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Majorities See Government Efforts to Protect the Environment as Insufficient

Pockets of partisan agreement over renewables despite wide divides over increasing fossil fuels and effects of climate change

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Majorities See Government Efforts to Protect the Environment as Insufficient

Pockets of partisan agreement over renewables despite wide divides over increasing fossil fuels and effects of climate change

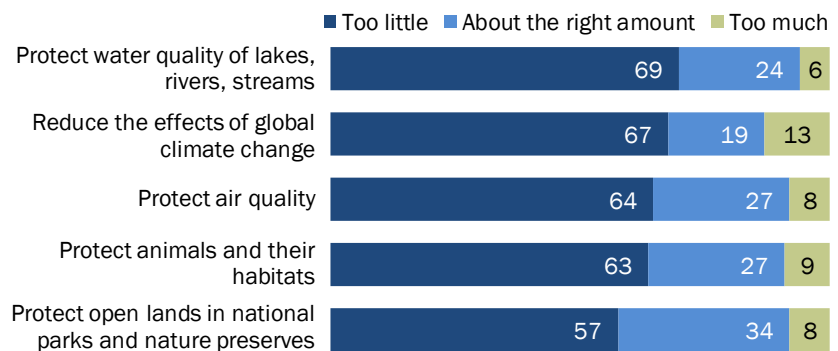
Majorities of Americans say the federal government is doing too little to protect key aspects of the environment including water (69%) and air quality (64%). And two-thirds of Americans (67%) say the government is doing too little to reduce the effects of climate change. These findings come after a year of change in climate and energy regulatory policies under the Trump administration.

At the same time, Americans are closely divided (52% to 48%) over whether or not it is possible to cut back on regulations while still effectively protecting air and water quality. There are wide political divides on this issue, with roughly three-quarters of Republicans (74%, including independents who lean Republican) convinced this is possible but 64% of Democrats (including Democratic-leaning independents) convinced it is *not* possible.

The national survey by Pew Research Center, conducted March 27-April 9 among 2,541 adults, finds pockets of partisan agreement over expanding solar and wind power, though wide political divides remain over increasing fossil fuels through such methods as coal mining, hydraulic fracturing and offshore drilling for oil and natural gas, a pattern consistent with a [2016 Pew Research Center survey](#).

Majorities of U.S. adults say federal government is not doing enough to protect environment in these ways

% of U.S. adults who say the federal government is doing ____ in each area



Note: Respondents who did not give an answer are not shown.

Source: Survey conducted March 27-April 9, 2018.

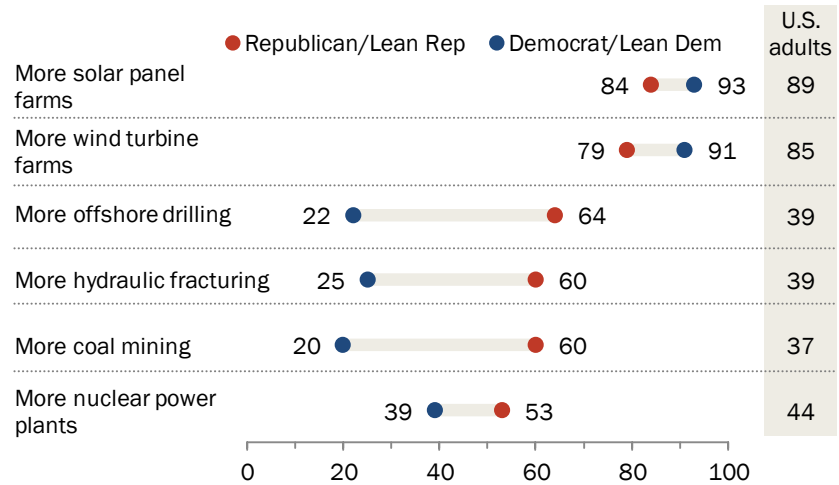
"Majorities See Government Efforts to Protect the Environment as Insufficient"

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Further, a majority of Americans support a range of energy policy priorities including protecting the environment from the effects of energy development and use (72%) and increasing reliance on renewable energy sources (71%), as well as reducing dependence on foreign energy sources (69%) and keeping consumer energy costs low (66%). More Democrats and Democratic-leaning independents give priority to protecting the environment as well as increasing reliance on renewable energy sources; a larger share of Republicans and independents who lean to the GOP put priority on reducing U.S. dependence on foreign energy sources.

Majorities of Republicans and Democrats support increased use of solar, wind power

% of U.S. adults who favor increasing the use of each energy source



Note: Respondents who gave other responses or did not give an answer are not shown.

Source: Survey conducted March 27-April 9, 2018.

"Majorities See Government Efforts to Protect the Environment as Insufficient"

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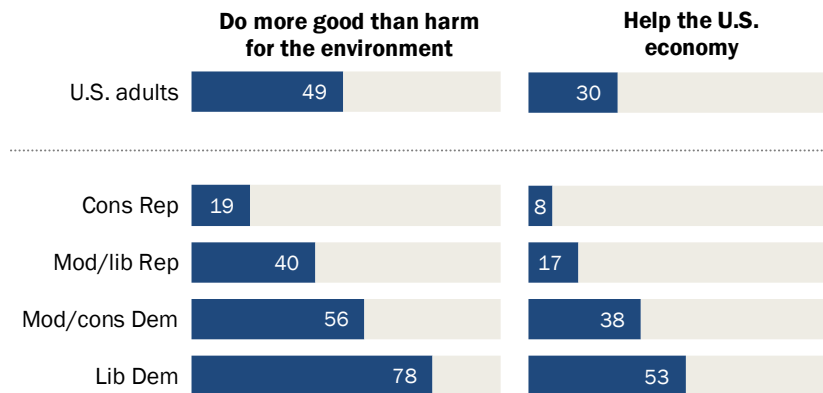
Consistent with past studies, Republicans and Democrats remain divided over whether the Earth is warming and the importance of human activity in the process. The new survey finds three-quarters of Democrats and Democratic leaners believe the Earth is warming primarily due to human causes, compared with 26% among their Republican counterparts. Similarly, Democrats are much more likely than are Republicans to express concern about the issue of climate change and to see at least some effects of global warming in their local community or in their own lives.

There are wide political divides over the consequences of policies aimed at climate change that hold even among those who agree that the Earth has been warming. Most Republicans are skeptical about whether, in general, policies aimed at reducing climate change benefit the environment (72% of Republicans and Republican leaners say these policies either make no difference or do more harm than good), and 57% think such policies harm the economy. For their part, about two-thirds of Democrats (66%, including leaners) think that such policies will help the environment and most see either no harm (39%) or net benefits for the economy (45%) from such policies.

When asked about specific proposals to reduce climate change, most Democrats (90%) and smaller majorities of Republicans (65%) say that restrictions on power plant emissions would make a difference in reducing climate change, as would tax incentives encouraging businesses to reduce their carbon emissions (85% and 65%, respectively). Republicans, particularly conservative Republicans, are less convinced that tougher fuel efficiency standards for vehicles or tax incentives to encourage more individuals to drive hybrid and electric cars will make a difference in reducing climate change.

Views about the effects of climate policies vary widely by political orientation

% of U.S. adults who say policies aimed at reducing the effects of global climate change generally ...



Note: Republicans and Democrats include independents and others who "lean" toward the parties. Respondents who gave other responses or did not give an answer are not shown. Source: Survey conducted March 27-April 9, 2018. "Majorities See Government Efforts to Protect the Environment as Insufficient"

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Opinion about one new approach on the horizon – solar geoengineering, which seeks to lower the Earth's temperature through broad-based changes to the atmosphere – divides strongly along political lines. About eight-in-ten conservative Republicans (78%) say solar geoengineering would *not* make a difference in reducing climate change while 64% of liberal Democrats say it would. Four-in-ten Democrats (40%) and about half of Republicans (54%) express concern that such approaches would do more harm than good for the environment, however.

Generational differences emerge on some energy and climate issues, but such differences occur primarily among Republicans, not Democrats. Republican Millennials are less inclined than their elders in the GOP to support increased use of fossil fuel energy sources through such methods as offshore drilling, hydraulic fracturing and coal mining. For example, 75% of Republicans in the Baby Boomer and older generations support the increased use of offshore drilling, compared with 44% of Millennial Republicans. Among Democrats, there are no more than modest differences by generation on beliefs about these climate and energy issues.

Most Americans say government is doing too little to protect the environment, but conservative Republicans tend to disagree

During the first year of the Trump administration, the Environmental Protection Agency has rolled back [more than 30 environmental regulations](#), and it recently announced [a plan](#) to lower carbon emissions standards on automobiles.

Amid these changes, Americans are divided on whether it is possible to cut regulations while still effectively protecting air and water quality, with 52% saying it is possible and 48% saying it is not.

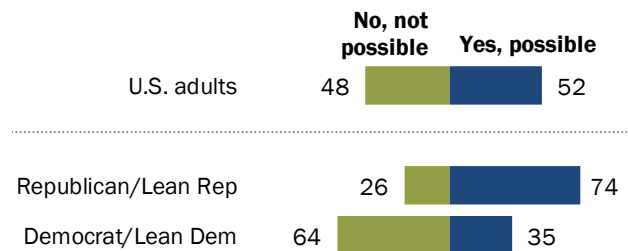
Some 74% of Republicans and independents who lean Republican believe it is possible to cut regulations and protect the quality of air and water, compared with 35% of Democrats and Democratic leaners who say the same.

More specifically, majorities of Americans say the federal government is doing too little to protect water quality (69%), air quality (64%), animals and their habitats (63%) or open lands in national parks (57%).

Also, two-thirds of U.S. adults (67%) say the government is not doing enough to reduce the effects of global climate change. Only about one-in-five Americans (19%) say government officials are doing “about the right amount” to deal with climate change, with another 13% saying “too much” is being done.

Most Republicans say it is possible to cut regulations and still protect air and water quality

% of U.S. adults who say it is possible/not possible to cut back on environmental regulations and still effectively protect air and water quality in the U.S.



Note: Respondents who did not give an answer are not shown.

Source: Survey conducted March 27-April 9, 2018.

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Political leanings have a profound influence on how Americans view government activity. Roughly nine-in-ten liberal Democrats believe the federal government is not doing enough to protect key aspects of the environment such as air (89%) and water quality (91%). By contrast, minorities of conservative Republicans believe the government is doing too little in these areas.

For instance, 89% of liberal Democrats say the federal government isn't doing enough to protect air quality, compared with just 26% of conservative Republicans who say the same. When it comes to water quality of lakes, rivers and streams, 91% of Democrats say the federal government isn't doing enough, compared with 39% of conservative Republicans.

