## A Details of the experimental context

## A. 1 Motivating evidence of bipartisanship

Figure A1: Democrats think increasing Republican lawmakers' support is crucial for climate policy


Note: This figure plots responses in a motivating sample of Democrats, which we recruited according to the same restrictions on demographics and climate beliefs as the Wave-1 experimental sample (Section 2.3). The figure plots repsonses to how much participants agree with the statements in the subfigure titles. The x-axes of each figure give the same scales on which participants reported their responses. $\mathrm{N}=183$ at left and $\mathrm{N}=195$ at right.

Figure A2: Democrats' beliefs about effectiveness of bipartisan movement
Panel A. How much more or less effective would a bipartisan climate movement be than a purely liberal movement in advancing US climate policy?


Panel B. Impacts of conservative advocates on legislators and policy goals


Note: Panel A plots participants' responses to the question in the figure title. We define a bipartisan climate movement to participants as one that includes both liberals and conservatives advocating for policy change, where we define liberals and conservatives as people who lean towards to or belong to the Democratic or Republican Parties, respectively. In Panel B, we plot Democrats' responses to how much they agree with the statements in the subfigure titles. The $x$-axes of each figure give the same scales on which participants reported their responses. $\mathrm{N}=195$ in all figures.

Figure A3: Democrats say citizens and organizations should focus on building Republican support


Note: The figure plots responses to how much participants agree with the statements in the subfigure titles. The $x$-axes of each figure give the same scales on which participants reported their responses. We define liberals and conservatives as people who lean towards to or belong to the Democratic or Republican Parties, respectively. $\mathrm{N}=195$ in all figures.

Figure A4: Few Democrats say they've previously invited conservatives


Note: The figure at left restricts to Democrats who answered in a preview question that they have ever explicitly encouraged others to join them in politically advocating for climate action in the last 5 years. We ask these participants how they've invited others to join in action (By posting about opportunities on social media; by directly messaging individual people or groups online; through in-person or phone conversations; or Other), and we restrict to those who select direct messages or in-person or phone conversations. We then ask participants to consider whether they had mostly invited liberals or conservatives for climate action in those instances, randomizing whether conservatives or liberals are at the left end of the scale. This leaves $\mathrm{N}=100$. The figure on the right plots responses to the title question in the full motivating sample of Democrats ( $\mathrm{N}=196$ ), asked before the question in the left panel. We define liberals and conservatives as people who lean towards to or belong to the Democratic or Republican Parties, respectively. Participants choose a response from the following: "All of them are liberals;" "Almost all of them are liberals, but I know a few conservatives;" "Most of them are liberals;" "They are evenly split across the political spectrum;" "Most of them are conservatives;" "Almost all of them are conservatives, but I know a few liberals;" and "All of them are conservatives." We convert these responses into a 7-point scale as shown in the figure.

Figure A5: Democrats' baseline affective polarization

## Panel A. Affective polarization on the ANES "feelings thermometer"



Panel B. Democrats strongly prefer friends of their own party


Note: Panel A measures affective polarization using the "feelings thermometer" question from the American National Election Study (ANES), in which participants report how warmly they feel toward the Democratic party and the Republican party on scales from 0 degrees (cold) to 100 degrees (warm). We elicit these thermometer values from Democrats in the Wave- 1 experimental sample who are assigned to either the A1 or A2 treatment groups. See Section 5 for details on these treatments. We elicited these values after participants choose whether to email Congress or not, yielding $\mathrm{N}=4,321$. The solid lines give average warmth towards the Democratic and Republican parties in our sample, while the dashed lines give average warmth values among Democrats in the 2020 ANES sample. Panel B measures affective polarization using participants' responses to how much they would prefer being friends with a Democrat versus a Republican. We randomize which party is given at 1 versus at 7 on the 7 -point scale. We elicit these baseline beliefs from the full Wave-1 Democratic sample, yielding $\mathrm{N}=8,937$.

## A. 2 Screening questions

After first screening out any participant who does not currently live in the US or is below age 18, we elicited all screening questions in baseline questions at the beginning of the Wave- 1 and Wave- 2 surveys. These questions are as follows:

## Demographic screeners:

- Age: Participants select their age from the following categories: $\{18-19,20-24,25-29,30-34,35-39$, $40-44,45-49,50-54,55-59,60-64,65-69,70-74,75-79,80-84,85$ or older $\}$. We restrict the sample to those between ages 20 and 79 .
- State: Participants select their current state of residence from a dropdown list of all 50 states and Washington D.C. We restrict the sample to those who live in the contiguous United States to facilitate grouping participants in geographically close and politically similar state clusters.
- Gender: Participants select their gender from \{Man, Woman, Non-binary, Other (with open-response field\}. We restrict the sample to those who identify as men or women.
- Race: Participants select the racial group with which they most strongly identify from the following categories: \{Black / African American; Native American; Asian or Pacific Islander; White; Multiracial (with open-response field); Other (with open-response field) \}. We restrict the sample to those who identify as white.


## Climate-belief screener:

- Beliefs about the causes of climate change: We ask participants to choose which of the following statements they most agree with:
- Climate change is caused mostly by human activites.
- Climate change is caused mostly by natural changes in the environment.
- Neither, since climate change isn't happening.
- Other (with open-response field).

We screen out participants who do not say that climate change is caused mostly by human activities.

## Political screener:

- Political affiliation: We elicit participants' political affiliation in two steps.

1. First, we ask participants whether, generally, speaking they would say they lean towards the Democratic Party, the Republican Party, or neither. (We identify "liberals" and "conservatives" as those who say they lean towards the Democratic or Republican Parties, respectively.)
2. If participants chose either the Democratic or Republican Parties, we then ask them the following: "Would you consider yourself a member of the [Democratic/Republican] Party, an Independent, or something else?"

In the Wave- 1 sample, we restrict participants to those who say that they are members of the Democratic Party. In the Wave-2 sample, we restrict participants to those who say they lean towards either the Democratic or Republican Parties.

## A. 3 Forming state groups

A key piece of information included in study participants' demographic profiles is the state or group of states in which they live. We form groups of states, rather than simply showing the single state in which participants live, both to protect participants' anonymity and to ensure that the demographic cells that we randomly pair across Waves 1 and 2 are large enough to facilitate our research design. We create groups of states that are both geographically close and are perceived to have legislators whose support for climate policy is similarly marginal with respect to citizen advocacy. In other words, we aim to create groups of states that all fall in one of the following categories:

- "Red states:" States where legislators would be unlikely to vote in favor of a climate bill, even if a fair number of state residents called them to say that they supported the bill;
- "Blue states:" States where legislators would be very likely to vote in favor of a climate bill, even if not many state residents called them to say that they supported the bill;
- "Purple states:" States where legislators are on the fence about climate policy, and where legislators could be convinced to vote for a climate bill if they knew that enough of their constituents supported it.

Creating groups of states that fall in each of these categories allows us to test whether Democrats strategically try to mobilize climate action in states where they expect it to have more impact on legislators' choices. To create our ultimate set of geographically close and politically similar state groups, we first elicit Americans' beliefs about which states fall in the climate policy-marginality groups above. We ask a sample of 101 Democrats recruited from Twitter and Facebook to classify each of the 48 states in the contiguous US into these three groups.

We then form clusters of geographically close states among those that most social-media participants classed in the same tier of climate-policy marginality. We vary the number of states in each group to ensure that the projected number of eligible study participants is roughly equal across these groups. In particular, we use Mildenberger et al. (2017)'s estimates to approximate the number of Democrats and Republicans who believe that climate change is mostly human-caused for each state and then sum these values within each state group. By these estimates, our final groups range from about 3 million to 11 million estimated eligible study participants.

The table below presents our final state groups, classified by the three climate marginality tiers, as well as the percent of eligible Americans that we estimate live in each group, the percent of Democrats in the Wave-1 action experiment sample who live in each group, and the percent of participants (liberal and conservative) in the Wave-2 experimental sample who live in each group. No state group is strikingly overor under-represented in our experimental samples. As expected, the Wave-1 sample of Democrats is more likely to live in Blue states than the bipartisan Wave-2 sample.

|  | \% Eligible | \% Wave 2 | \% Wave 1 |
| :---: | :---: | :---: | :---: |
| Red state groups: |  |  |  |
| South Carolina, Louisiana, Mississippi, Alabama | 6\% | 4\% | $2 \%$ |
| Montana, Wyoming, Idaho, Utah, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma | 4\% | 6\% | 4\% |
| Missouri, Arkansas, Tennessee, Kentucky, Indiana, West Virginia | 9\% | 10\% | 7\% |
| Florida | 7\% | 6\% | 5\% |
| Texas | 8\% | 7\% | 4\% |
| Blue state groups: |  |  |  |
| Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island | 4\% | 8\% | 10\% |
| New York, New Jersey, Maryland, Delaware | 13\% | 10\% | 12\% |
| Washington, Oregon, California | 14\% | 14\% | 18\% |
| Illinois | 5\% | 4\% | 4\% |
| Purple state groups: |  |  |  |
| Ohio, Pennsylvania | 7\% | 9\% | 9\% |
| Virginia, North Carolina, Georgia | 11\% | 9\% | 8\% |
| Wisconsin, Michigan, Minnesota, Iowa | 8\% | 9\% | 9\% |
| Nevada, Arizona, Colorado, New Mexico | 5\% | 6\% | 6\% |

The state groups that we ultimately construct remain quite connected to social media participants' beliefs about state-level climate policy marginality. Figure A6 plots the share of social-media participants who classified a given state as falling in the red, blue, or purple tiers by whether we ultimately assign the state to a state group matched to that tier. In all cases, social media participants were very likely to classify each state in the tier to which their group is ultimately assigned.


