

FOR RELEASE November 25, 2019

U.S. Public Views on Climate and Energy

Democrats mostly agree the federal government should do more on climate, while Republicans differ by ideology, age and gender

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RECOMMENDED CITATION

Pew Research Center, November, 2019 "U.S. Public Views on Climate and Energy"

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U.S. Public Views on Climate and Energy

Democrats mostly agree the federal government should do more on climate, while Republicans differ by ideology, age and gender

Majorities of Americans say the federal government is doing too little for key aspects of the environment, from protecting water or air quality to reducing the effects of climate change. And most believe the United States should focus on developing alternative sources of energy over expansion of fossil fuel sources, according to a new Pew Research Center survey.

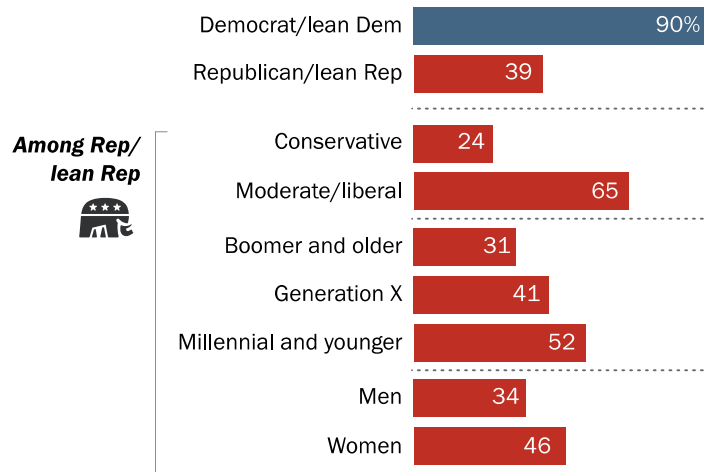
A majority of U.S. adults say they are taking at least some specific action in their daily lives to protect the environment, though Democrats and Republicans remain at ideological odds over the causes of climate change and the effects of policies to address it, according to the survey of 3,627 U.S. adults conducted Oct. 1 to Oct. 13, 2019, using the Center's American Trends Panel.

Majorities of Americans say the federal government is not doing enough to protect the climate, environment

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



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



Note: Respondents who said the federal government is doing about the right amount or doing too much and those did not give an answer are not shown.

Source: Survey conducted Oct. 1-13, 2019.

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These findings come amid the Trump administration's intention to officially withdraw from the 2016 Paris climate accord and ongoing efforts to roll back domestic [environmental protection regulations](#), including relaxing limits on methane and carbon emissions.

About two-thirds of U.S. adults (67%) say the federal government is doing too little to reduce the effects of climate change, and similar shares say the same about government efforts to protect air (67%) and water quality (68%) – findings that are consistent with results from a 2018 Center survey.

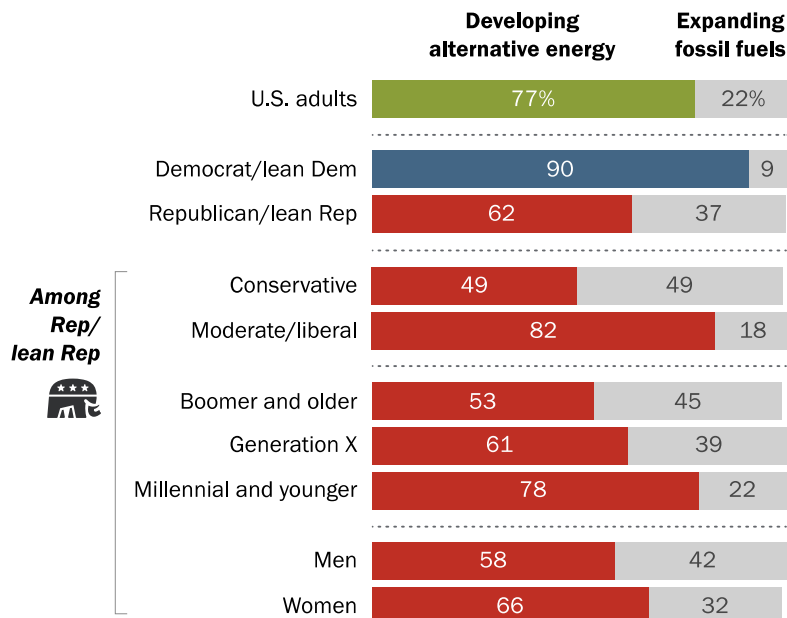
While there is strong consensus among Democrats (90%, including independents who lean to the Democratic Party) on the need for more government efforts to reduce the effects of climate change, Republican views are divided along ideological, generational and gender lines. A majority of moderate or liberal Republicans (65%, including GOP-leaning independents) say the federal government is doing too little to reduce the effects of climate change. In contrast, only about one-quarter of conservative Republicans (24%) say the same, while about half (48%) think the government is doing about the right amount and another 26% say it is doing too much.

There are also divides by age. Among younger Republicans – adults in the [Millennial generation and Generation Z](#), ages 18 to 38 in 2019 – 52% think the government is doing too little on climate. By comparison, 41% among Generation X and 31% of Baby Boomer and older Americans say this. Republican women (46%) also are more inclined than GOP men (34%) to think the government’s efforts on climate are insufficient.

Views about government efforts to protect the environment in areas such as water or air quality show similar differences among Republicans by ideology, generation and gender.

Most in U.S. prioritize renewables over fossil fuels, but there are differences among Republicans

% of U.S. adults who say the more important priority for U.S. energy supply should be ...



Note: Full response options were “Developing alternative sources, such as wind, solar and hydrogen technology” and “Expanding exploration and production of oil, coal and natural gas.” Respondents who did not give an answer are not shown.

Source: Survey conducted Oct. 1-13, 2019.

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Overall, about three-quarters of Americans (77%) agree that the more important energy priority should be developing alternative energy sources such as wind and solar power and hydrogen technology rather than increasing U.S. production of fossil fuels.

The vast majority of Democrats (90%) believe the U.S. should prioritize alternative energy development over expanded oil, coal and natural gas exploration and production. While generally supportive of prioritizing alternative energy sources, Republicans differ by ideology and generation, and more modestly by gender, in their views of U.S. energy supply priorities.

Most moderate or liberal Republicans (82%) say the U.S. should prioritize alternative energy sources. But conservative Republicans, who represent the party majority, are evenly divided over whether to prioritize alternative energy (49%) or expand fossil fuel production (49%). (Roughly two-thirds of Republicans and Republican leaners – 65% – describe themselves as conservative, while 34% are moderate or liberal, according to an average across four Center surveys conducted this year.)

In addition, a strong majority of younger Republicans (78% of Millennial and Gen Z adults, i.e., those ages 18 to 38) say the U.S. should prioritize alternative energies, compared with 61% of Gen X Republicans and about half of Baby Boomer and older Republicans (53%). GOP women tend to prioritize alternative energy development over expanding fossil fuels (66% to 32%). A smaller share of Republican men prioritize alternative energy development (58%) over fossil fuel expansion (42%).

Compared with 2017, support for prioritizing alternative energy development appears to be up among both Democrats and Republicans. However, in the 2017 survey, which was conducted by telephone, 5% of the public volunteered that both alternative energy and fossil fuels should be equal priorities. These methodological differences could account for the differences in findings over time. ([See the Appendix](#) for details.)

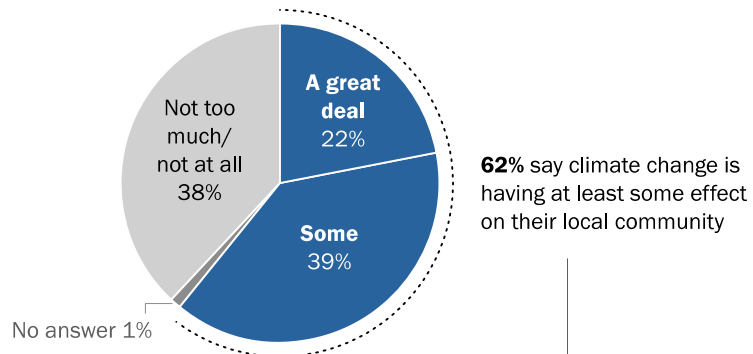
How Americans view the impact of climate change depends on where they live

Most Americans today (62%) say that climate change is affecting their local community either a great deal or some. That figure remains fairly steady from last year, when 59% reported at least some local effects of climate change.

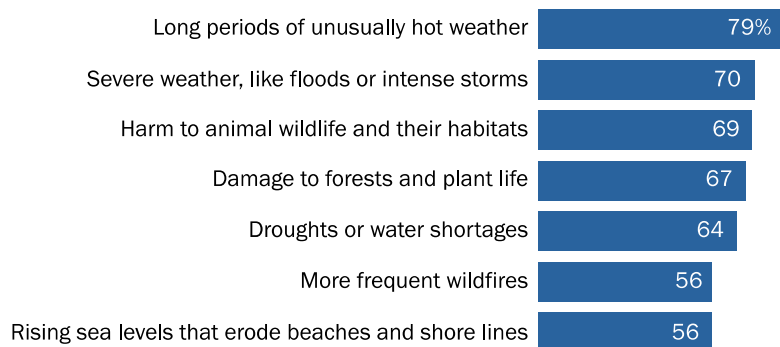
The vast majority of this group says long periods of unusually hot weather (79% of those asked or 49% of all U.S. adults) represent a major local impact of climate change. They also say major effects include severe weather such as floods and intense storms (70%), harm to animal wildlife and their habitats (69%), damage to forests and plant life (67%) or droughts and water shortages (64%). More frequent wildfires and rising sea levels that erode beaches and shorelines also are cited by equal percentages (56% of those asked) as major impacts to their local communities.