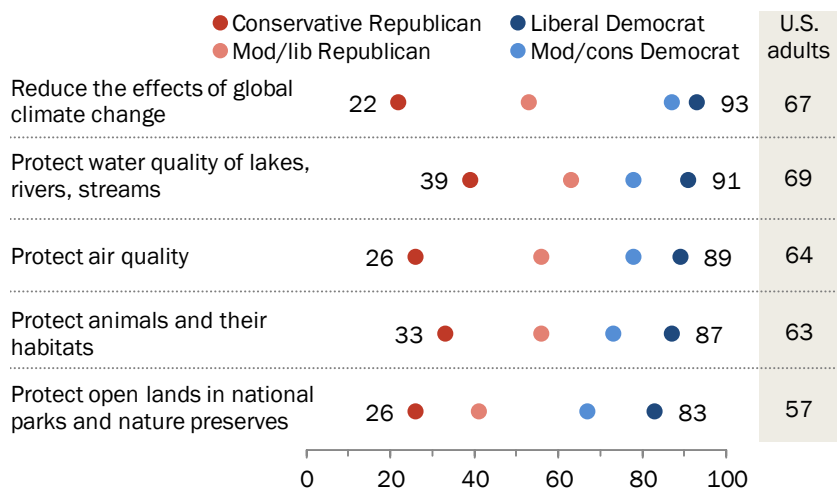
Conservative Republicans – about half of them – say the government is doing “about the right amount” to safeguard these aspects of the environment. A smaller share says the government is “doing too much” to protect air (18%) or water quality (14%).

Moderate or liberal Republicans are more likely than their conservative counterparts to say that the federal government's environmental efforts are insufficient. For instance, 63% of moderate or liberal Republicans believe the government is doing too little to protect the water quality of lakes, rivers and streams, compared with 39% of conservative Republicans who say the same.

Separate [Pew Research Center surveys](#) found a 15-percentage-point decline between 2015 and 2017 in Americans' overall ratings of how well the federal government is protecting the environment. Views of government performance in this area shifted among both Republicans and Democrats.

Strong political divides over whether government is doing too little to protect the environment

% of U.S. adults who think the federal government is doing too little to ...



Note: Republicans and Democrats include independents and others who “lean” toward the parties. Respondents who gave other responses or did not give an answer are not shown.

Source: Survey conducted March 27-April 9, 2018.

“Majorities See Government Efforts to Protect the Environment as Insufficient”

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More Republicans say reducing reliance on foreign energy sources should be a top policy priority; more Democrats say the U.S. should prioritize environmental protection

Strong majorities of Americans believe the top priorities for U.S. energy policy should be protecting the environment from energy development and use (72%), increasing reliance on renewable energy sources (71%) or reducing U.S. dependence on foreign energy sources (69%).

Majorities of Americans also say that keeping energy prices low (66%) or creating jobs within the energy sector (58%) should be top priorities.

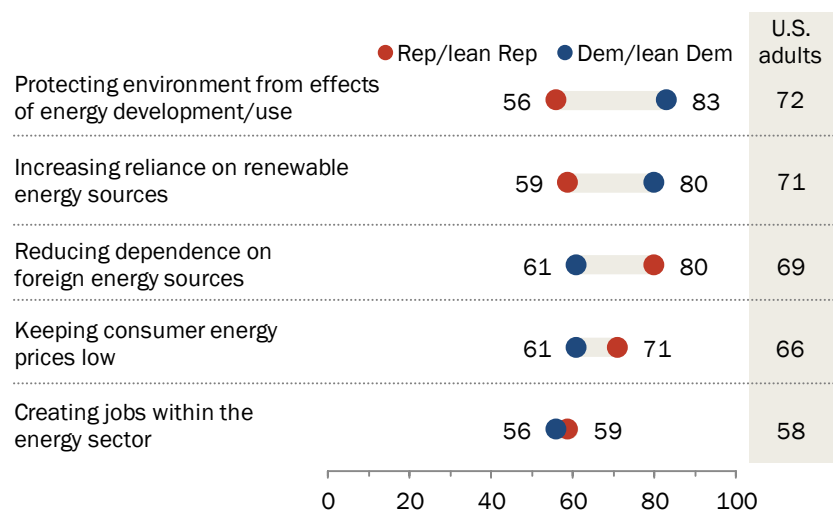
As is often the case with issues related to energy and the environment, there is a partisan divide over how best to prioritize U.S. energy goals.

Strong majorities of Democrats and Democratic-leaning independents believe the top priorities should be protecting the environment from the effects of energy development and use (83%) or increasing America's reliance on renewable energy sources (80%), compared with 56% of Republicans and Republican leaners who say the same about protecting the environment from the effects of energy development and 59% who would prioritize renewable energy sources.

Eight-in-ten (80%) Republicans and Republican leaners believe a top objective of U.S. energy policy should be reducing dependence on foreign energy sources – a view shared by 61% of Democrats and Democratic-leaning independents.

More Republicans stress importance of domestic energy sources; most Democrats focus on environment

% of U.S. adults who rate each of the following as a top priority for America's energy policies



Note: Respondents who gave other responses or did not give an answer are not shown.

Source: Survey conducted March 27-April 9, 2018.

"Majorities See Government Efforts to Protect the Environment as Insufficient"

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The two parties tend to agree on the relative importance of economic issues when considering energy policies, with 56% of Democrats and 59% and Republicans saying that creating jobs within the energy sector should be a top priority, and 61% and 71%, respectively, saying the U.S. should focus most on keeping consumer energy prices low. Liberal Democrats are less likely to give top priority to maintaining low energy prices (49%) than moderate or conservative Democrats (72%). The views of moderate or conservative Democrats are nearly the same on this issue as moderate or liberal Republicans (69%) and conservative Republicans (72%).

Renewable energy has strong bipartisan support, but there are wide partisan divides over fossil fuels

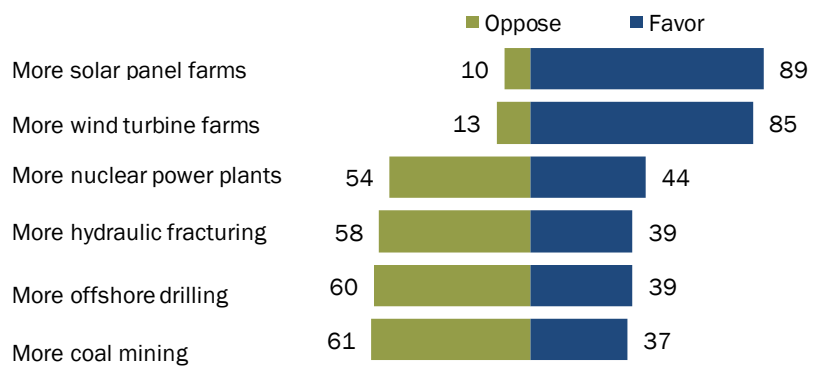
Around three-fourths of Americans (76%) are aware that [U.S. energy production has increased](#) over the past 20 years. And large majorities of Americans favor expanding at least two types of renewable sources to provide energy: solar panel (89%) and wind turbine (85%) facilities. Fewer than half of Americans support more hydraulic fracturing or “fracking” (39%), offshore oil and gas drilling (39%) or coal mining (37%); 44% support more nuclear power plants. These figures are in keeping with the findings of a 2016 [Pew Research Center survey](#).

Robust support for expanding solar and wind power represents a rare point of bipartisan consensus in how the U.S. views energy policies. Both conservative Republicans and liberal Democrats, for instance, strongly favor the expansion of solar panel farms (80% and 96%, respectively) and wind turbine farms (71% and 93%, respectively).

However, the political gap over fossil fuels remains vast, with 73% of conservative Republicans and 16% of liberal Democrats favoring more offshore drilling; 70% and 13%, respectively, supporting more coal mining; and 67% and 17%, respectively, in favor of expanded fracking. Moderate or liberal Republicans tend to be

Strong public support for more solar and wind power

% of U.S. adults who say they favor expanding each energy source



Note: Respondents who did not give an answer are not shown.

Source: Survey conducted March 27-April 9, 2018.

“Majorities See Government Efforts to Protect the Environment as Insufficient”

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more divided than their conservative counterparts over fossil fuels. For example, 49% of this group favors more offshore drilling for oil and natural gas, while 50% oppose it.

The political divide over nuclear energy, a carbon-neutral technology, is less pronounced than it is over fossil fuels: 57% of conservative Republicans support the expansion of nuclear power plants versus 38% of liberal Democrats.

In keeping with [previous Pew Research Center surveys](#), women tend to be less supportive of expanding nuclear power than men, even after controlling for political party. Some 35% of women favor and 63% oppose more nuclear power plants. Men are more closely divided on this issue: 53% favor and 46% oppose.

Political divides over expanding the use of offshore drilling, hydraulic fracturing and nuclear power are consistent with past Pew Research Center surveys using somewhat different question wording and polling methods. See the [Appendix](#).

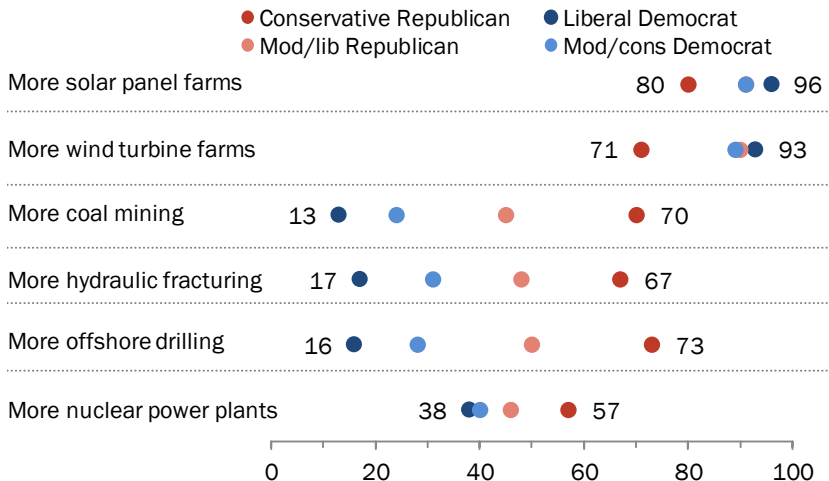
Americans lean toward the importance of regulations to increase renewable energy use vs. private marketplace alone

While there is wide support for the expansion of solar and wind power, Americans are divided over the most effective way to promote wider adoption of renewable energy sources.

On balance, most U.S. adults (56%) agree with the statement “Government regulations are necessary to encourage businesses and consumers to rely more on renewable energy sources.”

Strong bipartisan support for expanding renewables, but wide ideological divides over fossil fuels

% of U.S. adults who say they favor expanding each energy source



Note: Republicans and Democrats include independents and others who “lean” toward the parties. Respondents who gave other responses or did not give an answer are not shown.

Source: Survey conducted March 27-April 9, 2018.