## B Wave-2 Appendix

## B. 1 Randomization to Wave-1 profiles and treatments

Wave-2 participants begin their survey by answering a series of questions on their demographics, political engagement, and climate beliefs, which we then combine in a basic demographic profile (Appendix Figure 2a). From participants' perspective, the next step is to show them the basic demographic profile of a randomly-chosen Wave-1 Democrat. If Wave-2 participants later see a profile inviting them to join in emailing Congress, it will depict an invitation from this same Wave-1 match.

Before we show Wave-2 participants the basic demographics of their randomly-paired Wave-1 match, we randomly assign each participant to a treatment status: whether they ultimately see an invitation to join an earlier participant in emailing Congress or not. We perform this randomization at this point because participants' treatment status determines the earlier Wave-1 participant to which they can be randomly paired. In particular, we must truthfully carry out what we told each Wave-1 participant about whether and to whom their demographic profile, and in some cases extra climate-action profiles, will be shown. Thus, any Wave-2 participant assigned to see a profile inviting them to join in emailing Congress must be paired with a Wave-1 participant from the A2 (Invitation) group who chose to email Congress. ${ }^{53}$ (See Section 5 for details on the Wave-1 treatment groups.) Wave-2 participants assigned not to see an invitation to join in action can be paired with any other Wave-1 participants.

Figure B1: Showing all Wave-2 participants a Wave-1 participant's demographics
Many other Americans have participated in this survey already.

To give you a sense of who else is involved, here's a profile for a randomly chosen recent participant:


Wherever possible, we randomize Wave-2 participants to be matched with a Wave-1 participant from their paired demographic group (Section 2.3) for whom an action invitation can or cannot be shown, de-

[^0]Figure B2: Treatment: Action invitation from Wave-1 match
Remember that earlier in this survey we randomly paired you with Jordan and showed you their demographic profile.

When Jordan took this survey, they chose to contact Congress via our form and to show you this profile of themselves:

pending on the Wave-2 participant's treatment status. In some cases, Wave-2 participants' matched Wave-1 demographic groups are small enough that there are no Wave-1 participants to whom they can be paired; recall that these demographic groups are defined by the interactions of gender, 15 -year age bins, whether participants have a 4 -year college degree, and 13 groups of geographically close and politically similar states. In these cases, we randomly pair Wave-2 participants with an earlier participant from a small sample of Democrats recruited alongside Wave 1 that we refer to as "Wave-1 blanks." We told all of these participants that we would show future participants invitations to join them in emailing Congress, if they did so, without specifying the demographics of these future participants. (We do not include these Wave-1 blanks in our Wave-1 experimental analysis.) $49 \%$ of Wave-2 participants are paired with a Wave-1 participant from their matched demographic group, while the remaining participants are paired with a Wave-1 blank.

## B. 2 The process of emailing Congress: Waves 1 and 2

This section briefly describes the process by which both Wave-1 and Wave-2 participants learn about and decide whether to participate in the opportunity to email Congress via our form.

## B.2.1 Initially introducing the opportunity to email Congress

In both the Wave-1 and Wave-2 surveys, we first introduce the upcoming opportunity to email Congress with the text shown in Appendix Figure B3a. We try to phrase this introduction as neutrally as possible. Next, we describe the SoftEdge email form in more detail, as shown in Appendix Figure B3b, alongside a preview of the email form itself; Appendix Figure B3c shows this email preview.

Note that this description points out that the email form will have an un-editable subject line supporting climate policy. Participants assigned to either the Invitation group (A2) or the Tell-After group (A1) in the Wave-1 experimental survey see this preview and description of the SoftEdge form before learning that their decision to email Congress will be passed on to others. Thus, when A2 participants first consider the possibility that their own action could influence Wave-2 participants' action, they know that no Wave2 participant can use the email form to uniformly oppose climate policy. Across all of our experimental surveys, participants see these previews before deciding whether to start the email process or not.

Figure B3: Previewing the upcoming opportunity to email Congress
(a) Initial intro to action

One way that some people choose to address climate change is to contact their representatives in Congress and directly advocate for climate policy.

In a few slides, we'll provide you with a form, embedded in this survey, through which you can write a short email to Congress asking them to prioritize ambitious climate policy, if you'd like.
(Please note: It's totally fine if you'd rather not. It doesn't help or hurt our research either way, and you'll be entered into the lottery for gift card prizes no matter what.)

## (b) Description of the SoftEdge form

Here's a screenshot of what the form to contact Congress will look like. Based on your zip code, the form will identify your Senators and House Representative and address the email to them. (Right now it's filled in like you live in North Carolina, but this is just an example.)

The email will have an un-editable subject line supporting climate policy.

Then, the body of the message has several blanks where we'll ask you to fill in details about who you are and why you care about climate change.
(Surveys of political staffers show that emails are much more effective when they're personalized!)
(c) Preview of the email form


Please add 1 or 2 sentences describing why you care about climate change. (required)

Please add anything else that you'd like to include in your message.

## Sincerely,

[ Your Full Name ]

## B.2.2 Participants decide whether to email Congress or not

After the treatment interventions in both Waves 1 and 2, we then offer participants the chance to email Congress or not. First, we ask participants whether they want to opt into starting the email process with the questions shown in Appendix Figure B4. Across each of our main experimental surveys, we add text to this initial question reiterating to participants that they should feel free not to email Congress if they do not wish to; we vary the text of this disclaimer somewhat between Waves 1 and Waves 2 and, within the Wave- 1 sample, between participants assigned to the A0 pure control group versus the A1 or A2 treatment groups. Throughout this project, we use a binary variable for whether participants initially opt into the email process at this step as a secondary measure of climate action. As we describe below, or primary measure of action is whether participants ultimately match to an email record.

Figure B4: Initial invitations to opt into the email process
(a) Wave 1: A0 group (b) Wave 1: A1 and A2 groups

Are you interested in contacting your Senators and House Representative through this survey?
(Please remember: Whether you contact Congress or not doesn't hurt or help our research in any way. You should do whatever you want to.)

No

Yes

Are you interested in contacting your Senators and House Representative through this survey?
(Please remember: Even though future participants will be told if you contact Congress, whether you do so or not doesn't hurt or help our research in any way. You should do whatever you want to.)

No

Yes
(c) Wave 2

Are you interested in contacting your Senators and House Representative through this survey?
(Please remember: You should do whatever you want to. No one else will know whether you decide to email or not.)

No

Yes

If participants initially express interest in emailing Congress at this point, we then tell them that the form will ask for a home address and ask if they are still interested in emailing Congress (Appendix Figure B5). If participants again say yes, we then ask them to commit to continuing the survey after sending their email and lay out detailed instructions for using the email form.

Figure B5: Second invitation to email Congress

```
Before we get to the form, we have few notes about it:
First, Members of Congress' websites require you to submit an address when you email their offices, so the form will ask for your home address. However, we will not download or use that data in any way.
If you don't want to list your home address, you could give the address for a nearby landmark.
Are you still interested in emailing Congress?
```


## No

```
Yes
```

Appendix Figures B6 through B8 lay out the same screenshots of the upcoming form to email Congress that we show participants to explain the process. Participants start the email process by entering their residential address into the form landing page:

Figure B6: SoftEdge email form, Page 1
What you'll see on the next page:

## Tell Congress You Care!

One way that people address climate change is by directly contacting their Congressional representatives to advocate for climate policy.

You can email Congress through this form, if you're interested!


Once participants click "Go," the form autopopulates their national Senators and U.S. Representative, as shown in Appendix Figure B7. Participants fill in their name and contact information and then fill in
the email text. The form requires that participants fill out two open response fields. We recommend to participants that they use these spaces to describe who they are and why they care about climate change, but they can fill in any text they wish. While the email body is fully customizable, the email subject line is fixed to support ambitious climate policy. We randomize the subject line from options such as "Ambitious climate action in the US," "Addressing climate change is crucial," and "My strong support for US climate policy." While we make the email body fully customizable to ensure that emailing Congress is a meaningful, fairly costly action, we fix the subject line to ensure that no participant can use the email form to fully oppose climate policy; this restriction will be common knowledge to all participants, as we describe in Section B. 2 below.

Figure B7: SoftEdge email form, Page 2

What you'll see after clicking "GO":

## Tell Congress You Care!



Participants can send their email by clicking the "SEND" button shown in Appendix Figure B7. Once they do so, the form updates to a confirmation and thank you message, as shown in Figure B8. Participants can then click on to continue with their survey. While we cannot directly observe participants' clicks or
activity in the SoftEdge form itself, we observe the full text of all emails sent via this form. Appendix Section B.4.1 below describes the process by which we match participants to email records.

Figure B8: SoftEdge email form, Page 3
What you'll see after clicking "SEND":

## Tell Congress You Care!



## B. 3 Wave-2 recruitment, attrition, and comprehension

## B.3.1 Wave-2 recruitment

While we recruited most Wave-2 liberals from social media, we recruited nearly all Wave-2 conservatives directly from Qualtrics, which aggregates a range of online panels.

Social-media recruitment: We recruited Wave-2 participants via social media in two ways (Panel A of Appendix Figure B9). First, we redirected participants to Wave 2 if they initially started but were ineligible for the Wave-1 survey because they were not members of the Democratic party. Any such participant had completed the full suite of baseline questions on demographics, climate and political beliefs, and political engagement in the Wave-1 survey, and they were redirected to the Wave- 2 survey at the point of constructing a basic avatar of themselves. In total, 3,505 participants started the Wave-2 survey via this route.