A majority of U.S. adults say climate change is affecting their local community at least some

% of U.S. adults who say global climate change is affecting their local community ...



Among this 62%, percent who say each of these is a major way that climate change is currently affecting their local community



Note: Top figure based on all adults. Bottom figure based on those who say that climate change is affecting their local community a great deal or some.

Source: Survey conducted Oct. 1-13, 2019.

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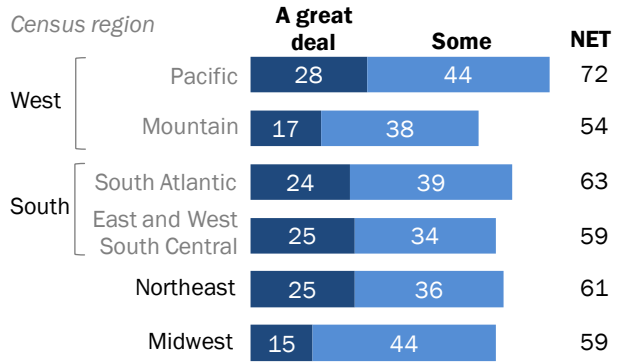
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The degree to which Americans report experiencing effects of climate change in their local community varies by geographic region. Americans in Pacific states (which include California, Washington, Oregon, Hawaii and Alaska) are most likely to see at least some local impacts of climate change (72%). By comparison, 54% of those living in Mountain states (Arizona, Colorado, Nevada, Utah, New Mexico, Idaho, Montana and Wyoming) say climate change is affecting their local area at least some.

Large shares of Americans nationwide who report at least some local impact of climate change cite long periods of unusually hot weather as occurring where they live. Other major effects of climate change, however, tend to vary by region.

Most in Pacific states see climate change as affecting their local area

% of U.S. adults who say climate change is affecting their local community ...



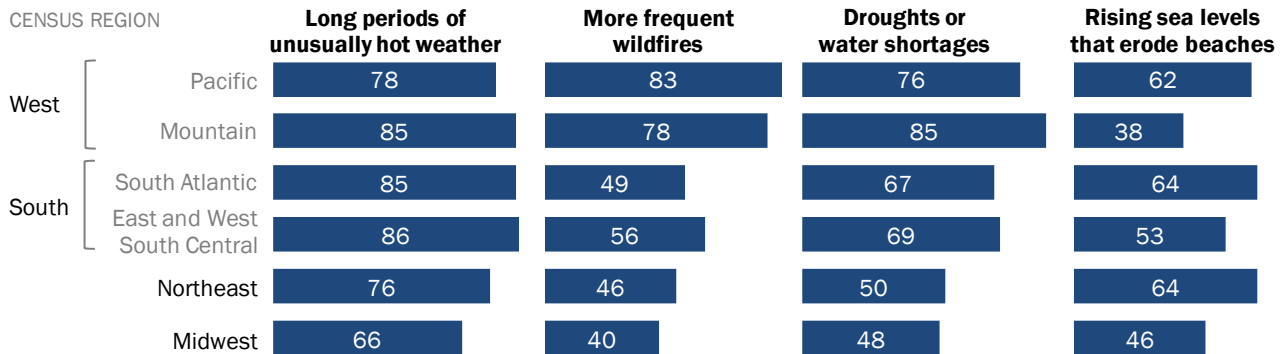
Note: Respondents who gave other responses or who did not give an answer are not shown.

Source: Survey conducted Oct. 1-13, 2019. "U.S. Public Views on Climate and Energy"

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Americans living in Western states are particularly likely to report increased wildfire frequency, droughts as major local effects of climate change

Among U.S. adults in each region who say climate change is affecting their local community at least some, % who say each of the following is a major way climate change is affecting their local community



Note: Based on those who say that climate change is affecting their local community a great deal or some. Respondents who gave other responses or who did not give an answer are not shown.

Source: Survey conducted Oct. 1-13, 2019. "U.S. Public Views on Climate and Energy"

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Those living in Western states stand out as particularly likely to report increasing frequency of [wildfires](#) or droughts/water shortages as local effects of climate change. For example, those who see climate effects locally in Pacific and Mountain states say more frequent wildfires are a major effect of climate change in their area (83% and 78%, respectively), compared with 52% of those in the South, 46% in the Northeast and 40% in the Midwest who say the same.

Proximity to coastline also makes a difference, the survey shows. Respondents living within 25 miles of a coastline anywhere in the U.S. are modestly more inclined to say that climate change is having at least some effect in their community; 67% of this group says this, compared with 60% of those living between 25 and 300 miles inland and 59% of those living 300 miles inland or more.

About seven-in-ten (72%) of those who live within 25 miles of a coastline nationwide – and who also report at least some local climate change effects – cite rising sea levels as a major impact. That experience is reported by fewer than half (45%) of those who live at least 300 miles inland and see at least some local effects of climate change.

A partisan lens also plays a role in these perceptions.

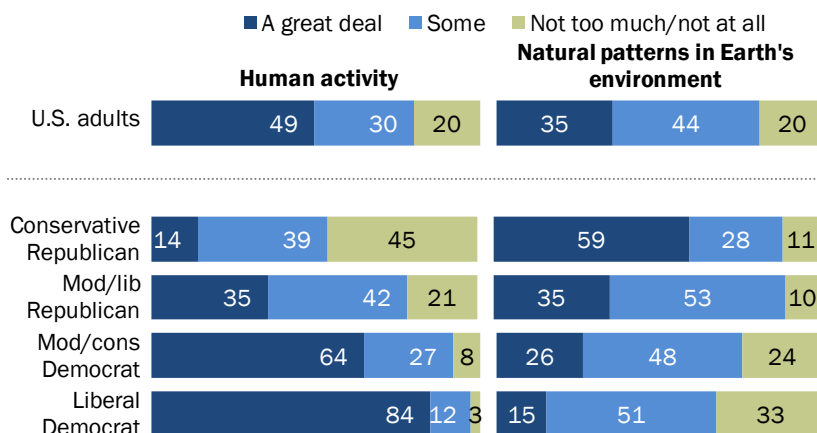
Democrats and Democratic leaners (82%) are more likely than Republicans (38%, including leaners) to report at least some effects of climate change on their local communities.¹

Political groups remain divided over climate change causes and policies

Overall, about half of Americans (49%) say human activity contributes a great deal to climate change, and another 30% say human actions have

More than eight-in-ten liberal Democrats say human activity contributes a great deal to climate change

% of U.S. adults who say each of the following contributes to global climate change ...



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

Source: Survey conducted Oct. 1-13, 2019.

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¹ The share of Democrats living in Pacific states is higher than the share of Democrats in Mountain states. However, in a logistic regression model controlling for political party, people in the Pacific region are significantly more likely than those in the Mountain region to say they are experiencing at least some local effects of climate change.

some role in climate change. Two-in-ten (20%) believe human activity plays not too much or no role at all in climate change.

Survey respondents also were asked to rate the degree to which they believe natural patterns (such as regular warming and cooling cycles) contribute to climate change.

Roughly a third of adults (35%) say natural patterns in the Earth's environment contribute a great deal to climate change, and another 44% say natural patterns contribute to some extent.

Of the two-in-ten who think human activity has little or no role in climate change, most say that natural patterns contribute to climate change either a great deal or some. Just 4% of Americans say that neither human activity nor natural patterns contribute to global climate change at least some.

The findings underscore the degree to which Americans remain divided along party and ideological lines when it comes to their beliefs about the causes of climate change.

A strong majority of liberal Democrats (84%) say human activity contributes a great deal to climate change, with near consensus among them that human activity contributes at least some amount to climate change (96%). In contrast, about half of conservative Republicans (53%) say human activity contributes a great deal (14%) or some (39%) to climate change. Another 45% of this group says humans play not too much or no role in climate change.

Republicans and Democrats in the ideological middle within their respective parties (that is, moderate/liberal Republicans and moderate/conservative Democrats) fall somewhere in between in terms of how they see human activity influencing climate change. For instance, 35% of moderate or liberal Republicans say human activity has a great deal of impact on climate change, while roughly two-thirds of moderate or conservative Democrats (64%) see it as a major contributor.

How surveys ask about climate change matters

The new Pew Research Center survey takes a different approach to measuring people's beliefs about the causes of global climate change and thus is not directly comparable to [past Center surveys](#). The new questions allow respondents to rate *how much* human activity and natural patterns in the Earth's climate cycles contribute to climate change. Past surveys have looked at beliefs about the cause of climate change in three broad categories: those who say climate change is *mostly* due to human activity, those who say it is *mostly* due to natural patterns in the Earth's atmosphere and those saying there is no solid evidence that climate change is occurring, reflecting a prominent position in public discourse more than a decade ago.

