard “nothing at all.”

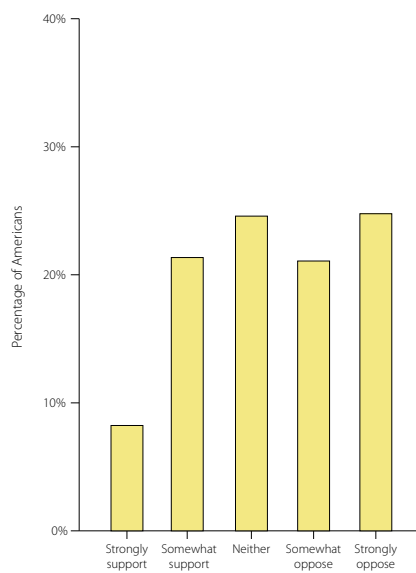


Figure 5. Public opinion of a carbon tax.

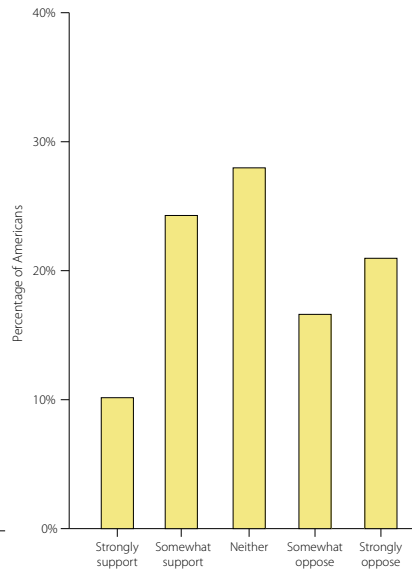


Figure 6. Public opinion of a carbon tax with rebate.

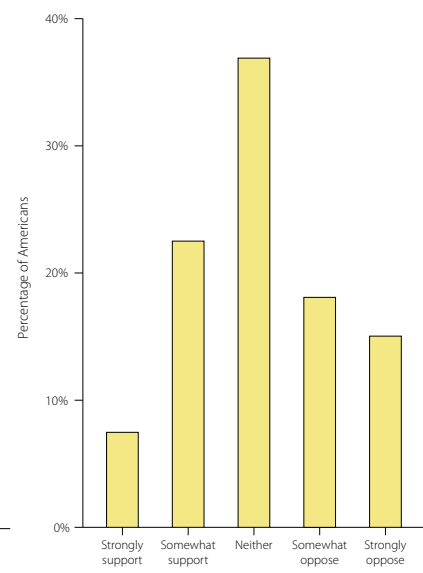


Figure 7. Public opinion of a carbon market.

6. Increasing taxes on all fossil fuels (gasoline, coal, and natural gas) to encourage conservation and use of alternative energy sources.

7. Increasing taxes on all fossil fuels (gasoline, coal, and natural gas) to encourage conservation and use of alternative energy sources, but providing each person with a \$500 energy rebate on their tax return.

8. Setting a limit on the total amount of GHGs that American businesses can emit, but allowing businesses that can cut more to sell a credit to businesses that prefer to pay for the credit instead of cutting their own emissions.

9. How much have you heard about cap and trade as a policy to address climate change?

Policy Stances Are Highly Correlated with Media Sources, Trust of Scientists

A correlation between television viewing habits and beliefs about climate change is well established.¹⁰ We also find that policy stances are correlated with media sources.

Viewers of MSNBC and CNN are more supportive of all policies than average, while Fox viewers are much less supportive. Viewers of network news (ABC, CBS & NBC) and local TV news show patterns of policy support similar to the overall population (fig. 8).¹¹ For a carbon tax, only MSNBC viewers express strong support. While Fox News viewers express no support for a carbon tax, they are less opposed to regulations (42% support) and clean energy (44% support).¹²

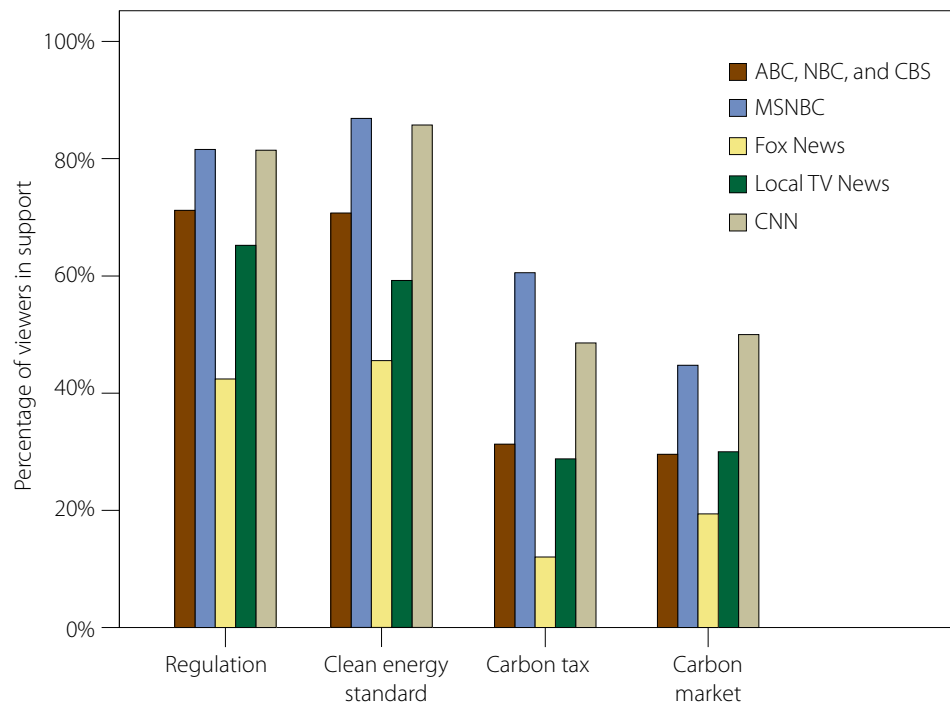


Figure 8. Support for climate policies by preferred TV news source.