Figure B9: Wave-2 recruitment
Panel A. Recruitment from social media


Panel B. Recruitment from Qualtrics


Other participants were initially recruited from social media directly to the Wave-2 Qualtrics survey. In total, 3,572 unique participants from social media consented directly to the Wave-2 survey and provided an email address, which we required of all participants in order to link them with records of emailing Congress. Of these participants, 3,321 participants completed the full suite of baseline questions and 1,975 state that they believe that climate change is mostly human-caused and lean towards either the Republican or Democratic party. We then impose the feasibility-based screening criteria (Section 2.3), restricting to participants who live within the contiguous United States, are between age 20 and age 79, identify as a man or a woman, and identify as White. These restrictions leave 1,679 qualifying participants recruited directly to the Wave- 2 survey, or $85 \%$ of those who qualify for Wave-2 on politics and climate beliefs and $51 \%$ of those who completed the baseline screening questions.

The full sample of $\mathrm{N}=5,184$ qualifying participants recruited from social media (either by way of
the Wave-1 experiment or directly to Wave 2) then build an avatar, and the remaining 5,032 participants recruited from social media are randomized to a Wave-2 treatment group. This sample is highly skewed towards liberals: only 211 participants recruited via social media and randomized to a Wave-2 treatment are conservative

Qualtrics recruitment: While we recruited most liberals in the Wave-2 sample from social media, we recruited nearly all conservatives in the Wave-2 sample directly from Qualtrics, which aggregates respondents from over 20 partnering market-research panels and other online samples. Participants recruited via Qualtrics were subject to identical screening criteria on demographics, political affiliation, and climate beliefs as Wave-2 participants recruited from social media (Panel B of Appendix Figure B9).

In total, 16,321 unique participants recruited via Qualtrics consented to the Wave-2 survey and provided an email address. Of these, 16,058 completed baseline questions through stating their beliefs about the drivers of climate change. In the survey fielded for Qualtrics recruitment, participants then answered a basic attention check question: 15,962 participants answered the attention check, and 11,279 ( $71 \%$ ) did so correctly. These participants then reported their political affiliations, leaving 4,406 participants who state that they believe that climate change is mostly human-caused and lean towards either the Republican or Democratic party. Imposing the same demographic restrictions as above leaves 3,665 qualifying participants. These remaining participants are asked to complete a simple pledge to provide thoughtful and honest survey answers, and 3,652 do so. This remaining sample then answers additional baseline survey questions, build their basic avatar, and are randomized into Wave- 2 treatment arms.

To make up for the lack of conservatives in our Wave-2 sample recruited from social media, we intentionally focused Qualtrics recruitment on conservatives: 2,791 participants randomized to a treatment arm lean towards the Republican party, while 862 lean towards the Democratic party.

## B.3.2 Wave-2 attrition

Appendix Table B1 tests for differential attrition by treatment status in the Wave-2 sample. There is no differential attrition in whether we observe if participants' choose to email Congress or not (column 1). Columns 1 through 7 then test for differential attrition in our secondary outcomes: participants' reports for how strongly the researchers wanted them to email Congress (column 2), and their perceptions of others' actions and social norms around climate advocacy (columns 3 through 7). There is no differential attrition in any of these measures, which we use to test the mechanisms by which Wave-1 invitations affect action (Appendix Section B.5). Note that we randomize participants to answer one of two sets of secondaryoutcome questions in the Wave-2 survey, so a control mean of $50 \%$ in columns 3 through 7 would denote full completion.

Table B1: Wave-2 attrition

|  | (1) | (2) | (3) | (4) | (5) | (6) (7) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Secondary set 1 |  |  | Secondary set 2 |  |
|  | Observe <br> if email | Demand effect | Others' action | How worth. | Therm. questions | Policy beliefs | Social norms |
| Treatment | $\begin{gathered} 0.005 \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.003 \\ (0.006) \end{gathered}$ | $\begin{aligned} & -0.001 \\ & (0.011) \end{aligned}$ | $\begin{aligned} & -0.001 \\ & (0.011) \end{aligned}$ | $\begin{gathered} -0.002 \\ (0.011) \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.011) \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.011) \end{gathered}$ |
| Control means | 0.915 | 0.896 | 0.446 | 0.445 | 0.441 | 0.437 | 0.437 |
| Sample size | 8685 | 8685 | 8685 | 8685 | 8685 | 8685 | 8685 |

Note: This table tests for differential attrition by treatment status in Wave 2. Column 1 tests for differential attrition in whether we observe if participants choose to email Congress, our primary outcome variable. Column 2 tests for differential attrition in participants' reports of how strongly we, the researchers, wanted them to email Congress. Columns 3 through 5 test for differential attrition in whether we observe participants' incentivized guesses for the share of other participants who will email Congress, beliefs on how worthwhile it is to email Congress, and their thermometer ratings of how warmly they feel towards the Democratic and Republican parties, respectively. Columns 6 and 7 test for differential attrition in whether we observe participants' beliefs for the probability that a climate bill would pass Congress and their perception of their peers' and other Americans' beliefs about climate action, respectively. We randomly assign participants either to the first or second set of secondary questions, so full completion on columns 3 through 7 would correspond to a control mean of $50 \%$. We present heteroskedasticity-robust standard errors in parentheses and indicate statistical significance at the $10 \%, 5 \%$, and $1 \%$ levels by ${ }^{*}$, ${ }^{* *}$, and ${ }^{* * *}$, respectively. The last row of the table presents p-values for heteroskedasticity-robust tests of the equality between the treatment effects on liberals and conservatives.

Figure B10: Baseline climate beliefs: Wave 2, split between conservatives and liberals
Panel A. How worried are you about climate change?


Panel B. How much do you want the federal government to do to slow or stop climate change, relative to what it's currently doing?


Panel C. How much would you say you are currently seeing the effects of climate change in your local area, like changes in weather patterns or natural disasters?


Note: These figures plot the distributions of baseline climate beliefs across liberals $(\mathrm{N}=5,027)$ and conservatives $(\mathrm{N}=2,954)$ in the Wave-2 experimental sample. These beliefs were collected before treatment or the opportunity to email Congress.

Table B2: Comparing Wave-2 participants recruited via social media vs. Qualtrics Panels

|  | (1) | (2) | (3) | (4) | (5) | (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Liberals |  |  | Conservatives |  |
|  | Social | Qualtrics | p-value | Social | Qualtrics | p-value |
| Woman | 0.581 | 0.492 | (0.000) | 0.393 | 0.528 | (0.001) |
| Hispanic | 1.043 | 1.111 | (0.000) | 1.055 | 1.104 | (0.010) |
| Has $\geq$ 4-year college degree | 0.790 | 0.604 | (0.000) | 0.755 | 0.338 | (0.000) |
| Age ranges: |  |  |  |  |  |  |
| 20-39 | 0.194 | 0.326 | (0.000) | 0.172 | 0.442 | (0.000) |
| 40-59 | 0.337 | 0.275 | (0.000) | 0.405 | 0.313 | (0.018) |
| 60-79 | 0.469 | 0.399 | (0.000) | 0.423 | 0.245 | (0.000) |
| Income bins (USD): |  |  |  |  |  |  |
| Less than 50,000 | 0.206 | 0.356 | (0.000) | 0.172 | 0.410 | (0.000) |
| 50,000-99,999 | 0.332 | 0.285 | (0.007) | 0.252 | 0.385 | (0.000) |
| 100,000-149,999 | 0.227 | 0.200 | (0.072) | 0.196 | 0.132 | (0.046) |
| 150,000-199,999 | 0.109 | 0.106 | (0.803) | 0.147 | 0.046 | (0.000) |
| 200,000 or more | 0.126 | 0.053 | (0.000) | 0.233 | 0.027 | (0.000) |
| State marginality: |  |  |  |  |  |  |
| Red state | 0.268 | 0.259 | (0.532) | 0.362 | 0.416 | (0.166) |
| Blue state | 0.409 | 0.469 | (0.002) | 0.387 | 0.250 | (0.000) |
| Purple state | 0.323 | 0.273 | (0.003) | 0.252 | 0.334 | (0.019) |
| Climate beliefs: |  |  |  |  |  |  |
| Climate worry (1-7) | 6.325 | 6.180 | (0.000) | 4.485 | 4.980 | (0.000) |
| Desire for climate action (1-7) | 6.680 | 6.389 | (0.000) | 4.423 | 5.263 | (0.000) |
| Perceived local impacts (1-7) | 5.439 | 5.696 | (0.000) | 4.172 | 4.875 | (0.000) |
| Political engage. and beliefs: |  |  |  |  |  |  |
| Member of resp. party | 0.223 | 0.785 | (0.000) | 0.460 | 0.758 | (0.000) |
| Political engage. index (std) | 1.512 | -0.339 | (0.000) | -0.863 | -2.102 | (0.000) |
| Prev. contacted reps | 0.246 | 0.372 | (0.000) | 0.129 | 0.224 | (0.000) |
| Prev. donated | 0.744 | 0.410 | (0.000) | 0.417 | 0.231 | (0.000) |
| Prev. canvassed | 0.061 | 0.081 | (0.046) | 0.061 | 0.039 | (0.247) |
| Prev. signed petition | 0.800 | 0.490 | (0.000) | 0.552 | 0.380 | (0.000) |
| Prev. phonebanked | 0.077 | 0.081 | (0.689) | 0.025 | 0.046 | (0.106) |
| Political efficacy index (std) | -0.111 | -0.102 | (0.653) | 0.133 | 0.189 | (0.205) |
| Prefer friend of own party (1-7) | 5.698 | 5.492 | (0.000) | 4.577 | 4.913 | (0.000) |
| Sample size | 4165 | 862 |  | 163 | 2791 |  |

Note: This table compares baseline trait means among Wave-2 liberals and conservatives recruited via social media (either directly or after being redirected from Wave-1 social-media recruitment) or from Qualtrics. Throughout Wave 2, we define "liberals" and "conservatives as those who lean towards or belong to the Democratic or Republican parties, respectively. All traits are defined as in Table 1. Columns 3 and 6 give p-values for tests of equality in means between columns 1 and 2 and columns 4 and 5 , respectively.