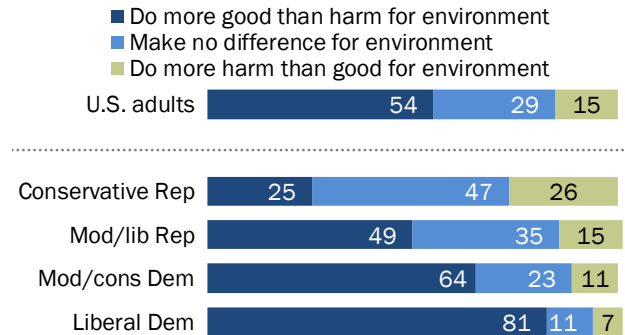
Partisan divisions remain when it comes to how Americans perceive the effects of climate change policies on the environment and the economy. (These core differences also were evident in a [2018 Center survey](#).)

An overwhelming majority of liberal Democrats (81%) say climate policies result in net benefits for the environment, while just 7% say such policies do more harm than good and 11% think they have no effect on the environment. Also, most liberal Democrats (90%) think climate policies either help or have no effect on the economy.

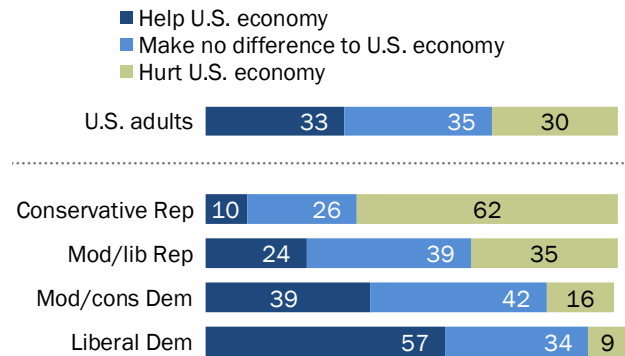
Conservative Republicans stand out as particularly skeptical about the benefits of climate policies for the environment. A minority of this group (25%) says such policies do more good than harm for the environment, and a majority (62%) says these policies hurt the economy.

Partisans at odds over effects of climate policies on environment, economy

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



% 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 Oct. 1-13, 2019.

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A greater percentage of Millennial and Gen Z Republicans (40%) than those who are Baby Boomers and older (29%) view climate policies as doing more good than harm for the environment, but sizable shares in both generations believe such policies hurt the economy.

Republican men (23%), meanwhile, are about as likely as GOP women (20%) to think that climate policies bring net harm to the environment but are significantly more likely than GOP women (63% vs. 39%) to say that such policies hurt the economy.

Republicans, young and old, tend to be skeptical about effects of climate policy on the economy

% of U.S. adults who say policies to reduce the effects of climate change generally do the following

| | Effect on the environment | | | Effect on U.S. economy | | |
|-----------------------------------|---------------------------|--------------------|---------------------|------------------------|--------------------|------|
| | More good than harm | Make no difference | More harm than good | Help | Make no difference | Hurt |
| U.S. adults | 54 | 29 | 15 | 33 | 35 | 30 |
| Dem/lean Dem | 71 | 17 | 10 | 47 | 38 | 13 |
| Rep/lean Rep | 34 | 43 | 22 | 15 | 31 | 52 |
| <i>Among Republicans/lean Rep</i> | | | | | | |
| Boomer & older | 29 | 47 | 22 | 12 | 31 | 54 |
| Gen X | 36 | 39 | 24 | 14 | 29 | 55 |
| Millennial & younger | 40 | 39 | 19 | 21 | 32 | 46 |
| Men | 31 | 45 | 23 | 13 | 23 | 63 |
| Women | 37 | 41 | 20 | 18 | 40 | 39 |

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

Source: Survey conducted Oct. 1-13, 2019.

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Two-thirds of Americans say using fewer single-use plastics makes a big difference for the environment

At a time when individuals are increasingly encouraged to help the environment through changes in everyday behaviors, most Americans say they are taking action, whether it's reducing food waste or using fewer disposable plastics.

The survey asked respondents whether they engage in any of five specific actions in their everyday life for environmental reasons. Survey respondents also rated the efficacy of each of these five actions when it comes to helping the environment. (Half of the respondents, selected at random, were asked about their potential actions and half were asked about the efficacy of each action.)

Eight-in-ten Americans (80%) report that they reduce their food waste for environmental reasons. Large shares of the public (72%) say they use fewer plastics that cannot be reused such as plastic bags, straws, cups or reduce their water consumption (68%) to help the environment.

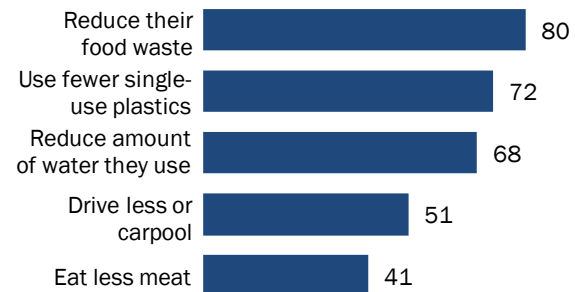
About half (51%) of Americans say they are driving less or using carpools, while about four-in-ten (41%) say they are eating less meat for environmental reasons.

On average, people report doing 3.1 of these actions in their everyday lives. About a fifth of Americans (19%) report doing all five activities.

When assessing their overall behavior, one-quarter of U.S. adults (25%) say they make an effort to live in ways that help protect the environment "all the time," up modestly from 20% in 2016. Another 63% report they live in

Majorities say they reduce food waste, limit use of plastics to help environment

% of U.S. adults who say they do each of the following to help protect the environment



Note: Respondents who said they do not do this or who did not give an answer are not shown.

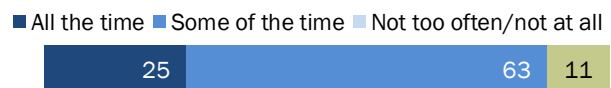
Source: Survey conducted Oct. 1-13, 2019.

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One-in-four Americans say they always live in ways that protect environment

% of U.S. adults who say they make an effort to live in ways that protect the environment ...



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

Source: Survey conducted Oct. 1-13, 2019.

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environmentally conscious ways some of the time. Just 11% say they do not try at all to live in environmentally conscious ways or do so not too often.

Baby Boomer and older Americans are more likely than Millennial and Gen Z adults to report that they try to live in environmentally conscious ways all the time (32% vs. 18%, respectively).

When Americans think about the impact of five types of individual actions, two-thirds (67%) say that using fewer single-use plastics makes a big difference in helping protect the environment. About half of Americans say the same about reducing use of personal vehicles (52%), food waste (52%) or water use (50%). About a quarter of U.S. adults (24%) say that eating less meat makes a big difference for the environment, while 38% say this makes a small difference and another 38% think this makes almost no difference for the environment.

Public opinion about how they can protect the environment sometimes aligns with people’s actions, but not always.

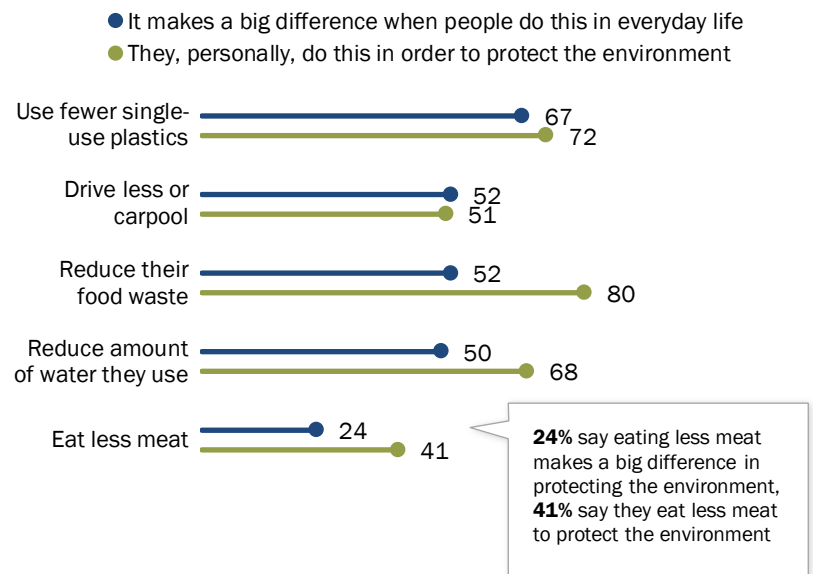
For instance, about the same percentage of Americans who say using fewer single-use plastics makes a big difference for the environment (67%) report using fewer plastics in their daily lives (72%).

But in another example, while four-in-ten Americans (41%) say they eat less meat for environmental reasons, only a quarter (24%) believe doing so makes a big difference to the environment.

The quarter of Americans who say they always try to live in environmentally conscious

Majorities in U.S. say they cut back on single-use plastics, believe this makes a big difference for the environment

% of U.S. adults who say the following about actions people can do in everyday life to help protect the environment



Note: Half of respondents, selected at random, were asked to rate how much of a difference it makes when people do each of these things and half were asked whether or not they do each in order to protect the environment. Respondents who gave other responses or who did not give an answer to each question are not shown.