“Majorities See Government Efforts to Protect the Environment as Insufficient”

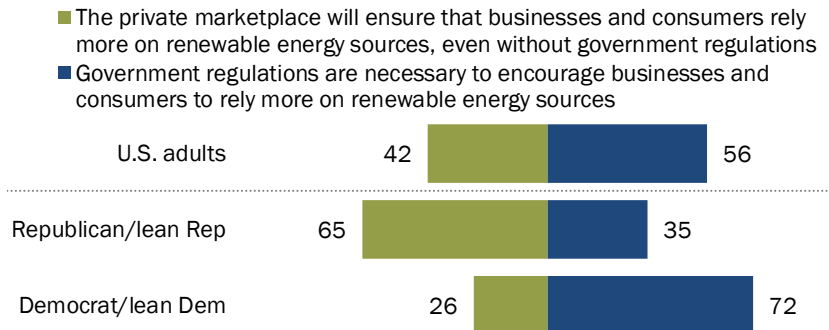
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Meanwhile, 42% back the statement “The private marketplace will ensure that businesses and consumers rely more on renewable energy sources, even without government regulations.”

Views on this question are strongly aligned with partisan affiliation. While 72% of Democrats and Democratic-leaning independents say that government regulations are necessary to promote adoption of renewable energy sources, 65% of Republicans and Republican leaners say the private marketplace can accomplish that goal without government regulations.

Americans remain divided over government’s importance in promoting wider use of renewables

% of U.S. adults who say ...



Note: Respondents who did not give an answer are not shown.

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“Majorities See Government Efforts to Protect the Environment as Insufficient”

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These findings are in keeping with a [2017 Pew Research Center report](#), which used slightly different question wording and methods.

Americans’ views on policies to address climate change are strongly divided by politics

Three-quarters of Americans believe global climate change has at least some effect on the U.S. today, and about six-in-ten (59%) believe climate change has at least some effect on their local community, the new survey finds.

On balance, most Americans believe it is possible to reduce the effects of climate change, and about half say that policy efforts to diminish those effects have a net benefit for the environment. However, views on how such policies impact the economy are mixed, with roughly even shares saying these policies have a net positive, net negative and no effect on the economy.

There are wide partisan differences on climate issues, as has been found in more than a decade of surveys. Political divides are found in issues ranging from what drives climate change to how policies aimed at climate change reduction will affect the environment and the economy.

About half of Americans say the Earth is warming mostly due to human activity

Some 53% of Americans say the Earth is getting warmer mostly because of human activity such as burning fossil fuels; roughly three-in-ten (29%) say the Earth is getting warmer mostly because of natural patterns in the Earth's environment and another 17% say there is no solid evidence of warming.

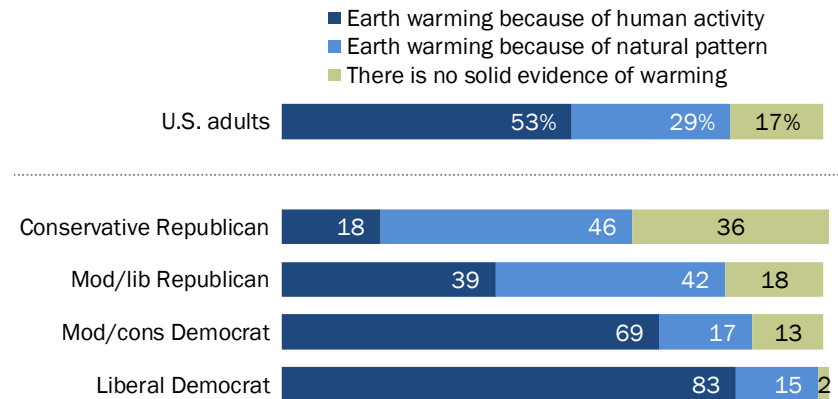
The share of adults saying human activity is the primary cause of climate change is similar to [a 2016 Pew Research Center survey](#), in which 48% of Americans said that the Earth is warming mostly due to human activity.

There are wide differences in beliefs about climate change by politics. About eight-in-ten liberal Democrats (83%) say the Earth is getting warmer mostly because of human activity. In contrast, 18% of conservative Republicans say this, a difference of 65 percentage points. Some 46% of conservative Republicans say the Earth is getting warmer mostly because of natural patterns and 36% say there is no solid evidence of warming.

While previous Pew Research Center surveys have asked about this issue using somewhat different question wording and polling methods over time, surveys since 2006 have found wide political differences in public views about climate change and the role of human activity. See the [Appendix](#).

Democrats and Republicans tend to disagree over evidence of and main causes of climate change

% of U.S. adults who say ...



Note: Republicans and Democrats include independents and others who "lean" toward the parties. Respondents who did not give an answer are not shown.

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"Majorities See Government Efforts to Protect the Environment as Insufficient"

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Perceptions of consensus among climate scientists are also divided along political lines

Americans were also asked what they understand to be the view of most climate scientists on climate change. Two-thirds of adults think most climate scientists say the Earth is getting warmer mostly because of human activity, while much smaller shares think most climate scientists point to natural causes to explain the Earth getting warmer (17%) or say there is no solid evidence the Earth is warming (16%).

Several analyses of scholarly publications suggest widespread agreement among climate scientists that human activity is the primary cause of climate change.¹

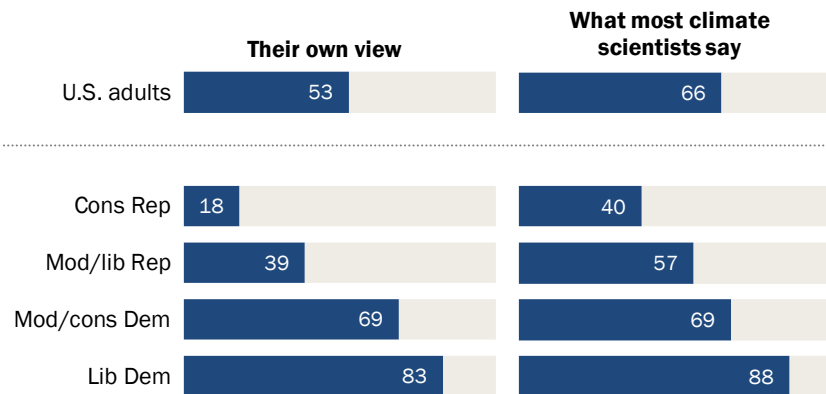
Similarly, [a Pew Research](#)

[Center survey of members of the American Association for the Advancement of Science \(AAAS\)](#) found 93% of members with a Ph.D. in Earth sciences (and 87% of all members) say the Earth is warming mostly due to human activity.²

Pew Research Center has asked Americans about their perception of the scientific consensus on climate change in different ways over the years. For example, in [a 2016 survey](#), Americans were asked what share of climate scientists say human behavior is mostly responsible for global climate

Two-thirds of Americans say most climate scientists think the Earth is warming due to human activity

% of U.S. adults who say the Earth is getting warmer mostly because of human activity such as burning fossil fuels comes closest to ...



Note: Respondents were randomly assigned to answer only one of the two questions. Republicans and Democrats include independents and others who "lean" toward the parties. Respondents who gave other responses or did not give an answer are not shown.

Source: Survey conducted March 27-April 9, 2018.

"Majorities See Government Efforts to Protect the Environment as Insufficient"

PEW RESEARCH CENTER

¹ An analysis of peer-reviewed scientific articles published in 2013 and 2014 found virtually all authors supported human-caused climate change. See Powell, James Lawrence. 2015. "[Climate Scientists Virtually Unanimous Anthropogenic Global Warming is True.](#)" *Bulletin of Science, Technology & Society*, vol. 35(5-6). An analysis of peer-reviewed articles published between 1991 and 2011 found 97% of articles that take a position endorse human caused climate change. See Cook, John, Dana Nuccitelli, Sarah A. Green, Mark Richardson, Bärbel Winkler, Rob Painting, Robert Way, Peter Jacobs and Andrew Skuce. 2013. "[Quantifying the consensus on anthropogenic global warming in the scientific literature.](#)" *Environmental Research Letters*, vol. 8(2).

² Other surveys of scientists have also found strong majorities in agreement on the cause of climate change. See Verheggen, Bart, Bart Strengers, John Cook, Rob van Dorland, Kees Vringer, Jeroen Peters, Hans Visser and Leo Meyer. 2014. "[Scientists' Views about Attribution of Global Warming.](#)" *Environmental Science & Technology*. Environmental Science & Technology, and Doran, P.T. and M.K. Zimmerman. 2009. "[Examining the Scientific Consensus on Climate Change.](#)" *Eos*, vol. 90(3).

change. Some 27% said almost all climate scientists think human behavior is mostly responsible for climate change and 35% said more than half.³

People's political orientations are strongly related to their perception of the scientific consensus on climate change.⁴ In this survey, a strong majority of liberal Democrats (88%) say most climate scientists think the Earth is warming due to human activity. By comparison, 40% of conservative Republicans say most climate scientists think the Earth is warming due to human activity.

Among conservative Republicans, 40% say most climate scientists think human behavior is the primary cause of climate change, but just half that share (18%) hold this as their personal belief on climate change.

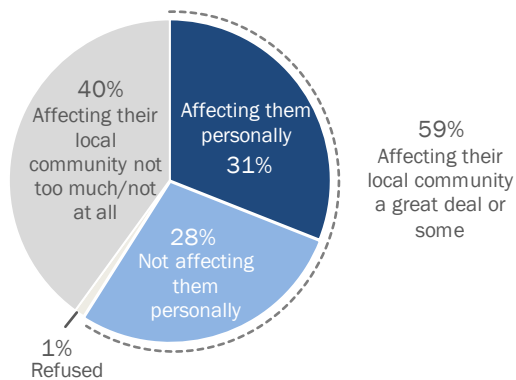
A majority of Americans see at least some effects of climate change in their community

Roughly three-quarters of Americans (76%) say climate change is currently affecting the U.S. either a great deal (40%) or some (35%). And roughly six-in-ten (59%) think climate change is affecting their local community either a great deal (22%) or some (37%).

Those who perceived at least some effect of climate change in their local community were asked to consider if climate change has had a personal impact in their lives. Overall, about three-in-ten U.S. adults (31%) say the local effects are directly affecting their personal lives.

A majority of U.S. adults say climate change affects their local area; 31% say it affects them personally

% of U.S. adults who say the effects of global climate change are ...



Source: Survey conducted March 27-April 9, 2018.

"Majorities See Government Efforts to Protect the Environment as Insufficient"

PEW RESEARCH CENTER

³ Past Pew Research Center surveys have also asked Americans if scientists generally agree or not that the Earth is getting warmer because of human activity. In 2014, the last time this question was asked, 57% of Americans said scientists generally agree that the Earth is getting warmer because of human activity, while 37% said scientists generally do not agree.

⁴ Previous Pew Research Center surveys have also shown a close relationship between perceptions of scientific consensus on climate change and saying human activity is the primary cause of climate change.