## B.3.3 Wave-2 comprehension questions

At the end of the Wave-2 experimental survey, we randomize participants between two sets of comprehension questions: multiple-choice recall questions about their paired Wave-1 participant's traits and multiplechoice questions about the survey set-up and their match's action. All of these questions are incentivized: we tell participants that we will randomly choose 10 people to win a gift card with $\$ 5$ for each question they answer correctly.

Questions about Wave-1 match's traits: We randomize half of Wave-2 participants to answer multiple choice questions about their paired Wave-1 match. We lead in to these questions as follows: "Earlier in this survey, you might remember that we showed you a profile for someone who took a similar survey earlier. We'd like to check what you remember about that participant." Then, we randomize participants either to answer multiple-choice questions about matches' gender, age group, and political party or about whether they have a 4-year college degree and the state group in which they live.

Questions about the survey set-up: We randomize half of Wave-2 participants to answer multiple choice questions about the survey set-up and whether their paired Wave-1 match emailed Congress, as follows:

1. "Earlier in the survey, you might remember that we showed you a profile for someone who took a similar survey earlier. Do you know whether that past participant emailed Congress while taking our survey or not?" [Yes, they did; No, they didn't; I don't know what they did]
2. If participants answer that they don't know what their paired match did, we then ask: "This question doesn't have a correct answer; we're just looking for your guess. What would you guess is the probability that the past participant we showed you emailed Congress via our form?" [Answered on a scale from 0\% (Definitely not) to $100 \%$ (Definitely yes)]
3. We then ask all participants: "Will any future participants be told whether or not you contacted Congress?" [Yes; No; I don't know]

Figure B11: Comprehension among Wave-2 participants
Panel A. Do you know whether your paired earlier participant emailed Congress while taking our survey or not?


Panel B. If answered they don't know: What would you guess is the probability that the past participant we showed you emailed Congress via our form?


Panel C. Will any future participants be told whether or not you contacted Congress?


Figure B12: Whether participants correctly remember paired participants' traits

Panel A. Share Wave-2 participants who correctly remember Wave-1 matches' traits


Panel B. Share Wave-1 participants who correctly remember Wave-2 matches' traits


## B. 4 Defining outcome and control variables: Waves 1 and 2

This section describes how we define our primary outcome variables and control variables in both Waves 1 and 2 . We comment throughout on any differences between our approaches in the two waves.

## B.4.1 Defining outcomes: Merging participants with email records

We merge email records to individual study participants using combinations of name, email address, treatment status, state, and the time and day on which participants completed the survey. (Note that we can perfectly observe treatment status because we embed and see records from separate email forms for each treatment variation.) In total, 4,124 emails were sent by unique Wave- 1 participants ${ }^{54}$ and 1,834 were sent by unique Wave- 2 participants.

1. In both Waves 1 and 2, we first merge SoftEdge email records to participants using email address and treatment assignment. In Wave 1, 3,968 emails ( $90 \%$ ) merge to participants at this step. In Wave 2, 1,587 emails $(87 \%)$ merge to participants at this step. 2.
2. Next, we merge on full name, state, treatment assignment, and the date and time at which participants took their survey. We restrict matches to those where the email was sent within 2 hours of a participant starting the survey. In Wave 1, an additional 145 emails merge at this stage, for a total of $93 \%$ of emails merged. In Wave 2, an addition 59 emails merge at this stage, for a total of $90 \%$ of emails merged.
3. Finally, we merge participants with email records on first name, state, treatment status, and the date and time at which participants took their survey. We restrict matches to whose where the participant did not provide a last name in the survey consent, the participant attested in the survey that they emailed Congress, and the email was sent within 1 hour of the participant starting they survey. This step merges an additional 130 Wave-1 emails and 28 Wave-2 emails. In total, then, we merge 3,968 out of 4,124 total Wave-1 emails ( $96 \%$ ) and 1,674 out of 1,834 total Wave-2 emails ( $91 \%$ ).

In both Waves 1 and 2, there are is no significant difference in match rates by treatment status.

## B.4.2 Defining control variables

After first screening out any participant who does not currently live in the US, we elicited all control variables in baseline questions at the beginning of the Wave-1 and Wave-2 surveys. We describe some of these variables in additional detail in Appendix Section A.2). We measure these variables as follows:

## Demographic controls and screeners:

- Age: Our main specifications include indicators 5-year age bins from \{20-24\} through \{75-79\}. See Appendix Section A. 2 for additional detail on this variable.
- State: Our main specifications include indicators for the state in which participants currently live. See Appendix Section A. 2 for additional detail on this variable.
- Gender: Our main specifications include an indicator for identifying as a woman. See Appendix Section A. 2 for additional detail on this variable.

[^1]- Education: Participants select the highest level of education they have completed from the following categories: \{Less than high school; High school graduate (including GED); Some college, no degree; Associate's (2-year college) degree; Bachelor's (4-year college) degree; Master's degree; Post-bachelor professional degree (MD or JD) or doctorate (PhD) \}. Our main specifications include indicators for each attainment level.
- Income: Participants select their total household income before taxes in the last 12 months from the following categories: $\{$ Less than $\$ 25,000 ; \$ 25,000-\$ 49,999 ; \$ 50,000-74,999 ; \$ 75,000-\$ 99,999$; $\$ 100,000-\$ 149,999 ; \$ 150,000-\$ 199,999 ; \$ 200,000$ or more $\}$. Our main specifications include indicators for each income category.
- Ethnicity: Participants report whether they identify as Hispanic or Latino or not. Our main specifications include an indicator that participants answer yes on this variable.


## Climate-belief controls:

- Climate worry: "How worried are you about climate change?" Participants select an integer response from 1 (Not at all worried) to 7 (Extremely worried). We standardize this variable to have mean zero and standard deviation 1 in the Wave-1 and Wave-2 experimental samples; we include this control in our main specifications.
- Desire for climate action: "How much do you want the federal government to do to slow or stop climate change, relative to what it's currently doing?" Participants select an integer response from 1 (Much less) to 4 (The same as it's currently doing) to 7 (Much more). We standardize this variable to have mean zero and standard deviation 1 in the Wave- 1 and Wave-2 experimental samples; we include this control in our main specifications.
- Perceived local climate impacts: "How much would you say you are currently seeing the effects of climate change in your local area, like changes in weather patterns or natural disasters?" Participants select an integer response from 1 (Not at all) to 7 (To an extremely high degree). We standardize this variable to have mean zero and standard deviation 1 in the Wave- 1 and Wave- 2 experimental samples; we include this control in our main specifications.


## Political controls and screeners:

- Political affiliation: In Wave 1, all participants are members of the Democratic party and our regressions do not control for political affiliation. Our Wave 2 regressions split the sample between liberals and conservatives and then control for indicators that participants consider themselves to be members either of the Democratic or Republican parties, respectively. See Appendix Section A. 2 for additional details on these variables.
- Political efficacy: We elicit participants’ agreement with the following statements from 1 (Strongly disagree) to 7 (Strongly agree):
- People like me don't have any say about what the federal government does about issues like climate change;
- Fossil fuel companies and their lobbyists have more power than citizens in determining what the US government does about climate change;
- When groups of citizens push for policy on issues like climate change; the US government responds to thier demands.

We standardize these variables to have mean zero and standard deviation 1 in the Wave-1 and Wave-2 experimental samples. We then construct an index as the sum of these standardized variables, flipping the sign of agreement with the first and second statements. We then standardize this sum to have mean zero and standard deviation one in the Wave-1 and Wave-2 experimental samples and control for this index in our main specifications.

- Baseline political engagement: We elicit participants’ baseline political engagement with the following framing: "Some people get directly involved in social and political issues, while others don't have the time or interest. In the last two years, have you done any of the following things? (In other words, since June 2021). Please select all that apply:
- Emailed elected representatives about a political or social issue
- Donated money to an organization working on a social or political issue
- Canvassed door-to-door about a political or social issue
- Signed a petition about a political or social issue
- Phone-banked for a political or social issue
- Phoned elected representatives about a political or social issue"

We create an index for political engagement by standardizing indicators for each of the above to have mean zero and standard deviation one, adding these together, and then standardizing the sum to have mean zero and standard deviation one in the Wave-1 and Wave-2 experimental sample.

## B. 5 Why do invitations affect action?

To understand the mechanisms by which Wave-1 invitations increase action, we test the impacts of treatment on a range of secondary outcomes that we collected after participants choose whether to email Congress or not; to reduce the survey length, we randomize participants between two sets of secondary outcomes. Recall that there is no differential attrition by treatment on these outcomes (Appendix Table B1).

## B.5.1 Beliefs about the impact of emailing Congress

First, seeing that an earlier participant emailed Congress and passed on an invitation to join may shift Wave2 participants' action by sending a signal that emails to Congress are worthwhile (Table B3, column 1). We ask participants to report on a scale from 1 (A total waste of time) to 7 (Extremely impactful) how impactful it would be for them to email their Senators, assuming that 30 other survey-takers from their state were also doing so; conditioning these beliefs on a fixed amount of participation by others ensures that effects
here do not arise from treatment effects on participants' beliefs about others' political participation coupled with beliefs about strategic complementarity or substitutability. Seeing that an earlier participant emailed Congress and invited them to join increases participants' perceptions of emails' impact by 0.08 sd . While our point estimate for this impact is larger among liberals, we cannot reject that the effects on liberals and conservatives are equal (columns 1 and 2, Appendix Table B5).