Source: Survey conducted Oct. 1-13, 2019.
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ways are particularly likely to take these five specific actions to protect the environment.

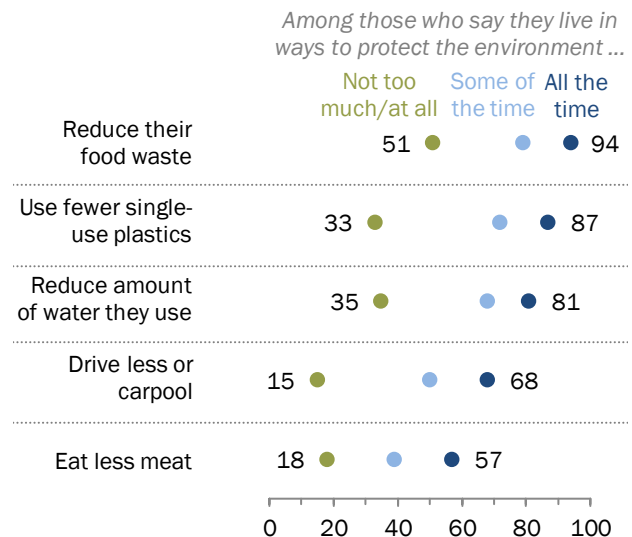
Most people in this group say they reduce their food waste (94%), use of disposable plastics (87%) or water consumption (81%) in efforts to help the environment. A smaller majority (68%) say they drive less or are eating less meat (57%) to benefit the environment.

Altogether, those who see themselves as environmentally conscious perform an average of 3.9 of these actions in their everyday lives, and more than one-third (37%) take all five actions.

This stands in contrast to the small percentage of Americans (11%) who describe themselves as doing either nothing or not too much to live in ways that protect the environment. Among this group, about half (51%) say they reduce their food waste. Fewer than half are using fewer disposable plastics (33%) or reducing their water use (35%), while even fewer are driving less (15%) or eating less meat (18%) for environmental reasons. On average, this group does 1.5 actions to help the environment and just 3% perform all five.

Americans who consider themselves environmentally conscious more likely to take action to protect environment

% of U.S. adults who say they do each of the following in their everyday life to help protect the environment



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

Source: Survey conducted Oct. 1-13, 2019.

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Gender and political affiliations are associated to some extent with whether Americans are changing their daily behaviors for the sake of the environment.

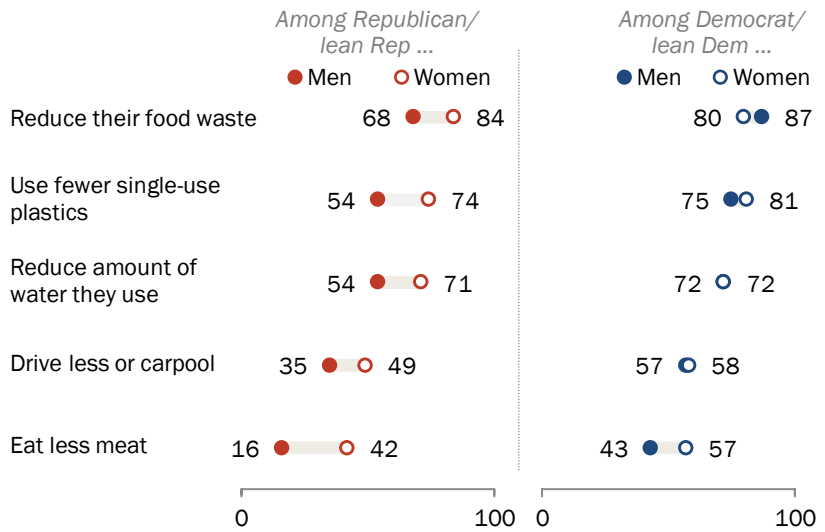
Republican men stand out as less likely to say they are changing their behaviors in any of the five ways included in the survey, from reducing food waste to eating less meat.

On the other hand, Republican and Democratic women as well as Democratic men are about equally likely to make these efforts to protect the environment, overall.

For example, 54% of Republican men report using fewer single-use plastics for environmental reasons, compared with roughly three-quarters or more of Republican women (74%), Democratic men (75%) and Democratic women (81%). (These figures include Republican- and Democratic-leaning independents.)

Republican men are less inclined to take each of five specific actions to protect the environment

% of U.S. adults who say they do each of the following in their everyday life to help protect the environment



Note: Respondents who gave other responses or who did not give an answer are not shown.
 Source: Survey conducted Oct. 1-13, 2019.
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A relatively small percentage of Republican men (16%) say they eat less meat in an effort to help the environment, compared with about two and half times as many Republican women (42%). A more modest gender gap exists among Democrats, with closer percentages of men (43%) and women (57%) saying they eat less meat for environmental reasons.

Most Americans favor expanding renewable energy sources, but divides remain over expanding offshore drilling, nuclear power

Most Americans favor expanding solar power (92%) or wind power (85%), including strong majorities of both Republicans and Democrats. The public, however, is evenly divided over whether to expand nuclear power (49% on each side). Fewer than half of Americans support more offshore oil and gas drilling (42%), hydraulic fracturing for oil and natural gas, known as “fracking” (38%) or coal mining (35%).

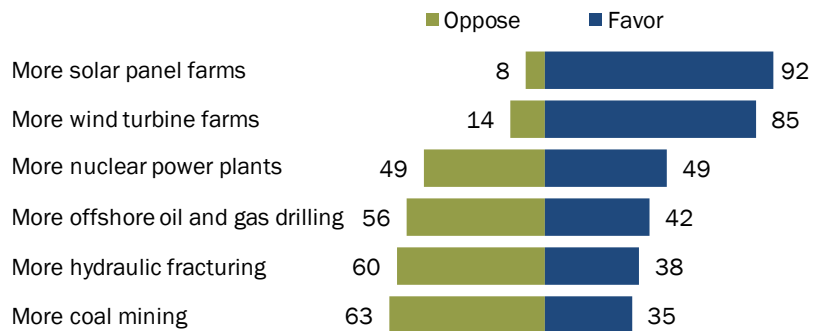
These findings are broadly in line with [previous Center surveys](#), which found strong majorities in favor of increasing solar or wind power and more mixed views about expanding other energy sources. Support for more nuclear power plants has inched up 6 percentage points since 2016 (from 43% to 49% today). Support for coal mining has declined from 41% to 35% in the same period.

Sizable majorities of both Republicans and Democrats – including those who lean to each party – favor more solar panel farms (86% and 96%, respectively) or wind turbine farms (77% and 92%). More Republicans (59%) than Democrats (41%) support expanding nuclear power plants; support for nuclear power is stronger among conservative Republicans (63%) than among moderate or liberal Republicans (51%).

Long-standing political and ideological divides remain over support for expanding fossil fuel energy sources, including offshore oil drilling, hydraulic fracturing and coal mining. Majorities of Republicans favor expanding these sources, while most Democrats remain opposed. Though, there are some differences within each party. Three-quarters of conservative Republicans (76%) favor expanding offshore oil and gas drilling, as do about half of moderate or liberal Republicans (53%). In contrast, about three-in-ten moderate or conservative Democrats (28%) and just 12% of liberal Democrats support more offshore drilling.

Most Americans favor expanding solar or wind power; half or fewer support expanding fossil fuels

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



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

Source: Survey conducted Oct. 1-13, 2019.

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Conservative Republicans also stand out as more inclined to support expansion of hydraulic fracturing for oil and gas as well as coal mining (66% for each). By comparison, fewer than half of moderate or liberal Republicans favor expanding these energy sources (42% and 40% for hydraulic fracturing and coal mining, respectively).

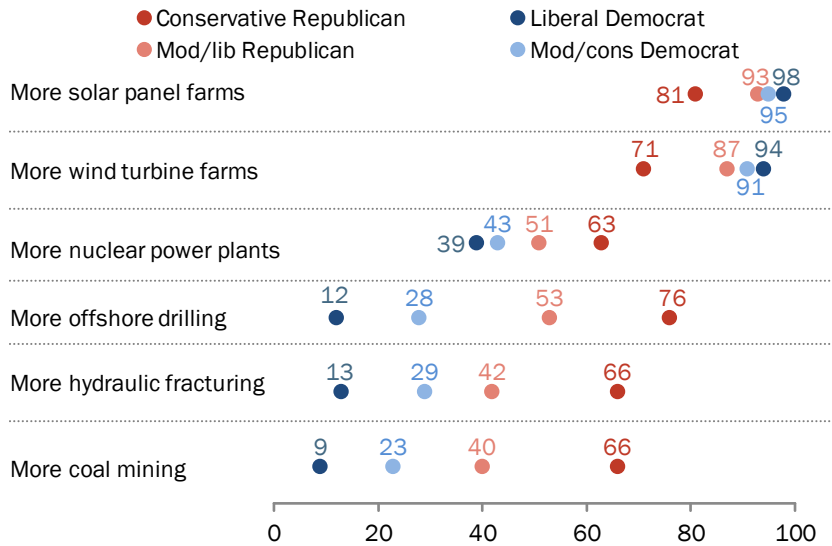
Democrats are largely opposed to expanding either source. For example, a small fraction of liberal Democrats (9%) and about a quarter (23%) of moderate or conservative Democrats favor more coal mining. Support for offshore drilling and for hydraulic fracturing has declined among

Democrats in recent years. (Support for coal mining has gone down among both parties since 2016. [See the Appendix](#) for details.)