Respondents who said climate change has affected their community were then asked *how* they felt their local area was affected. They were particularly likely to mention changes in the weather, including increasing frequency of severe storms, droughts, floods and wildfires (45% of those asked).

Other responses to this open-ended question included damage to plants, animals and the landscape (12% of those asked) and effects on human health and local infrastructure (6% of those asked).

Among the general public, perceptions of whether and how much climate change is affecting their local community are tied to political party and ideology. For example, 83% of liberal Democrats say climate change is affecting their local community at least some and almost half (48%) say the effects of climate change are impacting them personally. By contrast, about one-quarter (27%) of conservative Republicans say climate change is affecting their local community and 13% say climate change is impacting them personally. Even among those who say the Earth is warming, Republicans are less inclined than Democrats to see climate change affecting their local community.

45% of those who see effects of climate change in their community cite changes in weather patterns, temperature

Among the 59% who say global climate change is currently affecting their local community at least some, % who say each of the following is the main way

MOST COMMON TYPES OF RESPONSES	%
Weather and temperature changes NET	45
Damage to plants, animals and land NET	12
Effects on human health and infrastructure NET	6
Air, water and land pollution	4
Things people see that contribute to climate change NET	4
Effects on energy consumption and renewable energy NET	3
General negative effect	3
Other	3
Don't know/Refused	33

Note: Based on those who say global climate change is currently affecting their local community a great deal or some. Open-end responses are coded into categories. Figures add to more than 100% because multiple responses were allowed.

Source: Survey conducted March 27-April 9, 2018.

"Majorities See Government Efforts to Protect the Environment as Insufficient"

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Most liberal Democrats expect climate change policies to benefit the environment, while most conservative Republicans expect either no improvement or more harm than benefit

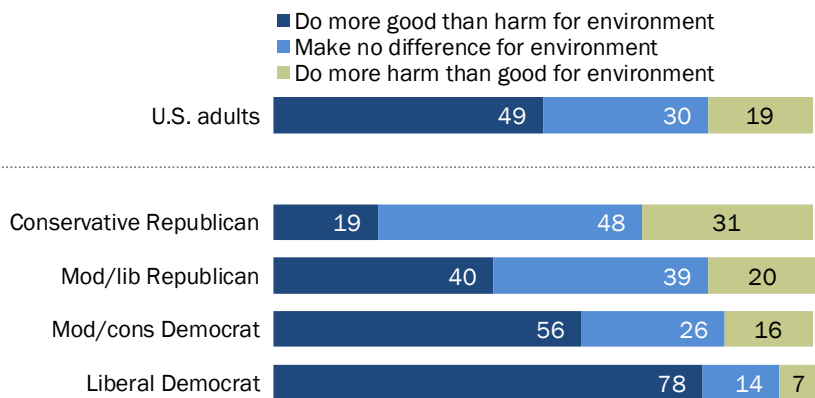
When it comes to policies aimed at reducing the effects of global climate change, about half of U.S. adults (49%) believe these policies have net benefits for the environment. Three-in-ten say these policies make no difference for the environment and about two-in-ten (19%) believe these policies end up doing more harm than good for the environment.

As with other climate issues, there are sizable political divides over the effects of climate policies. About eight-in-ten liberal Democrats (78%) say climate change policies do more good than harm, compared with 56% of moderate or conservative

Democrats. Republicans are more inclined to believe such policies have little impact or bring net harm to the environment. Among conservative Republicans, about half (48%) say these policies make no difference and three-in-ten (31%) say these policies do more harm than good for the environment.

Most liberal Democrats see policies aimed at reducing climate change effects as positive for environment

% of U.S. adults who say policies aimed at reducing the effects of global climate change generally ...



Note: Republicans and Democrats include independents and others who "lean" toward the parties. Respondents who did not give an answer are not shown.

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"Majorities See Government Efforts to Protect the Environment as Insufficient"

PEW RESEARCH CENTER

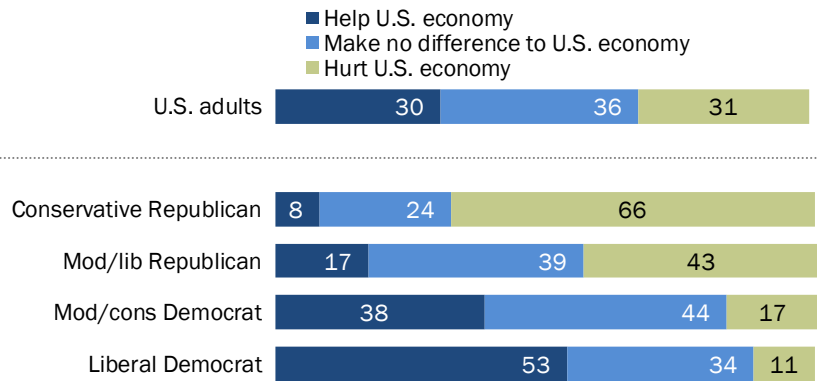
Americans tend to be more skeptical of what effects climate change policies have on the economy. Some 30% of Americans say climate change policies help the U.S. economy, while a roughly equal share (31%) believes these policies generally hurt the economy. Another 36% say policies to reduce the effects of global climate change generally make no difference to the U.S. economy.

Conservative Republicans and liberal Democrats are at odds on this question. A

majority of conservative Republicans (66%) say these policies generally hurt the U.S. economy, compared with just one-in-ten liberal Democrats (11%). And while about half of liberal Democrats (53%) say climate change policies help the economy, only 8% of conservative Republicans say the same.

Americans have mixed views about how policies to reduce climate change affect the U.S. economy

% of U.S. adults who say policies aimed at reducing the effects of global climate change generally ...



Note: Republicans and Democrats include independents and others who "lean" toward the parties. Respondents who did not give an answer are not shown.

Source: Survey conducted March 27-April 9, 2018.

"Majorities See Government Efforts to Protect the Environment as Insufficient"

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Most Americans think policy changes can make a difference in reducing climate change

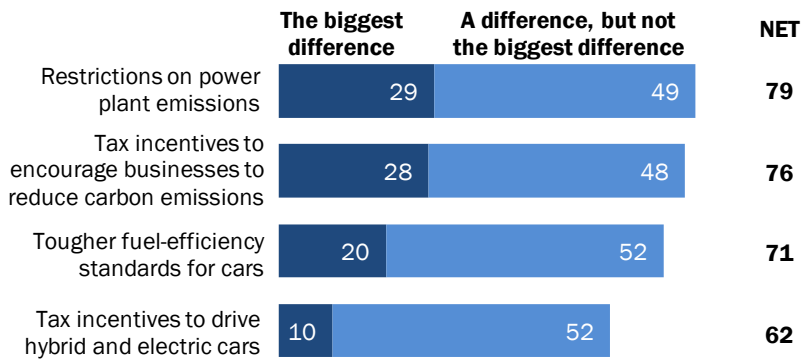
Most Americans (68%) are generally optimistic that it is possible to reduce the effects of climate change, while 31% say otherwise. And majorities of Americans believe each of the four policy proposals considered in this survey would make a difference in reducing the effects of climate change.

For instance, 79% of Americans say that restrictions on power plant emissions can make a difference in reducing the effects of global climate change. Three-quarters of U.S. adults (76%) say corporate tax incentives to encourage carbon emission reductions among businesses can make a difference, and roughly seven-in-ten (71%) say the same about tougher fuel efficiency standards for cars and trucks.

Americans are somewhat less optimistic about tax incentives to encourage more people to drive hybrid and electric cars. About six-in-ten (62%) think this would make a difference in reducing the effects of global climate change.

Most Americans say power plant emissions restrictions and corporate tax incentives can make a difference in reducing climate change effects

% of U.S. adults who say each of the following proposals would make ___ in reducing the effects of global climate change



Note: Respondents who gave other responses or did not give an answer are not shown.
 Source: Survey conducted March 27-April 9, 2018.
 "Majorities See Government Efforts to Protect the Environment as Insufficient"

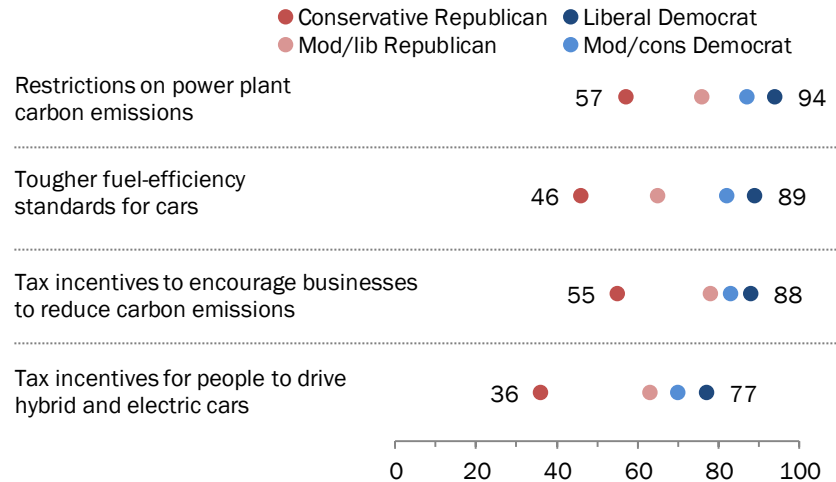
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Conservative Republicans are less likely than other political groups to think each of these proposals can make a difference in reducing the effects of climate change. For example, 36% of conservative Republicans say tax incentives for people to drive hybrid and electric cars would impact climate change. By comparison, a majority of moderate or liberal Republicans (63%) and 73% of Democrats say this proposal would make a difference.

Those who think climate change is the result of human activity or that it is possible to reduce the effects of climate change are also particularly likely to say each of these specific proposals can make a difference.

Conservative Republicans are more skeptical of whether these climate proposals would be effective

% of U.S. adults who say each of the following proposals would make a difference in reducing the effects of global climate change



Note: Republicans and Democrats include independents and others who “lean” toward the parties. Respondents who gave other responses or did not give an answer are not shown. Source: Survey conducted March 27-April 9, 2018.

“Majorities See Government Efforts to Protect the Environment as Insufficient”

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Public opinion about solar geoengineering approaches to climate change is closely divided

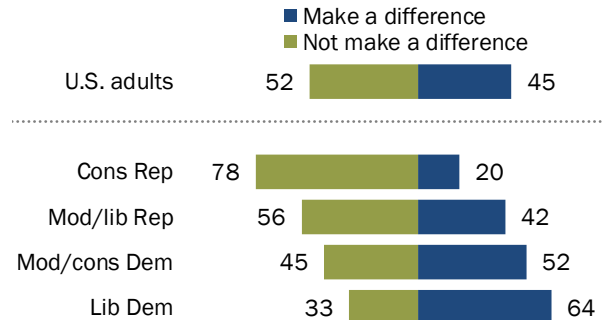
Researchers and policymakers are also considering the possibility of altering aspects of the environment to reduce the effects of climate change, a technique called geoengineering. [Solar geoengineering](#), for instance, would spread particles in the atmosphere to reflect some incoming sunlight, decreasing the amount absorbed by the Earth and thereby cooling the planet.