Table B3: Impacts of invitations on beliefs and perceived social norms

|  | (1) <br> How worthwhile emails are | (2) <br> \% Others emailed | (3) $\quad(4)$Descriptive norms |  | (5) | (6) (7) Injunctive norms |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
|  |  |  | \% Americans who: |  | Prob. climate bill would pass | \# Agree that: Advocating for climate policy is right |  |
|  |  |  | Think govt | Would call |  |  |  |
|  |  |  | should act | for bill |  | Of 20 friends | Of 100 Amer. |
| Treatment | $\begin{gathered} 0.077^{* * *} \\ (0.029) \end{gathered}$ | $\begin{aligned} & 7.483^{* * *} \\ & (0.695) \end{aligned}$ | $\begin{aligned} & -0.399 \\ & (0.527) \end{aligned}$ | $\begin{gathered} 0.302 \\ (0.598) \end{gathered}$ | $\begin{gathered} 0.229 \\ (0.614) \end{gathered}$ | $\begin{aligned} & -0.034 \\ & (0.080) \end{aligned}$ | $\begin{aligned} & -0.347 \\ & (0.666) \end{aligned}$ |
| Control mean | -0.000 | 35.997 | 62.565 | 25.642 | 40.323 | 5.878 | 49.096 |
| N | 3868 | 3872 | 3831 | 3822 | 3841 | 3821 | 3817 |

Note: This table reports impacts of seeing an invitation from a Wave-1 participant on Wave-2 participants beliefs about worthwhile it is to email Congress (column 1), perceived descriptive norms (columns 2 through 5), and perceived injunctive norms (columns 6 and 7). In particular, the outcomes for perceiveddescriptive norms are participants' beliefs about the share of other study participants who emailed Congress (column 2), the share of Americans who think government should address climate change (column 3) and would contact Congress to support a climate bill if it were introduced in the next few months (column 4 ), and the probability that such a climate bill would pass Congress (column 5). The outcomes for perceived inunctive norms are the number out of 20 friends and out of 100 Americans who would agree that advocating for climate policy is the right thing to do. The sample and control variables match those in Table 2. We present heteroskedasticity-robust standard errors in parentheses and indicate statistical significance at the $10 \%, 5 \%$, and $1 \%$ levels by ${ }^{*},{ }^{* *}$, and ${ }^{* * *}$, respectively.

Table B4: Impacts of invitations on perceived injunctive norms and the value of emails: Split by party

|  | (1) <br> (2) <br> How worthwhile emails are |  | (3) <br> (4) <br> \# Agreeing that: Helping to advocate for climate policy is the right thing to do. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Of 20 friends |  | Of 100 Americans |  |
|  | Dem | Rep | Dem | Rep | Dem | Rep |
| Treatment | $\begin{gathered} 0.100^{* * *} \\ (0.037) \end{gathered}$ | $\begin{gathered} 0.042 \\ (0.045) \end{gathered}$ | $\begin{aligned} & -0.089 \\ & (0.103) \end{aligned}$ | $\begin{gathered} 0.009 \\ (0.128) \end{gathered}$ | $\begin{aligned} & -0.915 \\ & (0.830) \end{aligned}$ | $\begin{gathered} 0.641 \\ (1.133) \end{gathered}$ |
| Control mean | -0.090 | 0.154 | 6.283 | 5.248 | 45.929 | 54.015 |
| N | 2400 | 1468 | 2344 | 1477 | 2340 | 1477 |
| p-val: | 0.306 |  | 0.543 |  | 0.256 |  |

Note: This table estimates the regressions in columns 1, 6, and 7 of Table B3 separately among liberal and conservative Wave-2 participants. We present heteroskedasticity-robust standard errors in parentheses and indicate statistical significance at the $10 \%$, $5 \%$, and $1 \%$ levels by ${ }^{*},{ }^{* *}$, and ${ }^{* * *}$, respectively. The last row of the table presents p -values for heteroskedasticity-robust tests of equality between the treatment effects on liberals and conservatives.

Table B5: Impacts of invitations on perceived descriptive norms: Split by party

|  | (1) <br> (2) <br> \% Others participating |  | (3) (4) (5) <br>  $\%$ Americans who:  |  |  |  | (7) $\quad(8)$Prob. that a climatebill would pass |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Think govt should address climate |  | Would call to support climate bill |  |  |  |
|  | Dem | Rep | Dem | Rep | Dem | Rep | Dem | Rep |
| Treatment | $\begin{gathered} 8.408^{* * *} \\ (0.893) \end{gathered}$ | $\begin{gathered} 6.454^{* * *} \\ (1.147) \end{gathered}$ | $\begin{aligned} & -0.281 \\ & (0.628) \end{aligned}$ | $\begin{aligned} & -0.181 \\ & (0.941) \end{aligned}$ | $\begin{gathered} 0.184 \\ (0.713) \end{gathered}$ | $\begin{gathered} 0.635 \\ (1.069) \end{gathered}$ | $\begin{gathered} 0.725 \\ (0.791) \end{gathered}$ | $\begin{gathered} -0.810 \\ (0.990) \end{gathered}$ |
| Control mean N | $\begin{gathered} 34.283 \\ 2404 \end{gathered}$ | $\begin{gathered} 38.923 \\ 1468 \end{gathered}$ | $\begin{gathered} 61.462 \\ 2353 \end{gathered}$ | $\begin{gathered} 64.286 \\ 1478 \end{gathered}$ | $\begin{gathered} 22.412 \\ 2345 \end{gathered}$ | $\begin{gathered} 30.668 \\ 1477 \end{gathered}$ | $\begin{gathered} 32.436 \\ 2362 \end{gathered}$ | $\begin{gathered} 52.655 \\ 1479 \end{gathered}$ |
| p-val: | 0.169 |  | 0.928 |  | 0.719 |  | 0.214 |  |

Note: This table estimates the regressions in columns 2 through 5 of Table B3 separately among liberal and conservative Wave- 2 participants. We present heteroskedasticity-robust standard errors in parentheses and indicate statistical significance at the $10 \%$, $5 \%$, and $1 \%$ levels by ${ }^{*},{ }^{* *}$, and ${ }^{* * *}$, respectively. The last row of the table presents p-values for heteroskedasticity-robust tests of equality between the treatment effects on liberals and conservatives.

## B.5.2 Perceptions of others' action and social norms

Next, seeing that an earlier participant emailed Congress could affect action by shifting Wave-2 participant's beliefs about others' beliefs about climate change and engagement in climate action, either within the study sample or in the US more broadly. The impact of shifting these beliefs is theoretically ambiguous.

While social psychologists have long documented convergence to two classes of social norms: "descriptive norms"-what is done-and "injunctive norms"-what ought to be done (Miller and Prentice 2016; Rogers et al. 2018; Gerber et al. 2018), growing research in economics finds that shifting up beliefs about anonymous others' political participation can reduce engagement in collective political action in settings where people perceive strategic substitutability across actors (Cantoni et al. 2019, Hager et al.).

Columns 2 through 5 of Table B3 present the impacts of seeing a Wave-1 invitation on Wave-2 participants' perceived descriptive norms of political climate advocacy. Seeing an invitation increases participants' estimates for the share of other survey participants who emailed Congress via our form by 7.5 pp , or about $21 \%$ of the control mean; liberals and conservatives show similar patterns of updating (columns 1 and 2 , Appendix Table B5) On the other hand, participants do not seem to extrapolate this signal to beliefs about Americans' political activity at large: seeing an invitation has no effect on participants' beliefs about the share of Americans who would say they think the US government should address climate change (column 3), the share of Americans who would contact Congress to support a climate bill if it were introduced in September 2023 (column 4), or the probability that such a climate bill would pass (column 5). We also find no impact on the injunctive norms about the ethics of climate advocacy that participants perceive among their friends or Americans at large (columns 6 and 7). There are also no effects on perceptions of these broader norms when we estimate them separately among liberals and conservatives (columns 2-6 of Appendix Table B5; Appendix Table B4).

Thus, seeing a Wave-1 invitation shifts up participants' beliefs about others' action precisely during the survey-without extrapolation to broader climate action-but it is unclear whether this mechanism increases or decreases the invitations' effects on action.

## B.5.3 Combining mechanisms

Appendix Figure B13 provides suggestive evidence on the contribution of each of these possible mechanisms to the Wave-2 treatment effects among liberals and conservatives. We estimate the treatment effects of invitations when we control for participants' beliefs about how worthwhile it is to email Congress, their beliefs about how many others are also emailing Congress during our survey, and both of these intermediate outcomes. While controlling for participants' beliefs about the value of emailing Congress reduces the impact of invitations somewhat among conservatives, it has very little impact on our estimated treatment effect among liberals. In contrast, controlling for participants' beliefs about others' participation substantially reduces the treatment effects we estimate both among liberals and conservatives. While this correlational decomposition is only suggestive, it is consistent with invitations primarily working by changing participants' perceived norms of political action during the survey.

Figure B13: Correlational role of Wave-2 mechanisms


Note: This figure plots the coefficient on Wave-2 treatment assignment in our main specifications (as in Table 2) and when we add controls for participants' standardized beliefs about how worthwhile it is to email Congress, for their beliefs about the share of other participants who emailed Congress, and for both of these possible mediators. The top panel estimates these regressions among Wave-2 liberals ( $\mathrm{N}=5,027$ ), while the bottom panel estimates them among Wave-2 conservatives ( $\mathrm{N}=2,954$ ). The coefficients give treatment effects on the probability that Wave-2 participants match to an email record, with $90 \%$ and $95 \%$ confidence intervals shown in the capped ranges.