In addition, we find that trust of scientists to provide impartial and accurate information on climate change is highly correlated with both party identification and media source (table 4), with those who are more trusting expressing greater support across policy alternatives. Democrats are generally more trusting of scientists relative to both Republicans and Independents, with 31% of Democrats and only 9% of Republicans trusting scientists a “great deal” to provide impartial and accurate findings on climate change. Trust in science is highly correlated with news source. Fox News viewers are much less trusting of scientists relative to viewers of alternative news programs, while MSNBC viewers express far greater levels of trust.

Table 4. Trust in scientists to provide accurate and impartial findings on climate change among viewers of ABC, NBC & CBS (N=396), MSNBC (N=38), Fox News (N=191), Local TV News (N=250), CNN (N=70) and overall U.S. population (N=1089) in January 2013. *Columns may not add to 100% due to rounding.

How much do you trust scientists to provide impartial and accurate findings on climate change?	ABC, NBC & CBS	MSNBC	Fox News	Local TV News	CNN	Overall U.S. population
A great deal	23%	42%	8%	17%	24%	20%
A fair amount	47%	42%	33%	47%	56%	43%
Just some	22%	13%	32%	26%	14%	25%
Very little	8%	3%	27%	10%	6%	12%

10. Jon A. Krosnick and Bo McInnis, “Frequent Viewers of Fox News are Less Likely to Accept Scientists’ View of Global Warming,” Stanford University, December 2010. This is consistent with an earlier study that shows that featuring climate skeptics in the news media affects attitudes and beliefs about climate change—including by reducing the number of people who believe that climate change is happening, support government action to address climate change, and specifically support a cap-and-trade policy. See Ariel Malka, Jon A. Krosnick, Mathew Debell, Josh Pasek, and Daniel Scheider, “Featuring Skeptics in News Media Stories about Global Warming Reduces Public Beliefs about the Seriousness of Global Warming,” Stanford University, June 2009.

11. When you watch television news, which outlet do you choose most often? ABC/NBC/CBS/MSNBC/Fox News/CNN/Local TV News/I do not watch television news.

12. Includes those who “strongly support” and those who “support somewhat.”

Conclusions

A large majority of Americans are now either convinced the climate is changing or think that it is probably changing, but fewer Americans are convinced that carbon taxes or markets are satisfactory policy responses. Carbon taxes remain decidedly unpopular despite the recent uptick in discussion as lawmakers look for ways to reduce the federal deficit. While partisan differences persist in beliefs about climate change and attitudes toward government policies, majorities of Democrats, Republicans, and Independents support more traditional policy approaches, including emissions regulation and requirements to produce more clean energy. The public's preference for emissions regulation and clean energy requirements appears to be in line with the Environmental Protection Agency's current mandate to regulate greenhouse gases under the Clean Air Act. The public is also highly supportive of the Clean Energy Standard approach that President Obama has promoted in his last two State of the Union addresses.

Methodology

This policy brief draws on a national survey of 1,089 adults ages 18 and older fielded January 16–22, 2013, with a margin of error of 3%.¹³

The survey was conducted using the web-enabled KnowledgePanel, a probability-based panel designed by market research organization GfK Knowledge Networks to be representative of the U.S. population. Initially, participants are chosen scientifically by a random selection of telephone numbers and residential addresses. Persons in selected households are then invited by telephone or by mail to participate in the web-enabled KnowledgePanel. For those who agree to participate, but do not already have Internet access, GfK Knowledge Networks provides at no cost a laptop and ISP connection. People who already have computers and Internet service are permitted to participate using their own equipment. Panelists then receive unique login information for accessing surveys online, and then are sent e-mails throughout each month inviting them to participate in research.

A total of 2,000 panelists were randomly drawn from the Knowledge Networks panel. A total of 1,102 responded to the invitation and 1,089 qualified, yielding a final-stage completion rate of 55.1% and a 98.7% qualification rate. The recruitment rate for this study, reported by Knowledge Networks, was 14.5% and the profile rate was 66.2%, for a cumulative response rate of 5.2%. The breakoff rate was 2.8%.

13. While practices for conducting online surveys vary significantly, Knowledge Networks is well known for its diligence in recruiting nationally representative samples. According to the statistician Nate Silver, “at the favorable extreme is the company Knowledge Networks, which goes so far as to provide internet access to people who do not already have it.” Nate Silver, “Before Citing a Poll, Read the Fine Print,” *New York Times*, January 15, 2012, <http://fivethirtyeight.blogs.nytimes.com/2012/01/15/before-citing-a-poll-read-the-fine-print/>.



The **Nicholas Institute for Environmental Policy Solutions** at Duke University is a nonpartisan institute founded in 2005 to help decision makers in government, the private sector, and the nonprofit community address critical environmental challenges. The Institute responds to the demand for high-quality and timely data and acts as an “honest broker” in policy debates by convening and fostering open, ongoing dialogue between stakeholders on all sides of the issues and providing policy-relevant analysis based on academic research. The Institute's leadership and staff leverage the broad expertise of Duke University as well as public and private partners worldwide. Since its inception, the Institute has earned a distinguished reputation for its innovative approach to developing multilateral, nonpartisan, and economically viable solutions to pressing environmental challenges.
www.nicholasinstitute.duke.edu