The Pew Research Center survey asked Americans whether they think solar geoengineering would make a difference in reducing the effects of climate change and what effects they believe these techniques will have on the environment overall. In contrast to public views on other specific policy proposals, opinion is closely divided – 45% to 52% – over whether solar geoengineering would make a difference in reducing the effects of climate change.

Opinion on this issue is closely aligned with political affiliation. About two-thirds of liberal Democrats (64%) say these techniques would make a difference, while a large majority of conservative Republicans (78%) think they would not.

Americans are closely divided over whether solar geoengineering would help reduce climate change

% of U.S. adults who say solar geoengineering would _____ in reducing the effects of global climate change



Note: Republicans and Democrats include independents and others who “lean” toward the parties. Respondents who did not give an answer are not shown.

Source: Survey conducted March 27-April 9, 2018.

“Majorities See Government Efforts to Protect the Environment as Insufficient”

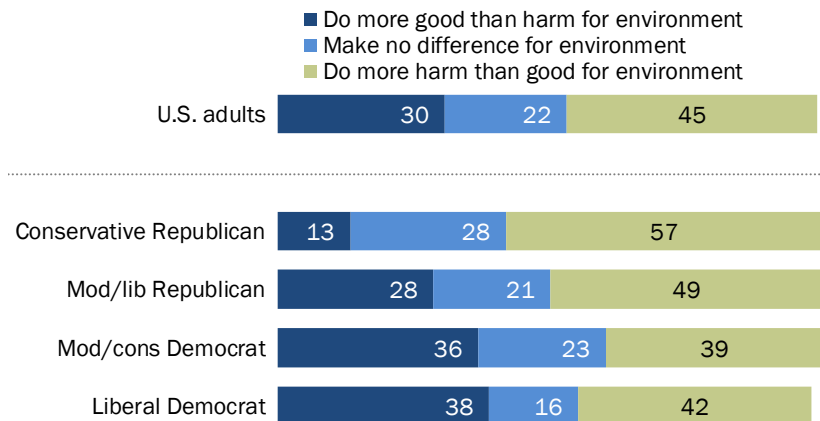
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Some 45% of the public believes solar geoengineering would bring net harm to the environment, however. Three-in-ten U.S. adults think these techniques would bring net benefits to the environment and 22% say they would have little effect on the environment.

Compared with other climate and energy issues, there are relatively modest political differences in views about solar geoengineering's impact on the environment.

A majority of conservative Republicans think solar geoengineering would do more harm than good for the environment

% of U.S. adults who say using solar geoengineering would ...



Note: Republicans and Democrats include independents and others who "lean" toward the parties. Respondents who did not give an answer are not shown.

Source: Survey conducted March 27-April 9, 2018.

"Majorities See Government Efforts to Protect the Environment as Insufficient"

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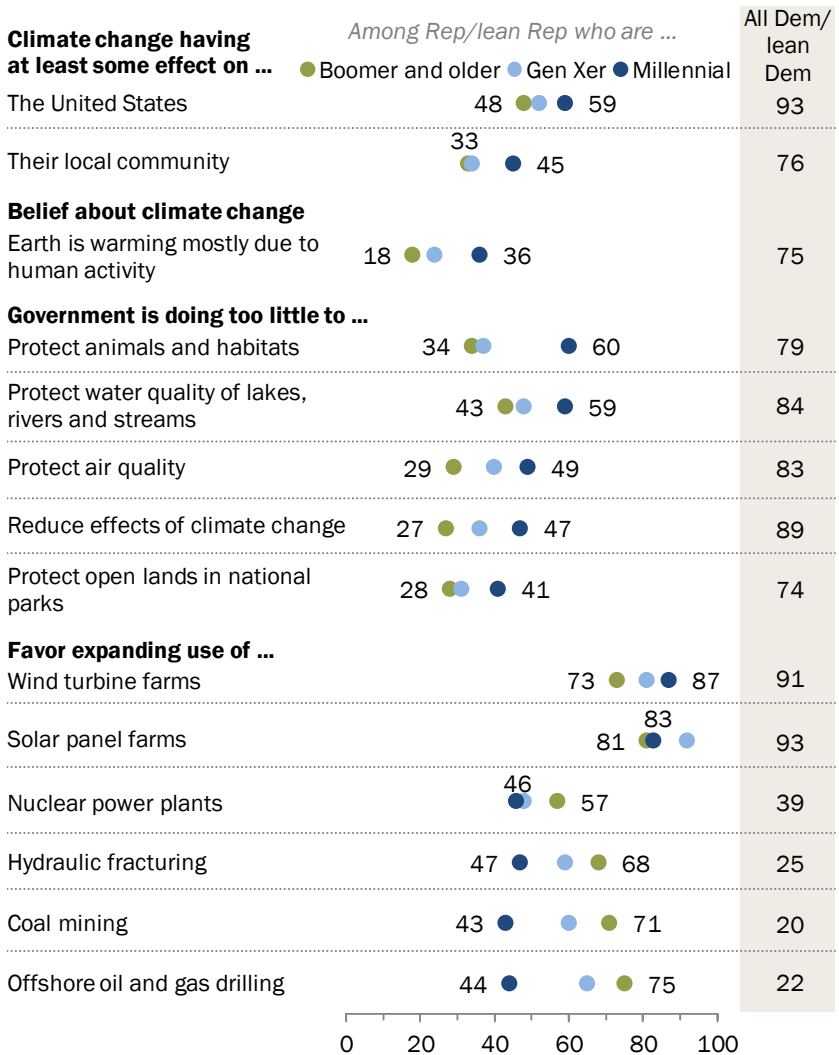
Millennial Republicans are more inclined than older Republicans to think the federal government isn't doing enough to protect key aspects of the environment

Generational differences emerge on some energy and climate issues but such differences occur primarily among Republicans, not Democrats. Republican Millennials are less inclined than their elders in the GOP to support increased use of fossil fuel energy sources through such methods as offshore drilling, hydraulic fracturing and coal mining. For example, 44% of Millennial Republicans support the increased use of offshore drilling, compared with 75% of Republicans in the Baby Boomer and older generations.

Millennials in the GOP are more likely than their elders to say the Earth is warming due to human activity, consistent with a [2017 Pew Research Center survey](#) that used somewhat different question wording. This group is also more likely than older generations in the GOP to perceive at least some effects of climate change in the communities where they live.

Republican Millennials are less inclined than older Republicans to support expanding fossil fuels

% of U.S. adults in each group who say the following



Note: Respondents who gave other responses or did not give an answer are not shown.
 Source: Survey conducted March 27-April 9, 2018.
 "Majorities See Government Efforts to Protect the Environment as Insufficient"

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However, Republicans across all generations are largely in agreement over the consequences of policies aimed at reducing climate change. For example, roughly 44% of Republicans say policies aimed at reducing the effects of climate change will make no difference for the environment and around a quarter believe such policies do more harm than good.

Among Democrats, there are no more than modest differences by generation on beliefs about these climate and energy issues.

Republicans across generations largely skeptical that policies to reduce climate change help the environment

% of U.S. adults in each group who say policies aimed at reducing the effects of climate change ...

*Among Republican/lean Rep.
who are ...*

	Boomer and older	Gen Xer	Millennial	Dem/ lean Dem
Do more good than harm for environment	23	29	30	66
Make no difference for environment	45	44	44	20
Do more harm than good for environment	30	28	26	12

Note: Respondents who did not give an answer are not shown.

Source: Survey conducted March 27-April 9, 2018.

“Majorities See Government Efforts to Protect the Environment as Insufficient”

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The 44% of Americans who care a great deal about climate issues are largely convinced climate change is affecting the U.S. and that policy changes can help

Regardless of people’s political leanings, those who care a great deal about the issue of global climate change have strikingly different opinions than those who care less about this issue.

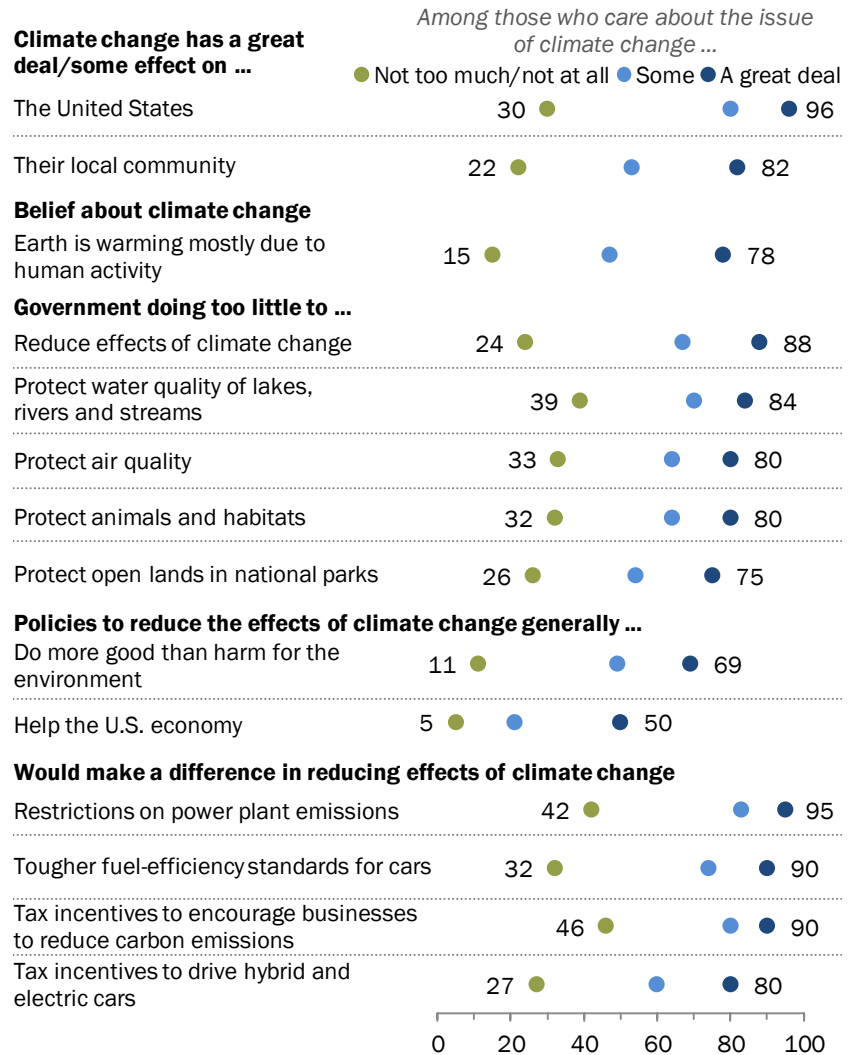
Some 44% of Americans say they care a great deal about the issue of global climate change, one-third (33%) say they care “some” and 22% say they do not care much or at all.