## B. 6 Heterogeneous effects of invitations on Wave-2 action

This section tests for heterogeneous Wave-2 treatment effects by sample recruitment source, by political and non-similarity between Wave-1 senders and Wave-2 recipients, by other recipient and sender demographic traits, and by Wave- 2 recipients' affective polarization.

## B.6.1 By sample recruitment source

We first test for heterogeneous treatment effects among Wave-2 liberals and conservatives recruited from social media or from Qualtrics (Appendix Table B6). Only 163 conservatives in the Wave-2 sample are recruited from social media, so we do not interpret treatment effects in that small sample. We cannot reject that Wave-1 invitations have equal treatment effects among Wave-2 liberals recruited from Qualtrics and social media (columns 2 and 5).

Table B6: Main Wave-2 results, split by source and party

|  | (1) | (2) | (3) | (4) | (5) | (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Social-media sample |  |  | Qualtrics sample |  |  |
|  | All | Dem | Rep | All | Dem | Rep |
| Panel A: Start the process of emailing Congress |  |  |  |  |  |  |
| Treatment | $\begin{gathered} 0.068^{* * *} \\ (0.015) \end{gathered}$ | $\begin{gathered} 0.069^{* * *} \\ (0.015) \end{gathered}$ | $\begin{aligned} & 0.208^{*} \\ & (0.107) \end{aligned}$ | $\begin{gathered} 0.046^{* * *} \\ (0.014) \end{gathered}$ | $\begin{aligned} & 0.061^{*} \\ & (0.032) \end{aligned}$ | $\begin{aligned} & 0.041^{* *} \\ & (0.016) \end{aligned}$ |
| Control mean N | $\begin{aligned} & 0.428 \\ & 4328 \end{aligned}$ | $\begin{gathered} 0.436 \\ 4165 \end{gathered}$ | $\begin{gathered} 0.220 \\ 163 \end{gathered}$ | $\begin{aligned} & 0.277 \\ & 3653 \end{aligned}$ | $\begin{gathered} 0.374 \\ 862 \end{gathered}$ | $\begin{aligned} & 0.245 \\ & 2791 \end{aligned}$ |
| Dem coefficient equal by source (2) $=(5) ? p$-value $=0.818$ Rep coefficient equal by source $(3)=(6) ? p$-value $=0.035$ |  |  |  |  |  |  |
| Panel B: Have a record of emailing Congress |  |  |  |  |  |  |
| Treatment | $\begin{gathered} 0.061^{* * *} \\ (0.014) \end{gathered}$ | $\begin{gathered} 0.063^{* * *} \\ (0.014) \end{gathered}$ | $\begin{gathered} 0.085 \\ (0.074) \end{gathered}$ | $\begin{aligned} & 0.025^{* *} \\ & (0.010) \end{aligned}$ | $\begin{aligned} & 0.044^{*} \\ & (0.026) \end{aligned}$ | $\begin{aligned} & 0.020^{*} \\ & (0.011) \end{aligned}$ |
| Control mean | 0.264 | 0.271 | 0.085 | 0.096 | 0.132 | 0.084 |
| N | 4328 | 4165 | 163 | 3653 | 862 | 2791 |
| Dem coefficient equal by source (2) $=(5) ? p$-value $=0.490$ Rep coefficient equal by source $(3)=(6) ? p$-value $=0.234$ |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

Note: This table tests for differential treatment effects of Wave-1 invitations among participants recruited from social media (columns 1-3) or from Qualtrics (columns 4-6). The regressions use the same control variables as in Table 2 . We present heteroskedasticity-robust standard errors in parentheses and indicate statistical significance at the $10 \%$, $5 \%$, and $1 \%$ levels by $*, * *$, and ${ }^{* * *}$, respectively. The last rows in Panels A and B give p-values for tests of equality in treatment affects among those recruited from each source, separately for liberals and conservatives.

## B.6.2 By match similarity

We next test for heterogeneous treatment effects by the degree of similarity between Wave- 1 senders and Wave-2 recipients. We find suggestive evidence that sender-recipient similarity on non-political traits makes invitations more effective, though these traits may have less impact than sharing politics. The top panel of Appendix Figure B14 plots the interactions between Treatment ${ }_{i}$ and indicators that Wave-1 and Wave2 participants match on each of the traits shown in the invitations: political leanings, gender, age group, educational attainment, and state group of residence. We plot these estimates from separate regressions in which we individually test for heterogeneity on each dimension of similarity, but our results change very little when we simultaneously test for heterogeneity across these dimensions and are available upon request. We also test for heterogeneous effects by more continuous measures of similarity: the number of total matched traits and predicted non-political similarity. ${ }^{55}$

[^2]Figure B14: Heterogeneous influence effects by match similarity, inviter traits, and recipient traits

Match similarity
Matched traits
Politics
Gender
Gender
Age
Education
Education
State Similarity indices \# Matched traits
Non-political sim.
Influencer traits
Woman Has 4-year college State groups
Blue state Blue state
Purple state Age groups
$6 L-09$
$6 \mathrm{c}-0 \mathrm{t}$

Coefficient on Treatment $*$ feature
Note: This figure plots the differential impacts of Wave-1 invitations on whether Wave-2 participants match to email records when senders and recipients match on a range of demographic traits, when Wave-1 senders fall in certain demographic categories, or when Wave-2 recipients fall in certain demographic categories. We estimate this heterogeneity in versions of equation 2 where we include indicators for each of these traits, as well as interactions of each trait with Treatment $t_{i}$. This figure plots the estimated coefficients on these interaction terms when we estimate them separately in a series of regressions, but our results change very little when we simultaneously test for heterogeity across the traits in each category (i.e. match similarity, inviter traits, or recipient traits). These results are available upon request. These regressions use the same sample restrictions and control variables as in Table 2. The darker and lighter capped lines denote $90 \%$ and $95 \%$ heteroskedasticity-robust confidence intervals, respectively.

Matching on politics increases invitations' impacts by 3.8 pp in these regressions. ${ }^{56}$ However, nonpolitical similarity matters as well. While each of these interactions is imprecisely estimated, invitations increase Wave-2 participants' likelihood of matching to email records by an additional 1.5 pp when senders and recipients share educational attainment, by 1.8 pp when they live in the same state group, and by 3.5 pp when they share an age group. Pooling across these dimensions, invitations' impact on email records rises by about 1.4 pp for each shared non-political trait, though this coefficient is statistically indistinguishable from zero. Increasing a continuous measure of Wave-2 participants' perceived non-political similarity to their Wave- 1 match by one standard deviation increases the invitations' impacts by a statistically-significant 1.8 pp . Altogether, these results suggest that while Wave-2 participants respond more to invitations from senders who are like them in non-political ways, the impact of sharing these other traits is smaller than that of shared politics. Consistent with these patterns, shared politics is by far the largest contributor to how similar Wave-2 participants feel to their Wave-1 matches, even as matching on non-political traits matters as well (Appendix Figure B15).

Figure B15: Determinants of perceived similarity


Note: This figure presents results from regressing Wave-1 and Wave-2 participants' self-reports of how similar they feel to their paired Wave-2 or Wave-1 match, respectively, on measures of demographic similarity between them. Participants report perceived similarity on a scale from 1 (Not at all similar) to 7 (Extremely similar), and we standardize these reports to have mean zero and standard deviation one in each experimental sample. We regress these measures on whether participants match on political leanings, gender, state group, and educational attainment. We define a linear "age gap" measure by indexing the age bins (20-34; $35-49 ; 50-64 ; 65-79$ ) shown in profiles and then calculating the absolute difference in these indices in Wave-1-Wave-2 pairs. We show heteroskedasticity-robust $95 \%$ confidence intervals in the capped ranges.
measure on indicators for matching one's paired Wave-1 participant on each demographic trait (Appendix Figure B15). We then estimate perceived non-political similarity by predicting perceived overall similarity from these estimates, subtracting the predicted contribution of shared party from Democrat-liberal matches, and then standardizing this measure in the Wave-2 sample.
${ }^{56}$ An important caveat here is that sharing political leanings is collinear with the Wave- 2 recipient being a liberal, so we cannot separate the role of political similarity from liberals responding differentially to invitations overall.

## B.6.3 By other recipient and sender traits

The second and third panels of Appendix Figure B14 test for heterogeneous impacts of invitations by Wave1 sender traits and Wave-2 recipients traits, respectively. We find suggestive evidence that invitations from Wave-1 participants in red states, rather than blue or purple, may have larger effects overall, consistent with the idea that invitations from non-stereotypical climate activists could provide stronger signals to recipients. Turning to Wave- 2 recipients' traits, we find that invitations may have larger impacts on woman and on older targets.

## B.6.4 By affective polarization

Finally, we test whether the Wave-2 treatment effects differ by recipients' affective polarization, separately among Wave-2 liberals and Wave-2 conservatives. We find suggestive evidence that more polarized conservatives respond less to invitations from Wave-1 Democrats. We define several measures of affective polarization.

Preferences for friends of own party: For our simplest measure of affective polarization, we ask all participants to report in a baseline question how strongly they would prefer being friends with someone from one of the major political parties versus the other. We elicit responses on a 7-point scale, where 4 denotes "No preference" and the endpoints are randomized between "Strongly prefer Republican" and "Strongly prefer Democrat." To obscure our focus on partisan polarization, we ask this question in a series where we also ask participants to rate their preference to be friends with someone who is either very religious or not and who has varying degrees of education. Figure B16 plots the distribution of these preferences among liberal and conservative Wave-2 participants. Liberals in our sample show substantially higher affective polarization than conservatives on this measure. One key limitation of this measure is that conservatives' responses are highly lumped at the middle of the scale; only 111 conservatives offer a below-median response, limiting our ability to test for heterogeneous treatment effects by this measure. To isolate more granular variation in these preferences separate from other participants' other traits, we also estimate the residuals of this measure when regressed on demographics, climate beliefs, and political engagement, separately by political party.