While Democratic views about these energy sources tend to be fairly consistent across generational and gender lines, Republican views are not. GOP Baby Boomer and older generations are more supportive of expanding offshore drilling, coal mining and hydraulic fracturing than are Millennial and Gen Z Republicans. In addition, Republican men are more likely to favor expanding fossil fuel energy sources, especially hydraulic fracturing, than women who identify with or lean toward the GOP. ([See the Appendix](#) for details.)

Conservative Republicans and liberal Democrats at odds over expanding 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 who did not give an answer not shown. Source: Survey conducted Oct. 1-13, 2019. "U.S. Public Views on Climate and Energy"

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Acknowledgments

This report is made possible by The Pew Charitable Trusts. This report is a collaborative effort based on the input and analysis of the following individuals. Find related reports online at:

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Methodology

The American Trends Panel (ATP), created by Pew Research Center, is a nationally representative panel of randomly selected U.S. adults. Panelists participate via self-administered web surveys. Panelists who do not have internet access at home are provided with a tablet and wireless internet connection. The panel is being managed by Ipsos.

Data in this report are drawn from the panel wave conducted Oct. 1 to Oct. 13, 2019. A total of 3,627 panelists responded out of 3,954 who were sampled, for a response rate of 91.7%. This does not include three panelists who were removed from the data due to extremely high rates of refusal or straightlining. The

cumulative response rate accounting for nonresponse to the recruitment surveys and attrition is 4.9%. The break-off rate among panelists who logged onto the survey and completed at least one item is 0.9%. The margin of sampling error for the full sample of 3,627 respondents is plus or minus 2.1 percentage points.

The sample consisted of all existing panelists who had

completed the annual profile survey as of Sept. 9, 2019. Panelists who had not yet completed the profile survey were ineligible. A subsample from the ATP was selected by grouping panelists into six strata so demographic groups that are underrepresented in the panel had a higher probability of selection than overrepresented groups:

- Stratum A consists of panelists that completed interviews for previous ATP Waves 17, 33, or 34. They were sampled at a rate of 100%.
- Stratum B consists of panelists who are non-internet users. They were sampled at a rate of 72%.
- Stratum C consists of panelists with a high school education or less. They were sampled at a rate of 64.7%.

American Trends Panel recruitment surveys

| Recruitment Dates | Mode | Invited | Joined | Active panelists remaining |
|---------------------------|-----------------------|---------------|---------------|----------------------------|
| Jan. 23 to March 16, 2014 | Landline/ cell RDD | 9,809 | 5,338 | 2,291 |
| Aug. 27 to Oct. 4, 2015 | Landline/ cell RDD | 6,004 | 2,976 | 1,314 |
| April 25 to June 4, 2017 | Landline/ cell RDD | 3,905 | 1,628 | 663 |
| Aug. 8 to Oct. 31, 2018 | ABS/web | 9,396 | 8,778 | 6,320 |
| | Total | 29,114 | 18,720 | 10,588 |

Note: Approximately once per year, panelists who have not participated in multiple consecutive waves or who did not complete an annual profiling survey are removed from the panel. Panelists also become inactive if they ask to be removed from the panel.

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- Stratum D consists of panelists that are Hispanic, unregistered to vote, or non-volunteers. They were sampled at a rate of 26.6%.
- Stratum E consists of panelists that are black or 18-34 years old. They were sampled at a rate of 12.8%.
- Stratum F consists of the remaining panelists. They were sampled at a rate of 9.6%.

The ATP was created in 2014, with the first cohort of panelists invited to join the panel at the end of a large, national, landline and cellphone random-digit-dial survey that was conducted in both English and Spanish. Two additional recruitments were conducted using the same method in 2015 and 2017, respectively. Across these three surveys, a total of 19,718 adults were invited to join the ATP, of which 9,942 agreed to participate.

In August 2018, the ATP switched from telephone to address-based recruitment. Invitations were sent to a random, address-based sample (ABS) of households selected from the U.S. Postal Service's Delivery Sequence File. In each household, the adult with the next birthday was asked to go online to complete a survey, at the end of which they were invited to join the panel. For a random half-sample of invitations, households without internet access were instructed to return a postcard. These households were contacted by telephone and sent a tablet if they agreed to participate. A total of 9,396 were invited to join the panel, and 8,778 agreed to join the panel and completed an initial profile survey. Of the 18,720 individuals who have ever joined the ATP, 10,588 remained active panelists and continued to receive survey invitations at the time this survey was conducted.

The U.S. Postal Service's Delivery Sequence File has been estimated to cover as much as 98% of the population, although some studies suggest that the coverage could be in the low 90% range.²

Weighting

The ATP data were weighted in a multistep process that begins with a base weight incorporating the respondents' original survey selection probability and the fact

Weighting dimensions

| Variable | Benchmark source |
|------------------------------|---|
| Gender | 2017 American Community Survey |
| Age | |
| Education | |
| Race/Hispanic origin | 2018 CPS March Supplement |
| Hispanic nativity | |
| Home internet access | 2017 CPS Volunteering & Civic Life Supplement |
| Region x Metropolitan status | |
| Volunteerism | 2016 CPS Voting and Registration Supplement |
| Voter registration | |
| Party affiliation | Average of the three most recent Pew Research Center telephone surveys. |

Note: Estimates from the ACS are based on non-institutionalized adults. Voter registration is calculated using procedures from Hur, Achen (2013) and rescaled to include the total US adult population.

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² AAPOR Task Force on Address-based Sampling. 2016. "[AAPOR Report: Address-based Sampling.](#)"

that in 2014 and 2017 some respondents were subsampled for invitation to the panel. The next step in the weighting uses an iterative technique that aligns the sample to population benchmarks on the dimensions listed in the accompanying table.

Sampling errors and test of statistical-significance take into account the effect of weighting. Interviews are conducted in both English and Spanish, but the American Trends Panel's Hispanic sample is predominantly U.S. born and English speaking.

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 table shows 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.

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Margins of error

| | Unweighted Sample size | Margin of error in percentage points |
|-----------------------------------|---------------------------|--|
| U.S. adults | 3,627 | +/- 2.1 |
| Men | 1,663 | +/- 3.2 |
| Women | 1,962 | +/- 2.8 |
| Boomer and older | 1,799 | +/- 2.9 |
| Generation X | 854 | +/- 4.2 |
| Millennial and younger | 970 | +/- 4.0 |
| Rep/Lean Rep | 1,502 | +/- 3.1 |
| Dem/Lean Dem | 2,023 | +/- 2.9 |
| Cons Republican | 981 | +/- 3.8 |
| Mod/lib Republican | 503 | +/- 5.5 |
| Mod/cons Democrat | 1,000 | +/- 4.0 |
| Liberal Democrat | 1,006 | +/- 4.2 |
| <i>Rep/lean Rep by generation</i> | | |
| Boomer and older | 851 | +/- 4.1 |
| Generation X | 324 | +/- 6.5 |
| Millennial and younger | 323 | +/- 6.8 |
| <i>Rep/lean Rep by gender</i> | | |
| Men | 776 | +/- 4.5 |
| Women | 726 | +/- 4.4 |
| <i>Region</i> | | |
| Pacific | 535 | +/- 5.6 |
| Mountain | 321 | +/- 7.1 |
| South Atlantic | 749 | +/- 4.7 |
| East and West South Central | 602 | +/- 5.1 |
| Northeast | 604 | +/- 5.1 |
| Midwest | 814 | +/- 4.3 |