The segment that cares deeply about climate change is up slightly from 36% in 2016, the last time this question was asked.

People who care deeply about the issue of climate change stand out for their near consensus that climate change is affecting the U.S. (96%) and that policy proposals such as restrictions on carbon emissions from power plants (95%), tougher fuel-efficiency standards for cars (90%) and corporate tax incentives to lower carbon emissions from businesses

Those who care a great deal about climate change issue think government is doing too little and potential policies to reduce effects can make a difference

% of U.S. adults in each group who say the following



Note: Respondents who gave other responses or did not give an answer are not shown.
 Source: Survey conducted March 27-April 9, 2018.
 “Majorities See Government Efforts to Protect the Environment as Insufficient”

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(90%) can make a difference in reducing climate change.

These patterns are consistent with analysis of [a 2016 Pew Research Center survey](#).

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pewresearch.org/science.

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Methodology

This report is drawn from a survey conducted as part of the American Trends Panel (ATP), a nationally representative panel of randomly selected U.S. adults living in households recruited from landline and cellphone random-digit-dial (RDD) surveys. Panelists participate via monthly self-administered web surveys. Panelists who do not have internet access are provided with a tablet and wireless internet connection. The panel was created by Pew Research Center and is being managed by GfK.

Data in this report are drawn from the panel wave conducted March 27-April 9, 2018, among 2,541 respondents. The margin of sampling error for the full sample of 2,541 respondents is plus or minus 2.7 percentage points.

Members of the ATP were recruited from several large, national landline and cellphone RDD surveys conducted in English and Spanish. At the end of each survey, respondents were invited to join the panel. The first group of panelists was recruited from the 2014 Political Polarization and Typology Survey, conducted Jan. 23 to March 16, 2014. Of the 10,013 adults interviewed, 9,809 were invited to take part in the panel and a total of 5,338 agreed to participate.⁵ The second group of panelists was recruited from the 2015 Pew Research Center Survey on Government, conducted Aug. 27 to Oct. 4, 2015. Of the 6,004 adults interviewed, all

Margins of error

	Sample size	Margin of error in percentage points
U.S. adults	2,541	+/- 2.7
<i>Party affiliation</i>		
Republican/lean Rep.	981	+/- 4.4
Democrat/lean Dem.	1,483	+/- 3.6
<i>Party by ideology including leaners</i>		
Conservative Republican	625	+/- 5.5
Mod/lib Republican	346	+/- 7.4
Mod/cons Democrat	733	+/- 5.1
Liberal Democrat	724	+/- 5.1
<i>Generations among Rep/lean Rep</i>		
Boomer or older	546	+/- 5.9
Generation X	206	+/- 9.6
Millennial	211	+/- 9.5
<i>Care about climate change</i>		
A great deal	1,203	+/- 4.0
Some	811	+/- 4.9
Not too much/not at all	518	+/- 6.1

Note: The margins of error are reported at the 95% level of confidence and are calculated by taking into account the average design effect for each subgroup.

Source: Survey conducted March 27-April 9, 2018.

"Majorities See Government Efforts to Protect the Environment as Insufficient"

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⁵ When data collection for the 2014 Political Polarization and Typology Survey began, non-internet users were subsampled at a rate of 25%, but a decision was made shortly thereafter to invite all non-internet users to join. In total, 83% of non-internet users were invited to join the panel.

were invited to join the panel, and 2,976 agreed to participate.⁶ The third group of panelists was recruited from a survey conducted April 25 to June 4, 2017. Of the 5,012 adults interviewed in the survey or pretest, 3,905 were invited to take part in the panel and a total of 1,628 agreed to participate.⁷

The overall target population for Wave 33 was non-institutionalized persons age 18 and over, living in the United States, including Alaska and Hawaii. The sample consisted of 3,102 ATP members. This subsample was selected using the following approach:

1. Panelists were grouped into three strata based on how underrepresented they are demographically. Then we analyzed response rates to the last five panel survey waves (W28-32) to project the number of panelists in each stratum who would respond to the W33 survey.
2. We then determined how many panelists we wanted to sample from each stratum in W33 in order to finish with around 2,500 completed interviews and have a responding sample that is as representative as possible.
 - Stratum A consists of panelists who are non-internet users, black non-Hispanic, Hispanic, or high school or less education. There were 1,819 total panelists in this stratum and they are sampled at a rate of 100% for W33. 1,806 were active panelists.
 - Stratum B consists of panelists that are ages 18 to 34 or are non-volunteers. The 1,684 total panelists in this stratum are subsampled at a rate of 63%, yielding 1,061 sampled for W33 (1,057 were active).
 - Stratum C consists of the remaining 2,009 panelists not in stratum A or B. This group is subsampled at a rate of 12%, yielding 241 panelists sampled for W33 (239 were active).

The ATP data were weighted in a multi-step process that begins with a base weight incorporating the respondents' original survey selection probability and the fact that in 2014 some panelists were subsampled for invitation to the panel. Next, an adjustment was made for the fact that the

⁶ Respondents to the 2014 Political Polarization and Typology Survey who indicated that they are internet users but refused to provide an email address were initially permitted to participate in the American Trends Panel by mail, but were no longer permitted to join the panel after Feb. 6, 2014. Internet users from the 2015 Pew Research Center Survey on Government who refused to provide an email address were not permitted to join the panel.

⁷ White, non-Hispanic college graduates were subsampled at a rate of 50%.

propensity to join the panel and remain an active panelist varied across different groups in the sample. The final step in the weighting uses an iterative technique that aligns the sample to population benchmarks on a number of dimensions. Gender, age, education, race, Hispanic origin and region parameters come from the U.S. Census Bureau's 2016 American Community Survey. The county-level population density parameter (deciles) comes from the 2010 U.S. decennial census. The telephone service benchmark comes from the July-December 2016 National Health Interview Survey and is projected to 2017. The volunteerism benchmark comes from the 2015 Current Population Survey Volunteer Supplement. The party affiliation benchmark is the average of the three most recent Pew Research Center general public telephone surveys. The internet access benchmark comes from the 2017 ATP Panel Refresh Survey. Respondents who did not previously have internet access are treated as not having internet access for weighting purposes. Sampling errors and statistical tests of significance take into account the effect of weighting. Interviews are conducted in both English and Spanish, but the Hispanic sample in the ATP is predominantly U.S. born and English speaking.

Margins of error tables shown here provide the unweighted sample sizes and the error attributable to sampling that would be expected at the 95% level of confidence for different groups in the survey taking into account the average design effect for each subgroup. Sample sizes and sampling errors for other subgroups are available upon request.

In addition to sampling error, one should bear in mind that question wording and practical difficulties in conducting surveys can introduce error or bias into the findings of opinion polls.

The March 2018 wave had a response rate of 82 % (2,541 responses among 3,102 individuals in the panel). Taking account of the combined, weighted response rate for the recruitment surveys (10.0%) and attrition from panel members who were removed at their request or for inactivity, the cumulative response rate for the wave is 2.3%⁸.

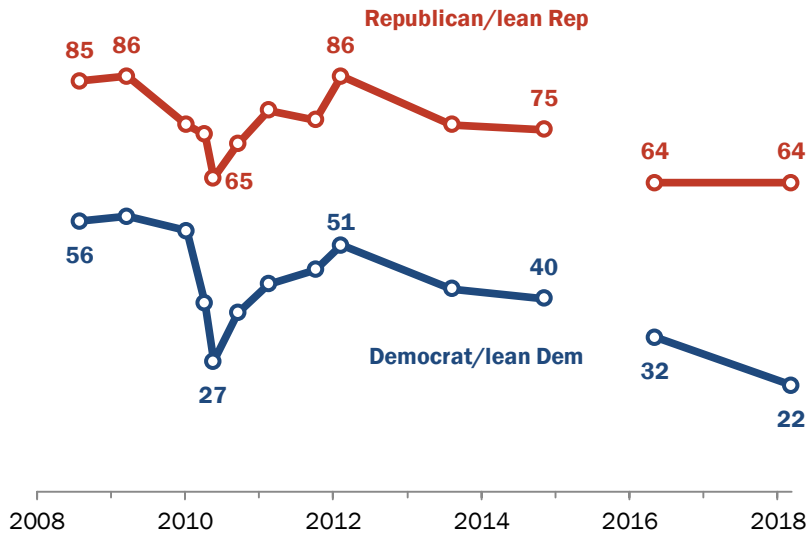
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⁸ Approximately once per year, panelists who have not participated in multiple consecutive waves are removed from the panel. These cases are counted in the denominator of cumulative response rates. Note that for the March 2018 survey, we calculated the response rates by computing the mean rates for the subsampled respondents (based on the rates from the recruitment survey they joined the panel on).

Appendix: Detailed charts

Political divides over increasing offshore drilling

% of U.S. adults who favor more offshore oil and gas drilling in U.S. waters



Note: Surveys conducted from 2008 to 2015 were conducted on the phone using somewhat different question wording than those in June 2016 and April 2018.

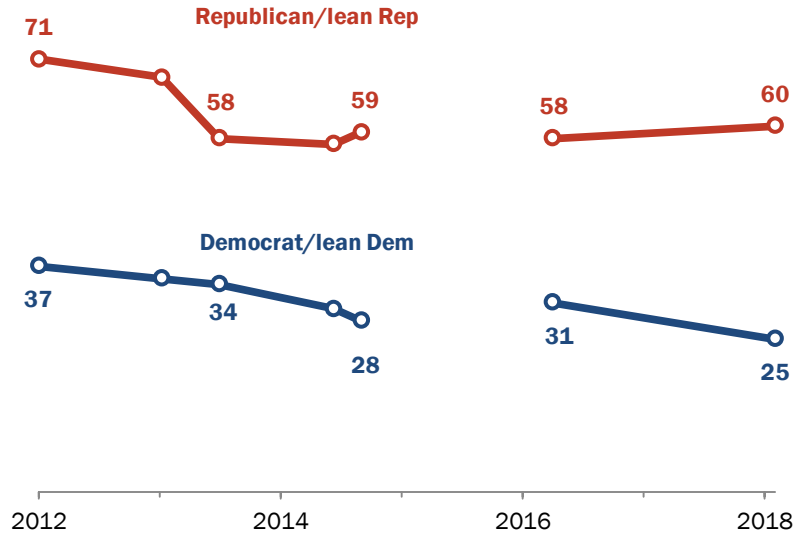
Source: Survey conducted March 27-April 9, 2018.