Figure B16: How much would you prefer being friends with someone from one of the major political parties versus the other?


Note: This figure plots the distribution of liberal and conservative Wave-2 participants' responses to how much they would prefer being friends with someone from one of the major political parties versus the other. We phrase the question as asking whether participants would rather prefer to be friends with someone from the Democratic or Republican parties, rather than one's one party versus the other, randomizing which party is given at 1 versus at 7 on the 7 -point scale.

Polarization feelings thermometer: Towards the end of the Wave-2 experimental survey, we measure affective polarization using the "feelings thermometer" measured over time in the American National Election Study (Iyengar et al., 2019). In this classic measure of affective polarization, participants rate how warmly they feel towards each political party on a scale from 0 to 100 degrees; we then calculate affective polarization as the gap in warmth they feel towards their own versus the out party. We elicit this measure at the end of the survey, rather than before our experimental treatments, in order to minimize the salience of partisanship. While doing so opens the risk that the treatments might actually affect participants' responses to this measure, we find no evidence of treatment effects on these measures (Appendix Table B7).

We only observe this thermometer-based polarization measure for a random half of the Wave-2 survey. We thus also use OLS and lasso to predict values for this measure in the full sample. Both OLS and lasso predict our observed thermometer polarization measures reasonably well: the lasso- and OLS-predicted measures have correlation coefficients of 0.52 and 0.53 with the observed measure, respectively.
Testing for heterogeneity by affective polarization: Appendix Figure B17 plots the results of a series of regressions in which we estimate heterogeneous Wave-2 impacts among liberals and conservatives with above- versus below-median affective polarization by each measure. In particular, this figure plots the coefficients on the interaction between the Wave-2 treatment indicator and an indicator for having above-median polarization by each measure. Among Wave-2 liberals, there is no consistent heterogeneity in invitations' impacts by polarization. On the other hand, our point estimates suggest that invitations have substantially lower impacts among more polarized conservatives (columns 6-10), though we are under-powered to statistically reject homogeneous effects in most cases. These coefficients suggest that that invitations are at most half as effective among Wave-2 conservatives with above-median versus below-median affective polarization. (Results available upon request.) We only estimate a positive interaction term when we measure

Table B7: Impacts on Wave-2 thermometer values

|  | (1)$(2)$ <br> Warmth for Dems |  | (3)$(4)$ <br> Warmth for Reps |  | (5) (6)Own-party gap |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Dem | Rep | Dem | Rep | Dem | Rep |
| Treatment | $\begin{gathered} 0.847 \\ (0.657) \end{gathered}$ | $\begin{gathered} 0.558 \\ (1.192) \end{gathered}$ | $\begin{gathered} 0.963 \\ (0.665) \end{gathered}$ | $\begin{gathered} 0.853 \\ (1.027) \end{gathered}$ | $\begin{aligned} & -0.116 \\ & (0.886) \end{aligned}$ | $\begin{gathered} 0.295 \\ (1.723) \end{gathered}$ |
| Control mean | 67.929 | 31.282 | 12.968 | 71.180 | 54.962 | 39.898 |
| N | 2360 | 1467 | 2360 | 1467 | 2360 | 1467 |
| p-val: | 0.827 |  | 0.926 |  | 0.827 |  |

Note: This table estimates the impacts of the Wave-2 invitation treatment on Wave-2 participants' stated warmth towards the Democratic and Republican parties on the "feelings thermometer" used in the American National Election Study (Iyengar et al., 2019). Participants report how warmly they feel toward the Democratic party (columns 1 and 2) and the Republican party (columns 3 and 4), and we then calculate affective polarization as the gap in warmth of feeling towards their own party versus the opposing party. We estimate regressions separately by whether Wave-2 participants are liberal (columns 1,3 , and 5 ) or conservative (columns 2,4 , and 6 ). Our sample size is smaller than in the main Wave- 2 regressions because we randomize only half of Wave- 2 participants to answer the feelings-thermometer questions. These regression specifications are identical to those presented in Table 2. We present heteroskedasticity-robust standard errors in parentheses and indicate statistical significance at the $10 \%, 5 \%$, and $1 \%$ levels by *, ${ }^{* *}$, and ${ }^{* * *}$, respectively. The last row of the table presents p-values for heteroskedasticity-robust tests of the equality between the treatment effects on liberals and conservatives.
affective polarization using participants' simple Likert-scale reports of how much they would prefer to be friends with a member of their own party; due to heavy bunching on the scale, only 112 of 2,960 conservative Wave-2 participants report a value below the median.

Figure B17: Heterogeneous Wave-2 impacts by affective polarization

## Wave-2 liberals



## Wave-2 conservatives



Note: This figure plots the differential impacts of Wave-1 invitations on whether Wave-2 participants opt into the email process and match to email records when Wave- 2 recipients show above-median affective polarization. We estimate this heterogeneity in versions of equation 2 where we include indicators for having above-median affective polarization, as well as interactions of each trait with Treatment ${ }_{i}$. We use several measures of affective polarization: self-reports of how much they would prefer being friends with someone from their own party, the residual of these self-reports when regressed on demographics and climate beliefs, thermometer-based polarization for the subsample where we observe it, OLS-predicted thermometer polarization, and Lasso-predicted thermometer polarization. These regressions use the same sample restrictions and control variables as in Table 2. $\mathrm{N}=2,360$ and $\mathrm{N}=1,467$ for regressions among Wave-2 liberals and conservatives, respectively, where we measure affective polarization with the raw feelings thermometer metric; sample sizes are $N=5,027$ and $N=2,360$, respectively, for regressions using the other polarization measures. The darker and lighter capped lines denote $90 \%$ and $95 \%$ heteroskedasticity-robust confidence intervals, respectively.

## C Wave-1 Appendix

## C. 1 Detail on the Wave-1 experimental design

Figure C1: Flowchart of Wave 1 experimental structure


Note: This figure lays out the structure of the Wave-1 action experiment, which we describe in detail in Section 5.1.1.

Figure C2: Telling Wave-1 participants that Wave-2 will see their demographics
Earlier in the survey, we mentioned that we might show your profile to future study participants to give them a sense of who else is participating in the study.

In particular, we'll show your profile to up to 10 future study participants who match all of the basic characteristics in the profile below (though their hair or accessories might be different):


Note: This figure shows how we tell Wave-1 participants that their basic demographic profile will be shown to up to 10 Wave2 participants in a certain demographic group. As we describe in Section 2.3, Wave-1 participants in a given demographic cell (defined by gender, 15 -year age group, whether thye have a college degree, and thirteen groups of states) are paired first to a comparable demographic cell in Wave 2 . Within that group of Wave- 2 participants, they are then randomly paired with Wave-2 participants who either lean towards the Democratic or Republican parties. Wave-1 participants see the slide here after seeing their own demographic profile on the previous survey slide. The text here references that before participants chose their avatar to include in a profile, we said that they would be building a simple demographic profile that might be shown to future study participants.

## C.1.1 Text of the A1 and A2 treatments

Appendix Figure C3 first shows how we initially introduce both the Invitation (A2) and Tell-after (A1) treatments to Wave-1 participants. Next, Appendix Figures C4 and C5 show the survey screens that Tell-after (A1) and Invitation (A2) participants see describing that future participants in their paired Wave-2 demographic group will see that they emailed Congress. Finally, C6 shows the flowcharts that we then show to participants to reiterate the timing of when future participants will be told that they emailed Congress. Note that the flowcharts fill in the demographic profiles of each Wave-1 participant's paired Wave- 2 demographic group.

Figure C3: Introduction to the A1 and A2 treatments


#### Abstract

Like we said earlier, we'll be running a second survey in a few weeks, and up to 10 participants in that survey will be randomly paired to see your demographic profile.

If you decide to contact Congress, we'll also show those participants an extra profile saying that you did so.

Those future participants won't be able to identify who you are. Even so, we want to make sure you're informed about how your basic information will be used in our upcoming survey, in case you have privacy concerns around contacting Congress.

We'll lay out all the details in the next few slides.


Please pay close attention, so that you can make an informed choice about whether to contact Congress or not.

After the description, we'll ask you several comprehension questions.

We will randomly choose $\mathbf{2 0}$ participants to receive an extra gift card worth \$5 for each comprehension question they answer correctly, so please answer carefully!

Important note: You won't be able to go back to earlier explanation pages, so you should try to pay attention the first time through. (Clicking back in your browser takes you back to the beginning of the survey.)

Figure C4: A1 (Tell after) treatment description
Remember that up to 10 participants in the demographic group below will see your own demographic profile when they take our survey.

Besides showing these future participants your basic profile, we will also tell them if you contact Congress, after they decide whether to contact Congress or not.


In particular, if you choose to contact Congress, we'll show these participants the following extra profile of you after they choose whether or not to take action.

The profile will say that you contacted Congress:


That means that they won't know you contacted Congress when they decide whether to do so or not.

If you decide not to contact Congress, we won't show them this profile or give them any information about whether you or others contacted Congress.

Figure C5: A2 (Invitation) treatment description
Remember that up to 10 participants in the demographic group below will see your own demographic profile when they take our survey.

Besides showing these future participants your basic profile, we will also tell them if you decide to contact Congress, before they decide whether to contact Congress or not.


In particular, if you choose to contact Congress, we'll show these participants the following extra profile of you before they choose whether or not to take action.

The profile will say that you contacted Congress and will invite them to do the same:


That means that they will know you contacted Congress when they decide whether to do so or not.