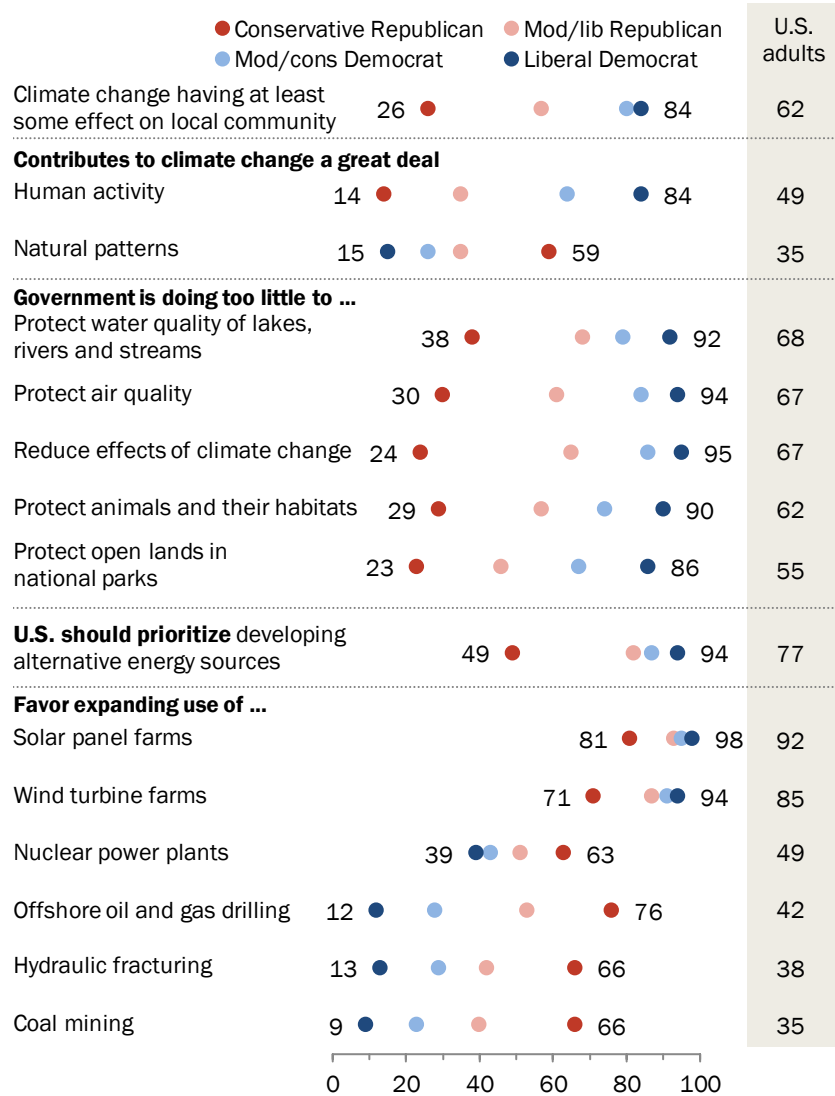
Note: The margins of error are reported at the 95% level of confidence and are calculated by taking into account the average design effect for each subgroup. Republicans and Democrats include independents and others who "lean" toward the parties. Source: Survey conducted Oct 1-13, 2019. "U.S. Public Views on Climate and Energy"

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Appendix: Detailed tables

Conservative Republicans stand out from other political groups on many climate and energy issues

% of U.S. adults who say the following



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

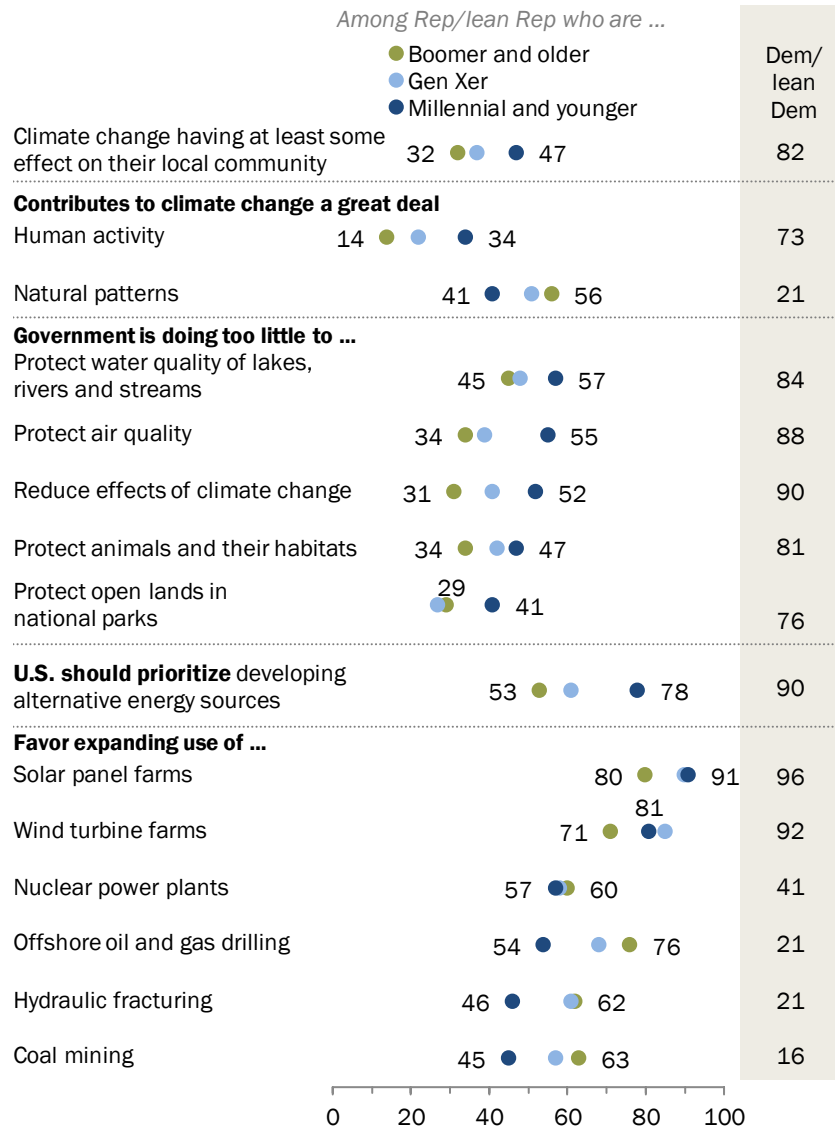
Source: Survey conducted Oct. 1-13, 2019.

“U.S. Public Views on Climate and Energy”

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Younger Republicans prioritize alternative energy sources more than older Republicans

% of U.S. adults who say the following



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

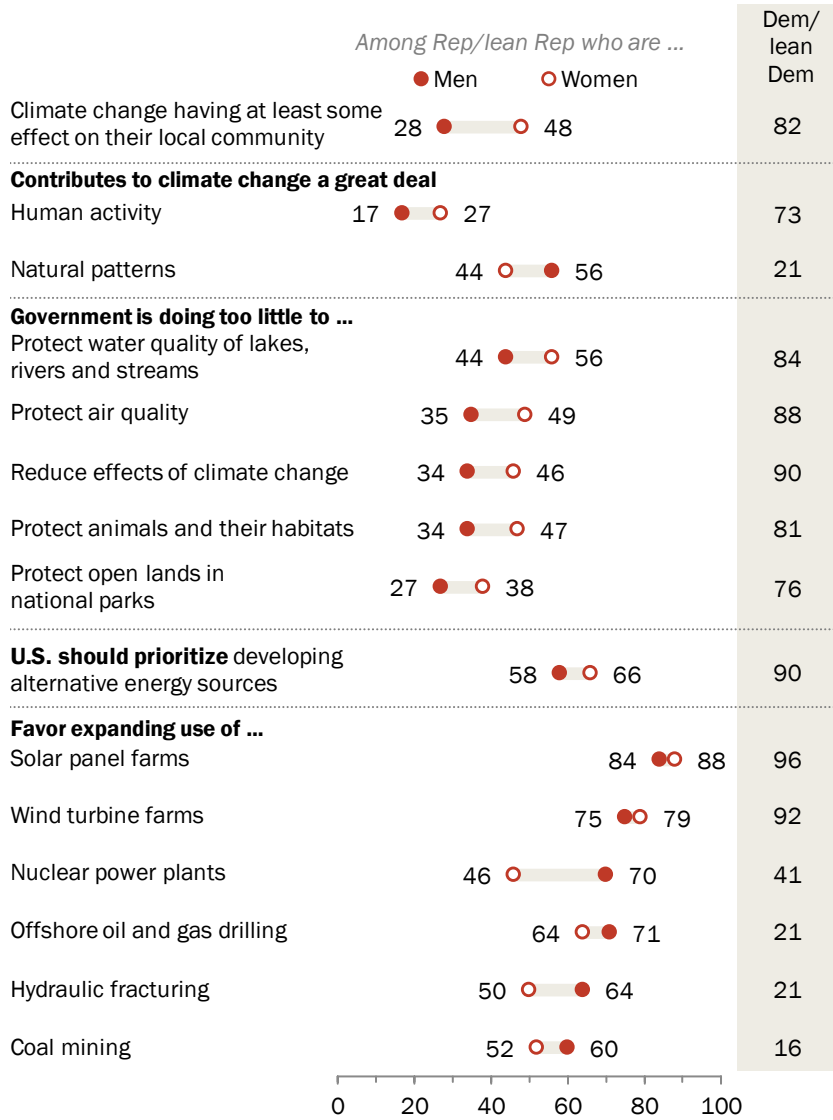
Source: Survey conducted Oct. 1-13, 2019.

"U.S. Public Views on Climate and Energy"

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Republican men and women tend to differ over climate and energy issues

% of U.S. adults who say the following



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

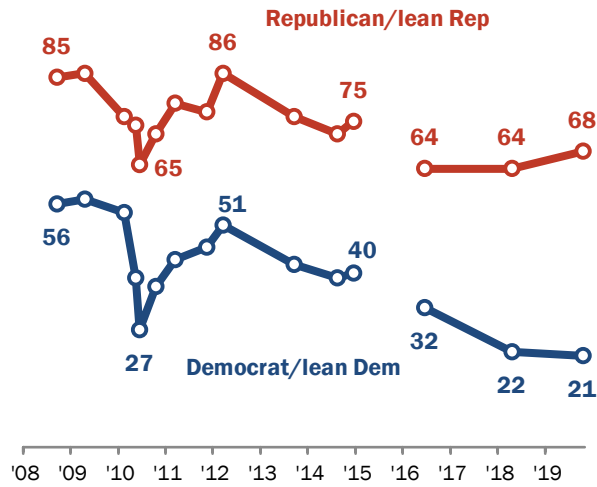
Source: Survey conducted Oct. 1-13, 2019.