"Majorities See Government Efforts to Protect the Environment as Insufficient"

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Political divides over increasing hydraulic fracturing

% of U.S. adults who favor more hydraulic fracturing for oil and natural gas



Note: Surveys conducted from 2012 to 2015 were conducted on the phone using somewhat different question wording than those in June 2016 and April 2018.

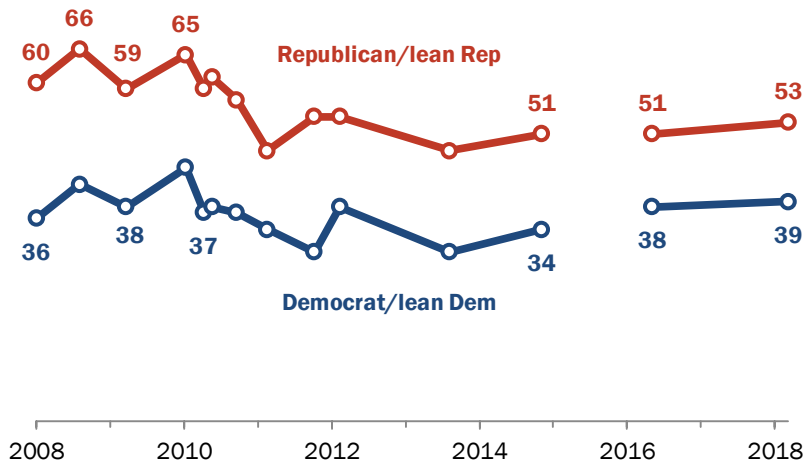
Source: Survey conducted March 27-April 9, 2018.

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Political divides over increasing nuclear power

% of U.S. adults who favor more nuclear power plants



Note: Surveys conducted from 2008 to 2015 were conducted on the phone using somewhat different question wording than those in June 2016 and April 2018.

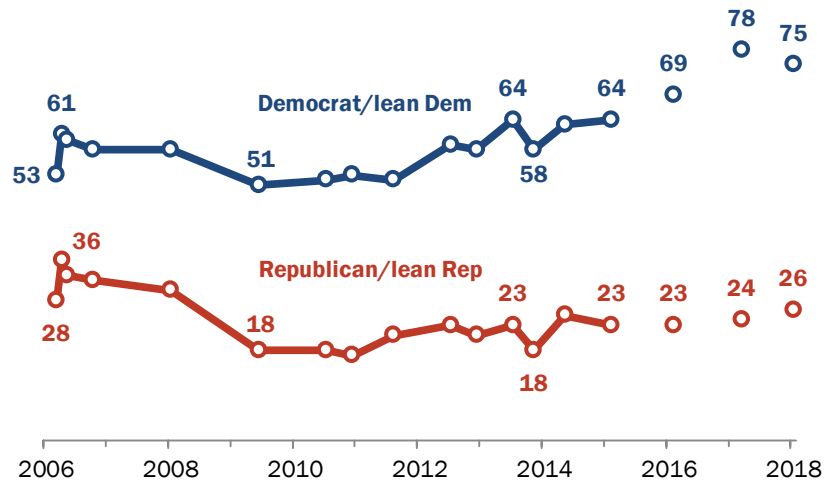
Source: Survey conducted March 27-April 9, 2018.

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Republicans and Democrats remain apart on the role of human activity in climate change

% of U.S. adults in each group who say the Earth is getting warmer mostly due to human activity



Note: Surveys conducted from 2006 to 2015 and in June 2017 were conducted on the phone using somewhat different question wording than those in June 2016 and April 2018.

Source: Survey conducted March 27-April 9, 2018.

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Survey question wording and topline

2018 PEW RESEARCH CENTER'S AMERICAN TRENDS PANEL
MARCH 27-APRIL 9, 2018
TOTAL N=2,541

OTHER QUESTIONS HELD FOR FUTURE RELEASE

ASK ALL:

LOCAL On another topic...

How much, if at all, is each of the following a problem in YOUR LOCAL COMMUNITY?

[RANDOMIZE ITEMS]

	Big problem in my <u>local community</u>	Small problem in my <u>local community</u>	Not a problem in my <u>local community</u>	No Answer
d. Air pollution				
Mar 27-Apr 9, 2018	23	44	32	1
May 10-Jun 6, 2016	19	44	36	1
e. Water pollution of lakes, rivers and streams				
Mar 27-Apr 9, 2018	28	47	24	1
May 10-Jun 6, 2016	23	43	33	1
f. Too much land development				
Mar 27-Apr 9, 2018	32	35	32	1
May 10-Jun 6, 2016	29	37	34	1

ASK ALL:

ENV1 Compared with twenty years ago, do you think the U.S. is producing...

Mar 27- Apr 9 <u>2018</u>		May 10- June 6 <u>2016</u>
76	More energy today	72
10	Less energy today	10
14	About the same amount of energy today	17
1	No Answer	1

ASK ALL:

ENV2 Do you favor or oppose EXPANDING each of the following sources of energy in our country? [RANDOMIZE ITEMS]

	<u>Favor</u>	<u>Oppose</u>	<u>No Answer</u>
a. More offshore oil and gas drilling in U.S. waters			
Mar 27-Apr 9, 2018	39	60	1
May 10-Jun 6, 2016	45	52	3

ENV2 CONTINUED...

	<u>Favor</u>	<u>Oppose</u>	<u>No Answer</u>
b. More nuclear power plants to generate electricity			
Mar 27-Apr 9, 2018	44	54	2
May 10-Jun 6, 2016	43	54	3
c. More coal mining			
Mar 27-Apr 9, 2018	37	61	2
May 10-Jun 6, 2016	41	57	3
d. More solar panel "farms"			
Mar 27-Apr 9, 2018	89	10	1
May 10-Jun 6, 2016	89	9	2
e. More hydraulic fracturing, sometimes called "fracking," for oil and natural gas			
Mar 27-Apr 9, 2018	39	58	2
May 10-Jun 6, 2016	42	53	5
f. More wind turbine "farms"			
Mar 27-Apr 9, 2018	85	13	2
May 10-Jun 6, 2016	83	14	3

NO ENVIR3**ASK ALL:**

ENVIR4 How would you rate each of the following priorities for America's energy policies?
[RANDOMIZE ITEMS]

	<u>Should be a top priority</u>	<u>Should be an important but lower priority</u>	<u>Should not be too important</u>	<u>Should not be done</u>	<u>No Answer</u>
a. Reducing our dependence on foreign energy sources					
Mar 27-Apr 9, 2018	69	24	5	1	1
b. Creating jobs within the energy sector					
Mar 27-Apr 9, 2018	58	33	8	1	1
c. Protecting the environment from the effects of energy development and use					
Mar 27-Apr 9, 2018	72	24	3	1	1
d. Keeping consumer energy prices low					
Mar 27-Apr 9, 2018	66	30	3	1	1

ENVIR4 CONTINUED...

e. Increasing reliance on renewable energy sources Mar 27-Apr 9, 2018	71	24	4	1	1
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TREND FOR COMPARISON

Pew Research Center survey conducted by telephone: Right now, how would you rate each of the following priorities for America's energy policies? First, do you think **[INSERT ITEM; RANDOMIZE]** should be a top priority, important but lower priority, not too important, or should it not be done? **[NEXT ITEM]? [IF NECESSARY: Do you think [ITEM] should be a top priority for America's energy policies, important but lower priority, not too important, or should it not be done?**

	Top priority	Important but lower priority	Not too important	Should not be done	DK/Ref. (VOL).
a. Reducing our dependence on foreign energy sources May 3-7, 2017	48	32	10	6	4
b. Creating jobs within the energy sector May 3-7, 2017	49	36	7	3	5
c. Protecting the environment from the effects of energy development and use May 3-7, 2017	53	33	8	3	3
d. Keeping consumer energy prices low May 3-7, 2017	49	39	6	3	1
e. Increasing reliance on renewable energy sources May 3-7, 2017	52	32	9	3	4

NO ENVIR5**ASK ALL:**

ENVIR6 Which of these statements comes closest to your own view about the MOST EFFECTIVE WAY to increase reliance on renewable energy sources, even if neither is exactly right?
[RANDOMIZE OPTIONS]

Mar 27- Apr 9 2018	56	Government regulations are necessary to encourage businesses and consumers to rely more on renewable energy sources
	42	The private marketplace will ensure that businesses and consumers rely more on renewable energy sources, even without government regulations
	1	No Answer

TREND FOR COMPARISON

Pew Research Center survey conducted by telephone: Which of these statements come closest to your own view about the MOST EFFECTIVE WAY to increase reliance on renewable energy sources, even if neither is exactly right? **[READ AND RANDOMIZE RESPONSE OPTIONS 1 AND 2]**

May 3-7
2017

54	Government regulations are necessary to encourage businesses and consumers to rely more on renewable energy sources
38	The private marketplace will ensure that businesses and consumers rely more on renewable energy sources, even without government regulations
8	No answer

ASK ALL:

ENVIR7

Do you think it is possible or not possible to cut back on environmental regulations and still effectively protect air and water quality in the U.S.?

Mar 27-
Apr 9
2018

52	Yes, it is possible
48	No, it is NOT possible
1	No Answer

TREND FOR COMPARISON

Pew Research Center survey conducted by telephone: Do you think it is possible to cut back on environmental regulations and still effectively protect air and water quality in the U.S. or do you think it's not possible to do this with fewer regulations?

May 3-7
2017

49	Yes, possible to cut back on environmental regulations and still effectively protect air and water quality
47	No, not possible to do this with fewer regulations
4	No answer

ASK ALL:

ENVIR8

How much do you think the federal government is doing to...

[RANDOMIZE ITEMS]

	<u>Too much</u>	<u>Too little</u>	<u>About the right amount</u>	<u>No Answer</u>
a. Protect air quality Mar 27-Apr 9, 2018	8	64	27	1
b. Protect water quality of lakes, rivers and streams Mar 27-Apr 9, 2018	6	69	24	1
c. Protect animals and their habitats Mar 27-Apr 9, 2018	9	63	27	1
d. Protect open lands in national parks and nature preserves Mar 27-Apr 9, 2018	8	57	34	1
e. Reduce the effects of global climate change Mar 27-Apr 9, 2018	13	67	19	1

ASK FORM=1 [N=1,283]:

On the topic of climate change...