"U.S. Public Views on Climate and Energy"

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Decline in support for more offshore drilling among Democrats since 2016

% 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, April 2018 and October 2019.

Source: Survey conducted Oct. 1-13, 2019.

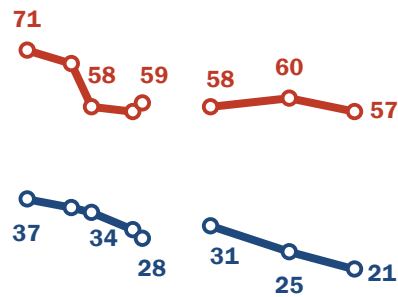
"U.S. Public Views on Climate and Energy"

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Political divides over increasing hydraulic fracturing

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

Republican/lean Rep



Democrat/lean Dem



'08 '09 '10 '11 '12 '13 '14 '15 '16 '17 '18 '19

Note: Surveys conducted from 2012 to 2015 were conducted on the phone using somewhat different question wording than those in June 2016, April 2018 and October 2019.

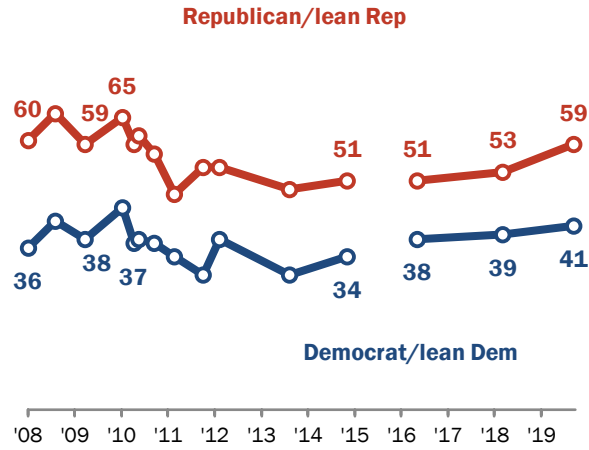
Source: Survey conducted Oct. 1-13, 2019.

"U.S. Public Views on Climate and Energy"

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Political divides over time on support for nuclear power

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



Note: Surveys conducted from 2008 to 2015 were conducted on the phone using somewhat different question wording than those in June 2016, April 2018 and October 2019.
 Source: Survey conducted Oct. 1-13, 2019.
 "U.S. Public Views on Climate and Energy"

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Support for expanding coal mining is down from 2016

% of U.S. adults who favor more coal mining

| | 2016 | 2018 | 2019 |
|--------------|-------------|-------------|-------------|
| U.S. adults | 41 | 37 | 35 |
| Rep/lean Rep | 63 | 60 | 56 |
| Dem/lean Dem | 22 | 20 | 16 |

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

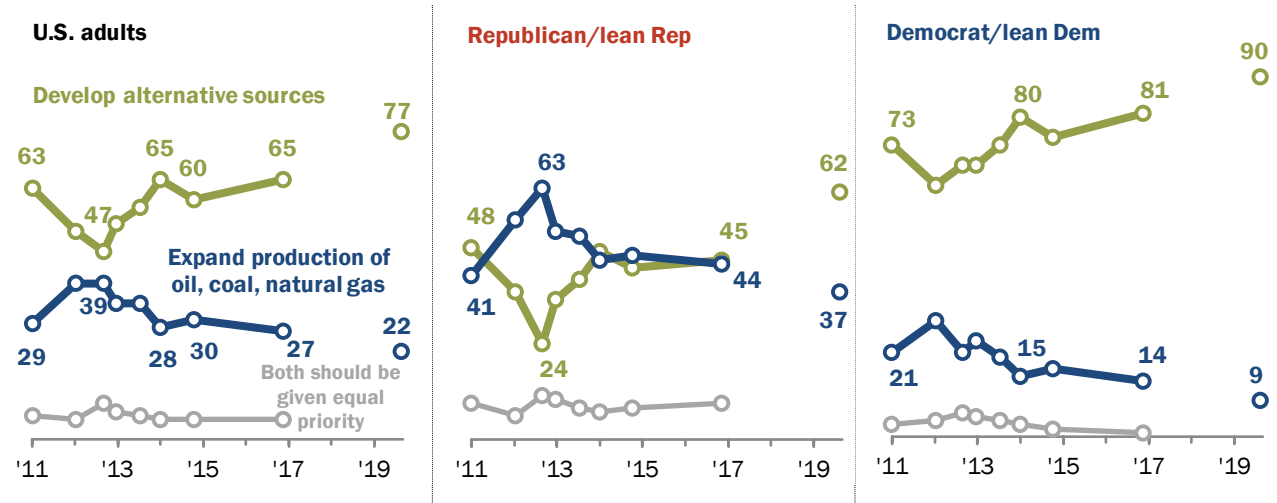
Source: Survey conducted Oct. 1-13, 2019.

"U.S. Public Views on Climate and Energy"

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Most say U.S. should prioritize alternative energy sources today

% of U.S. adults who say the more important priority for addressing America's energy supply should be developing alternative sources such as wind, solar and hydrogen technology or expanding production of oil, coal and natural gas



Note: Surveys conducted from 2011 to 2017 were conducted on the phone using somewhat different question wording than the October 2019 survey. "Both should be given equal priority" was a volunteered response. Respondents who did not give an answer are not shown.
 Source: Survey conducted Oct. 1-13, 2019.
 "U.S. Public Views on Climate and Energy"

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Survey question wording and topline

**2019 PEW RESEARCH CENTER'S AMERICAN TRENDS PANEL
WAVE 55 FINAL TOPLINE
OCTOBER 1-13, 2019
TOTAL N=3,627**

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 | | | |
| Oct 1-13, 2019 | 42 | 56 | 1 |
| Mar 27-Apr 9, 2018 | 39 | 60 | 1 |
| May 10-Jun 6, 2016 | 45 | 52 | 3 |
| b. More nuclear power plants to generate electricity | | | |
| Oct 1-13, 2019 | 49 | 49 | 2 |
| Mar 27-Apr 9, 2018 | 44 | 54 | 2 |
| May 10-Jun 6, 2016 | 43 | 54 | 3 |
| c. More coal mining | | | |
| Oct 1-13, 2019 | 35 | 63 | 2 |
| Mar 27-Apr 9, 2018 | 37 | 61 | 2 |
| May 10-Jun 6, 2016 | 41 | 57 | 3 |
| d. More solar panel "farms" | | | |
| Oct 1-13, 2019 | 92 | 8 | 1 |
| 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 | | | |
| Oct 1-13, 2019 | 38 | 60 | 2 |
| Mar 27-Apr 9, 2018 | 39 | 58 | 2 |
| May 10-Jun 6, 2016 | 42 | 53 | 5 |
| f. More wind turbine "farms" | | | |
| Oct 1-13, 2019 | 85 | 14 | 1 |
| Mar 27-Apr 9, 2018 | 85 | 13 | 2 |
| May 10-Jun 6, 2016 | 83 | 14 | 3 |

ASK FORM 1 [N=1,816]:

EN1F1 Right now, which ONE of the following do you think should be the more important priority for addressing America's energy supply? **[RANDOMIZE RESPONSE OPTIONS]**

Oct 1-13

2019

| | |
|----|---|
| 77 | Developing alternative sources, such as wind, solar and hydrogen technology |
| 22 | Expanding exploration and production of oil, coal and natural gas |
| 1 | No answer |

TREND FOR COMPARISON:

Pew Research Center survey conducted by telephone: Right now, which ONE of the following do you think should be the more important priority for addressing America's energy supply **[READ AND RANDOMIZE]**?

| | <i>Developing alternative sources, such as wind, solar and hydrogen technology</i> | <i>Expanding exploration and production of oil, coal and natural gas</i> | (VOL.) <i>Both should be given equal priority</i> | (VOL.) <i>DK/Ref</i> |
|-----------------------|--|--|---|--------------------------------|
| Jan 4-9, 2017 | 65 | 27 | 5 | 3 |
| Dec 3-7, 2014 | 60 | 30 | 5 | 4 |
| Feb 12-26, 2014 | 65 | 28 | 5 | 2 |
| Sep 4-8, 2013 | 58 | 34 | 6 | 3 |
| Feb 13-18, 2013 | 54 | 34 | 7 | 4 |
| Oct 24-28, 2012 | 47 | 39 | 9 | 5 |
| Mar 7-11, 2012 | 52 | 39 | 5 | 4 |
| Feb 22-Mar 1, 2011 | 63 | 29 | 6 | 2 |

OTHER QUESTIONS HELD FOR FUTURE RELEASE**ASK ALL:**

ENV17 How often, if ever, do you make an effort to live in ways that help protect the environment?

| Oct 1-13 <u>2019</u> | | May 10- June 6 <u>2016</u> |
|-------------------------|------------------|----------------------------------|
| 25 | All the time | 20 |
| 63 | Some of the time | 63 |
| 9 | Not too often | 13 |
| 2 | Not at all | 4 |
| <1 | No answer | <1 |

ASK FORM 1 [N=1,816]:

EN6F1 Do you do each of the following in your everyday life in order TO HELP PROTECT THE ENVIRONMENT, or don't you? **[RANDOMIZE ITEMS]**

| | <u>Yes, I do this</u> | <u>No, I do not do this</u> | <u>No answer</u> |
|---|---------------------------|---------------------------------|----------------------|
| a. Eat less meat Oct 1-13, 2019 | 41 | 59 | <1 |
| b. Drive less or carpool Oct 1-13, 2019 | 51 | 49 | <1 |
| c. Reduce your food waste Oct 1-13, 2019 | 80 | 20 | <1 |
| d. Use fewer plastics that cannot be reused (e.g., plastic bags, straws, cups) Oct 1-13, 2019 | 72 | 28 | 1 |
| e. Reduce the amount of water you use Oct 1-13, 2019 | 68 | 32 | <1 |

ASK FORM 2 [N=1,811]:

EN6F2 How much difference does it make when people do each of the following in their everyday lives TO HELP PROTECT THE ENVIRONMENT? **[RANDOMIZE ITEMS]**

| | <u>Makes a big difference</u> | <u>Makes a small difference</u> | <u>Makes almost no difference</u> | <u>No answer</u> |
|--|-----------------------------------|-------------------------------------|---------------------------------------|----------------------|
| a. Eating less meat Oct 1-13, 2019 | 24 | 38 | 38 | <1 |
| b. Driving less or carpooling Oct 1-13, 2019 | 52 | 40 | 7 | <1 |
| c. Reducing their food waste Oct 1-13, 2019 | 52 | 37 | 10 | <1 |
| d. Using fewer plastics that cannot be reused (e.g., plastic bags, straws, cups) Oct 1-13, 2019 | 67 | 26 | 7 | <1 |
| e. Reducing the amount of water they use Oct 1-13, 2019 | 50 | 40 | 10 | <1 |

ASK ALL:

ENVIR8

How much do you think the federal government is doing to... **[RANDOMIZE ITEMS; show on same screen]**

| | <u>Too much</u> | <u>Too little</u> | <u>About the right amount</u> | <u>No Answer</u> |
|--|-----------------|-------------------|-------------------------------|------------------|
| a. Protect air quality | | | | |
| Oct 1-13, 2019 | 4 | 67 | 28 | 1 |
| Mar 27-Apr 9, 2018 | 8 | 64 | 27 | 1 |
| b. Protect water quality of lakes, rivers and streams | | | | |
| Oct 1-13, 2019 | 4 | 68 | 27 | 1 |
| Mar 27-Apr 9, 2018 | 6 | 69 | 24 | 1 |
| c. Protect animals and their habitats | | | | |
| Oct 1-13, 2019 | 7 | 62 | 31 | 1 |
| Mar 27-Apr 9, 2018 | 9 | 63 | 27 | 1 |
| d. Protect open lands in national parks and nature preserves | | | | |
| Oct 1-13, 2019 | 5 | 55 | 39 | 1 |
| Mar 27-Apr 9, 2018 | 8 | 57 | 34 | 1 |
| e. Reduce the effects of global climate change | | | | |
| Oct 1-13, 2019 | 10 | 67 | 23 | 1 |
| Mar 27-Apr 9, 2018 | 13 | 67 | 19 | 1 |

RANDOMIZE ORDER OF EN7 and EN8**ASK ALL:**

EN7

How much do you think human activity, such as the burning of fossil fuels, contributes to global climate change?

Oct 1-13

2019

| | |
|----|--------------|
| 49 | A great deal |
| 30 | Some |
| 14 | Not too much |
| 6 | Not at all |
| 2 | No answer |

ASK ALL:

EN8

How much do you think natural patterns in the Earth's environment contribute to global climate change?

Oct 1-13

2019

| | |
|----|--------------|
| 35 | A great deal |
| 44 | Some |
| 13 | Not too much |
| 4 | Not at all |
| 2 | No answer |

RANDOMIZE ORDER OF CLIM5 AND CLIM6**ASK ALL:**

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

| Oct 1-13 2019 | | Mar 27- Apr 9 2018 |
|------------------|---|--------------------------|
| 33 | Help the U.S. economy | 30 |
| 30 | Hurt the U.S. economy | 31 |
| 35 | Make no difference for the U.S. economy | 36 |
| 2 | No answer | 2 |

ASK ALL:

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

| Oct 1-13 2019 | | Mar 27- Apr 9 2018 |
|------------------|--|--------------------------|
| 54 | Do more GOOD than harm for the environment | 49 |
| 15 | Do more HARM than good for the environment | 19 |
| 29 | Make no difference for the environment | 30 |
| 2 | No answer | 2 |

ASK FORM 1 [N=1,816]:

CLIM9F1 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 | | | | | |
| Oct 1-13, 2019 | 41 | 35 | 15 | 8 | <1 |
| Mar 27-Apr 9, 2018 | 40 | 35 | 16 | 8 | <1 |
| b. Your local community | | | | | |
| Oct 1-13, 2019 | 25 | 38 | 24 | 12 | <1 |
| Mar 27-Apr 9, 2018 | 22 | 37 | 25 | 15 | <1 |

ASK FORM 2 [N=1,811]:

CLIM9F2 How much, if at all, do you think global climate change is currently affecting your local community?

| | <u>A great deal</u> | <u>Some</u> | <u>Not too much</u> | <u>Not at all</u> | <u>No Answer</u> |
|----------------|-------------------------|-------------|-------------------------|-------------------|------------------|
| Oct 1-13, 2019 | 20 | 40 | 25 | 15 | 1 |

COMBINED FORM 1 AND FORM 2 "YOUR LOCAL COMMUNITY" [N=3,627]

| | <u>A great deal</u> | <u>Some</u> | <u>Not too much</u> | <u>Not at all</u> | <u>No Answer</u> |
|----------------------|-------------------------|-------------|-------------------------|-------------------|------------------|
| Your local community | | | | | |
| Oct 1-13, 2019 | 22 | 39 | 24 | 13 | 1 |

ASK IF CLIM9F1B=1,2 OR CLIM9F2=1,2 (LOCAL COMMUNITY AFFECTED A GREAT DEAL OR SOME) [N=2,284]:

CLIM10 Would you say each of the following is a MAJOR way that global climate change is currently affecting your local community, or not? **[RANDOMIZE ITEMS]**

| | | BASED ON ALL ASKED [N=2,284] | | |
|----|--|-------------------------------------|------------------|---------------|
| | | <u>Yes, a</u> | <u>No, not a</u> | <u>No</u> |
| | | <u>major way</u> | <u>major way</u> | <u>answer</u> |
| a. | Droughts or water shortages | | | |
| | Oct 1-13, 2019 | 64 | 35 | 1 |
| b. | Long periods of unusually hot weather | | | |
| | Oct 1-13, 2019 | 79 | 21 | 1 |
| c. | Severe weather, like floods or intense storms | | | |
| | Oct 1-13, 2019 | 70 | 29 | <1 |
| d. | Rising sea levels that erode beaches and shore lines | | | |
| | Oct 1-13, 2019 | 56 | 43 | 1 |
| e. | Damage to forests and plant life | | | |
| | Oct 1-13, 2019 | 67 | 32 | 1 |
| f. | Harm to animal wildlife and their habitats | | | |
| | Oct 1-13, 2019 | 69 | 30 | 1 |
| g. | More frequent wildfires | | | |
| | Oct 1-13, 2019 | 56 | 43 | 1 |

CLIM10 CONTINUED**BASED ON TOTAL
[N=3627]**

| | Answered "Local community affected a great deal or some" to CLIM9F1_B or CLIM9F2 | Answered | | | Answered "Local community affected not too much/not at all" to CLIM9F1_B or CLIM9F2 | No answer to CLIM9F1_B or CLIM9F2 |
|---|---|---------------------------------|------------------------------------|--|--|---|
| | | <u>Yes, a major way</u> | <u>No, not a major way</u> | <u>No answer to CLIM10</u> | | |
| a. Droughts or water shortages | | | | | | |
| Oct 1-13, 2019 | 62 | 39 | 22 | 1 | 38 | 1 |
| b. Long periods of unusually hot weather | | | | | | |
| Oct 1-13, 2019 | 62 | 49 | 13 | <1 | 38 | 1 |
| c. Severe weather, like floods or intense storms | | | | | | |
| Oct 1-13, 2019 | 62 | 43 | 18 | <1 | 38 | 1 |
| d. Rising sea levels that erode beaches and shore lines | | | | | | |
| Oct 1-13, 2019 | 62 | 34 | 27 | 1 | 38 | 1 |
| e. Damage to forests and plant life | | | | | | |
| Oct 1-13, 2019 | 62 | 41 | 20 | <1 | 38 | 1 |
| f. Harm to animal wildlife and their habitats | | | | | | |
| Oct 1-13, 2019 | 62 | 43 | 19 | <1 | 38 | 1 |
| g. More frequent wildfires | | | | | | |
| Oct 1-13, 2019 | 62 | 35 | 27 | 1 | 38 | 1 |

OTHER QUESTIONS HELD FOR FUTURE RELEASE