CLIM1A

Which of these three statements about the Earth's temperature comes closest to your view? **[RANDOMIZE OPTIONS 1 AND 2; KEEP 3 AND NOT SURE LAST]**

<u>Mar 27- Apr 9 2018</u>		<u>May 10- June 6 2016</u>
47	The Earth is getting warmer mostly because of human activity such as burning fossil fuels	45
24	The Earth is getting warmer mostly because of natural patterns in the Earth's environment	26
13	There is no solid evidence that the Earth is getting warmer	14
14	Not sure	14
1	No Answer	1

ASK IF NOT SURE OR NO ANSWER (CLIM1A=8,99) [N=170]:

CLIM1B Even if you are not sure, which one of these three statements about the Earth's temperature comes closest to your view? **[SAME ORDER AS CLIM1A]**

Based on those who are not sure or did not answer CLIM1A:

Mar 27- Apr 9 <u>2018</u>		May 10- June 6 <u>2016</u>
35	The Earth is getting warmer mostly because of human activity such as burning fossil fuels	20
34	The Earth is getting warmer mostly because of natural patterns in the Earth's environment	29
25	There is no solid evidence that the Earth is getting warmer	41
6	No Answer	10

COMBINED RESPONSES CLIM1A AND CLIM1B [N=1,283]:

Mar 27- Apr 9 <u>2018</u>		May 10- June 6 <u>2016</u>
53	The Earth is getting warmer mostly because of human activity such as burning fossil fuels	48
29	The Earth is getting warmer mostly because of natural patterns in the Earth's environment	31
17	There is no solid evidence that the Earth is getting warmer	20
1	No Answer	2

ASK FORM=2 [N=1,258]:

On the topic of climate change...

CLIM2A From what you have heard or read, which of these three statements about the Earth's temperature comes closest to WHAT MOST CLIMATE SCIENTISTS SAY? **[RANDOMIZE OPTIONS 1 AND 2; KEEP 3 AND NOT SURE LAST]**

Mar 27- Apr 9 <u>2018</u>	
61	The Earth is getting warmer mostly because of human activity such as burning fossil fuels
14	The Earth is getting warmer mostly because of natural patterns in the Earth's environment
11	There is no solid evidence that the Earth is getting warmer
12	Not sure
1	No Answer

ASK IF NOT SURE OR NO ANSWER (CLIM2A=8,99) [N=144]:

CLIM2B Even if you are not sure, which one of these three statements about the Earth's temperature comes closest to WHAT MOST CLIMATE SCIENTISTS SAY? [**SAME ORDER AS CLIM2A**]

Based on those who are not sure or did not answer CLIM2A:

Mar 27-	
Apr 9	
<u>2018</u>	
35	The Earth is getting warmer mostly because of human activity such as burning fossil fuels
23	The Earth is getting warmer mostly because of natural patterns in the Earth's environment
36	There is no solid evidence that the Earth is getting warmer
6	No Answer

COMBINED RESPONSES CLIM2A AND CLIM2B [N=1,258]:

Mar 27-	
Apr 9	
<u>2018</u>	
66	The Earth is getting warmer mostly because of human activity such as burning fossil fuels
17	The Earth is getting warmer mostly because of natural patterns in the Earth's environment
16	There is no solid evidence that the Earth is getting warmer
1	No Answer

ASK ALL:

CLIM3 [**ASK IF SAY WARMING IS OCCURRING CLIM1A=1,2 OR CLIM1B=1,2 OR FORM=2**] From what you have heard or read, do you think it is...

[**ASK GLOBAL WARMING IS NOT OCCURRING IF CLIM1A OR CLIM1B=3 OR NO ANSWER TO CLIM1B CLIM1B=99**] From what you have heard or read, do you think it would be...⁹

Mar 27-	
Apr 9	
<u>2018</u>	
68	Possible to reduce the effects of global climate change
31	NOT possible to reduce the effects of global climate change
2	No Answer

⁹ Past Pew Research Center phone surveys have asked respondents if they think it is possible or not possible to reduce the effects of global warming instead of global climate change. In 2006 and 2008, this question was asked of all respondents, and in 2013, it was asked of a subset of respondents based on answers to two previous questions. Among those who said there is solid evidence the Earth is getting warmer, in [2013](#), 74% said it is possible to reduce the effects of global warming; in [2008](#), 74% said it is possible to reduce the effects of global warming; and in [2006](#), 67% said it is possible to reduce the effects of global warming. In this survey, among those who say the Earth is getting warmer, 72% say it is possible to reduce the effects of global climate change.

ASK ALL:

ENV21 How much do you, personally, care about the issue of global climate change?

Mar 27- Apr 9 <u>2018</u>		May 10- June 6 <u>2016</u>
44	A great deal	36
33	Some	38
15	Not too much	18
7	Not at all	8
1	No Answer	1

NO CLIM4**RANDOMIZE ORDER OF CLIM5 AND CLIM6****ASK ALL:**

CLIM5 Do you think policies aimed at reducing the effects of global climate change generally...
[RANDOMIZE OPTIONS 1 AND 2 IN SAME ORDER AS CLIM6]

Mar 27- Apr 9 <u>2018</u>	
30	Help the U.S. economy
31	Hurt the U.S. economy
36	Make no difference for the U.S. economy
2	No Answer

ASK ALL:

CLIM6

Do you think policies aimed at reducing the effects of global climate change generally...
[RANDOMIZE OPTIONS 1 AND 2 IN SAME ORDER AS CLIM5]

Mar 27-
 Apr 9
 2018
 49
 19
 30
 2

Do more GOOD than harm for the environment
 Do more HARM than good for the environment
 Make no difference for the environment
 No Answer

ASK ALL:

CLIM7

Do you think the following would make a difference or not in reducing the effects of
 global climate change? **[RANDOMIZE ITEMS]¹⁰**

	<u>Make a difference</u>	<u>Not make a difference</u>	<u>No Answer</u>
a. Restrictions on power plant carbon emissions Mar 27-Apr 9, 2018	79	20	1
b. Tougher fuel-efficiency standards for automobiles and trucks Mar 27-Apr 9, 2018	71	27	1
c. Tax incentives to encourage businesses to reduce their carbon emissions Mar 27-Apr 9, 2018	76	23	1
d. Tax incentives for people to drive hybrid and electric automobiles Mar 27-Apr 9, 2018	61	38	1

¹⁰ Items A and B were used in a question in [a 2016 Pew Research Center survey](#). The 2016 Pew Research Center survey asked, "Thinking about the following proposals to address global climate change, how much difference, if any, do you think each can make? A big difference, a small difference, almost no difference."

ASK IF MORE THAN ONE RESPONSE MAKE A DIFFERENCE ON CLIM7A-D=1 AND DISPLAY ONLY THOSE ITEMS [N=2,245]:

CLIM7BIG Which ONE of the following proposals do you think would make the BIGGEST DIFFERENCE in reducing the effects of global climate change? **[RANDOMIZE OPTIONS IN SAME ORDER AS CLIM7]**

[PROGRAMMING NOTE: IF ONLY ONE ITEM CLIM7A-D=1, AUTO-PUNCH CLIM7BIG WITH THAT RESPONSE AND DO NOT DISPLAY]

Mar 27-
Apr 9
2018

34	Restrictions on power plant carbon emissions
23	Tougher fuel-efficiency standards for automobiles and trucks
32	Tax incentives to encourage businesses to reduce their carbon emissions
11	Tax incentives for people to drive hybrid and electric automobiles
1	No Answer

COMBINED RESPONSES CLIM7 AND CLIM7BIG

	Make a difference - Biggest <u>difference</u>	Make a difference - not biggest <u>not biggest</u>	Not make a difference <u>difference</u>	<u>No Answer</u>
Restrictions on power plant carbon emissions	29	49	20	1
Tougher fuel-efficiency standards for automobiles and trucks	20	52	27	1
Tax incentives to encourage businesses to reduce their carbon emissions	28	48	23	1
Tax incentives for people to drive hybrid and electric automobiles	10	52	38	1

ASK ALL:

CLIM8 One proposal to reduce the effects of global climate change would use solar geoengineering techniques – for example, spreading particles in the atmosphere to reflect sunlight and thereby lower the Earth’s temperature.

a. Do you think using these techniques would...

Mar 27-
Apr 9
2018

45	Make a difference in reducing the effects of global climate change
52	Not make a difference in reducing the effects of global climate change
3	No Answer

CLIM8 CONTINUED...

- b. Beyond the potential of these solar geoengineering techniques to reduce the effects of global climate change, overall, do you think using these techniques would...

[RANDOMIZE OPTIONS 1 AND 2]

Mar 27-
Apr 9
2018
30
45
22
3

Do more GOOD than harm for the environment
Do more HARM than good for the environment
Make no difference for the environment
No Answer

ASK ALL:

CLIM9

How much, if at all, do you think global climate change is currently affecting...

		<u>A great deal</u>	<u>Some</u>	<u>Not too much</u>	<u>Not at all</u>	<u>No Answer</u>
a.	The United States Mar 27-Apr 9, 2018	40	35	16	8	<1
b.	Your local community Mar 27-Apr 9, 2018	22	37	25	15	<1

ASK IF LOCAL COMMUNITY AFFECTED A GREAT DEAL OR SOME (CLIM9b=1,2) [N=1,510]:

CLIM10 What is the MAIN way that global climate change is currently affecting your local community?

Based on those who say global climate change is currently affecting their local community a great deal or some

Mar 27– Apr 9

2017

45	Weather and temperature changes NET
18	<i>Changes in weather patterns and seasons</i>
15	<i>Temperature changes</i>
12	<i>Extreme/severe storms and weather</i>
5	<i>Droughts</i>
4	<i>Floods</i>
4	<i>Less snow and rain</i>
2	<i>Wild fires</i>
12	Damage to plants, animals and land NET
6	<i>Damage to plants and agriculture</i>
3	<i>Rising water level and erosion</i>
2	<i>Negative effects on rivers, streams and oceans</i>
2	<i>Negative effects on animals and animal behavior</i>
6	Effects on human health and infrastructure NET
2	<i>Causing health issues/allergies</i>
2	<i>Destructive to infrastructure and property</i>
1	<i>Negative effect on local economy</i>
1	<i>Shortages of resources and jobs</i>
3	Effects on energy consumption and renewable energy NET
2	<i>Increased energy use and cost</i>
1	<i>Energy (other)</i>
4	Air, water and land pollution
4	Things people see that contribute to climate change NET
3	<i>Specific actions causing pollution in their community</i>
1	<i>Too many people driving cars</i>
<1	<i>People continuing to pollute, not caring</i>
3	General negative effect
2	Other
1	Do not see effects in local community
33	Don't know/Refused

ASK IF LOCAL COMMUNITY AFFECTED A GREAT DEAL OR SOME (CLIM9b=1,2) [N=1,510]:

CLIM11 Would you say the effects of global climate change in your local community are impacting you, personally, or not?

Based on those who say their local community is affected a great deal or some

Mar 27–

Apr 9

2018

52	Yes, the effects are impacting me personally
47	No, the effects are NOT impacting me personally
2	No Answer

COMBINED RESPONSES CLIM9B AND CLIM11

Mar 27-
Apr 9
2018

59	Local community affected a great deal or some
31	Yes, the effects are impacting me personally
28	No, the effects are NOT impacting me personally
1	No Answer
40	Local community affected not too much or not at all
<1	No answer