If you decide not to contact Congress, we won't show them this profile or give them any information about whether you or others contacted Congress.

Figure C6: Sample flowcharts
For those in the Invitation group (A2):


For those in the Tell-after group (A1):


## C.1.2 A1 and A2 comprehension checks

Right after we implement the A1 and A2 treatments, we ask A1 and A2 participants a series of comprehension checks. In asking these questions, we try to strike a balance between ensuring that participants understand the survey's information structure and alerting participants to our study purpose. We incentivize the questions by telling participants that we will randomly choose 20 people to receive a gift card with $\$ 5$ for each question that they answer correctly. We then ask the following questions:

1. We told you that up to 10 future participants in a certain group will see your basic demographic profile. If you choose to contact Congress later in this survey, what will they see about you after your demographic profile?

- A repeat of your demographic profile
- Nothing
- An additional profile that also says that you contacted Congress

We tell participants whether their answer is correct or incorrect and again show them an image of the extra profile saying that they contacted Congress that future participants would see.
2. If you choose to contact Congress, when would these future participants see the extra profile of you saying that you did so?

- Before they decide whether to contact Congress or not
- After they decide whether to contact Congress or not

We tell participants whether their answer is correct or incorrect and reiterate whether future participants would see their profile before or after they decide whether to email Congress.
3. What about if you decide not to contact Congress through our survey? What would your paired future participants see about you in that case?

- Only your original demographic profile
- Nothing about you-not even a basic demographic profile
- Your demographic profile plus an extra profile saying you didn't contact Congress

We tell participants whether their answer is correct or incorrect and reiterate that if they do not email Congress, the up to 10 future participants they're paired with would still see their basic demographic profile but would not see an additional profile saying whether they emailed Congress or not. We also reiterate that these matched participants would not see any information about whether other participants emailed Congress.

## C. 2 Wave-1 recruitment, attrition, and comprehension

## C.2. 1 Wave-1 recruitment

Appendix Figure C7 shows the Wave-1 recruitment flows. We recruit Wave-1 participants using ads on Facebook, Instagram, and Twitter. In total, 29,596 unique participants consented to the survey and provided an email address, which we required of all participants in order to link them with records of emailing Congress. Of these, 27,922 answered all baseline questions and 13,981 participants met our criteria that Wave-1 participants believe climate change is mostly human-caused and identify as members of the Democratic party. We then impose the demographic screening criteria (Section 2.3), leaving us with a sample of 12,540 participants.

Figure C7: Wave-1 recruitment


Qualifying participants then build their avatar, see that up to 10 Wave-2 participants may see their basic demographic profile, answer additional questions about their beliefs on climate policy, and answer a simple attention check. 11,646 participants answered the attention check and 11,038 did so correctly. We inform those who passed the attention check about the upcoming opportunity to email Congress during our survey, and finally randomize 10,941 participants into several samples associated with the Wave-1 experiment. 8,937 were randomized into the Wave-1 experimental sample, and the remaining 2,004 participants were randomized into parallel experimental samples described in Sections 6 and 7 below.

## C.2.2 Wave-1 attrition

Table C1: Wave 1 Attrition results

| Panel A: Differential attrition |  |  |  |
| :---: | :---: | :---: | :---: |
|  | (1) | (2) | (3) |
|  | Observe if emailed | Restricted to A1 and A2 samples |  |
|  |  | Answered demand effects | Answered others' participation |
| Tell (A1 or A2) | -0.115*** |  |  |
|  | (0.007) |  |  |
| Invite before (A2) | 0.005 | 0.004 | 0.012 |
|  | (0.009) | (0.010) | (0.011) |
| Baseline mean | 0.992 | 0.830 | 0.820 |
| N | 8937 | 5321 | 5321 |
| Panel B: Characteristics of those with and without email choices |  |  |  |
|  | Observe if emailed Congress? |  | (1) = (2) |
|  | (1) Yes | (2) No | p-value |
| Woman | 0.645 | 0.551 | (0.000) |
| Hispanic | 1.027 | 1.021 | (0.317) |
| Age decades: |  |  |  |
| 20-29 | 0.033 | 0.024 | (0.134) |
| 30-39 | 0.085 | 0.033 | (0.000) |
| 40-49 | 0.113 | 0.079 | (0.003) |
| 50-59 | 0.228 | 0.263 | (0.052) |
| 60-69 | 0.341 | 0.346 | (0.792) |
| 70-79 | 0.200 | 0.254 | (0.001) |
| Has $\geq 4$-year college degree | 0.828 | 0.798 | (0.061) |
| Income bins (USD): |  |  |  |
| Less than 50,000 | 0.167 | 0.169 | (0.894) |
| 50,000-99,999 | 0.321 | 0.317 | (0.875) |
| 100,000-149,999 | 0.234 | 0.231 | (0.814) |
| 150,000-199,999 | 0.130 | 0.136 | (0.668) |
| 200,000 or more | 0.148 | 0.147 | (0.943) |
| Residence by state marginality: |  |  |  |
| Red state | 0.237 | 0.223 | (0.410) |
| Blue state | 0.444 | 0.410 | (0.089) |
| Purple state | 0.319 | 0.367 | (0.012) |
| Climate beliefs: |  |  |  |
| Climate worry (std) | -0.001 | 0.014 | (0.721) |
| Desire for climate action (std) | 0.001 | -0.012 | (0.739) |
| Perceived local impacts (std) | -0.005 | 0.057 | (0.137) |
| Political engagement and beliefs: |  |  |  |
| Political engage. index (std) | 0.010 | -0.118 | (0.001) |
| Prev. contacted reps | 0.733 | 0.704 | (0.096) |
| Prev. donated | 0.820 | 0.801 | (0.235) |
| Prev. canvassed | 0.082 | 0.060 | (0.028) |
| Prev. signed petition | 0.830 | 0.799 | (0.053) |
| Prev. phonebanked | 0.113 | 0.088 | (0.037) |
| Political efficacy index (std) | -0.001 | 0.017 | (0.659) |
| Degree prefer Dem friends (std) | -0.002 | 0.023 | (0.549) |
| Sample size | 8269 | 668 |  |

Table C2: Baseline predictors of contacting Congress in the Wave-1 and Wave-2 control groups

|  | Whether email Congress |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Wave 1 |  | Wave 2 |  |
| Woman | $0.044^{* * *}$ | (0.017) | 0.018** | (0.009) |
| Hispanic | -0.009 | (0.048) | -0.009 | (0.017) |
| Has $\geq 4$-year college degree | 0.036* | (0.021) | 0.005 | (0.011) |
| Age decades: |  |  |  |  |
| 30-39 | -0.028 | (0.049) | 0.043** | (0.017) |
| 40-49 | 0.043 | (0.048) | 0.011 | (0.017) |
| 50-59 | -0.021 | (0.045) | 0.003 | (0.015) |
| 60-69 | -0.009 | (0.044) | 0.021 | (0.016) |
| 70-79 | -0.033 | (0.045) | 0.019 | (0.018) |
| Income bins (USD): |  |  |  |  |
| 50,000-99,999 | -0.025 | (0.023) | -0.005 | (0.011) |
| 100,000-149,999 | 0.020 | (0.026) | -0.021 | (0.013) |
| 150,000-199,999 | -0.003 | (0.030) | -0.021 | (0.017) |
| 200,000 or more | -0.004 | (0.029) | -0.030** | (0.015) |
| Residence by state marginality: |  |  |  |  |
| Blue state | 0.011 | (0.020) | -0.003 | (0.010) |
| Purple state | 0.018 | (0.021) | -0.007 | (0.011) |
| Climate beliefs: |  |  |  |  |
| Climate worry (std) | 0.022** | (0.009) | 0.009 | (0.006) |
| Desire for climate action (std) | 0.014* | (0.008) | 0.003 | (0.006) |
| Perceived local impacts (std) | 0.008 | (0.008) | $0.016^{* * *}$ | (0.005) |
| Political affiliation: |  |  |  |  |
| R -leaning Independent |  |  | 0.004 | (0.016) |
| L-leaning Independent |  |  | 0.048*** | (0.018) |
| Democrat |  |  | -0.014 | (0.018) |
| Political engagement and beliefs: |  |  |  |  |
| Prev. contacted reps | 0.098*** | (0.018) | 0.014 | (0.012) |
| Prev. donated | 0.052*** | (0.019) | 0.023** | (0.011) |
| Prev. canvassed | -0.020 | (0.031) | -0.004 | (0.022) |
| Prev. signed petition | 0.037* | (0.021) | 0.030*** | (0.010) |
| Prev. phonebanked | 0.026 | (0.030) | -0.015 | (0.019) |
| Political efficacy index (std) | $-0.046^{* * *}$ | (0.013) | $-0.030^{* * *}$ | (0.009) |
| Control mean |  |  | 0.0 |  |
| Sample size |  |  |  |  |

## C.2.3 Wave-1 comprehension

Figure C8: Treatment groups' comprehension of what future participants will see about you


Figure C9: Treatment groups' comprehension of profile timing and opportunities to influence Wave 2
Panel A. When would future participants see the extra profile saying you emailed Congress?


Panel B. In theory, could your decision to contact Congress or not influence whether paired Wave-2 participants do so in the survey?


Figure C10: Wave 1 Beliefs on action after the survey
Panel A. In theory, could you influence whether targets do environmentally-friendly things after the survey?


Panel B. How likely is your decision to affect what targets do after the survey?


Table C3: Wave-1 impacts on secondary outcomes

|  | $(1)$ <br> Share Wave-1 <br> participating | $(2)$ <br> Influence <br> beliefs | $(3)$ <br> Demand <br> effects (std) | Th) <br> Therm. affective <br> polarization (std) |
| :--- | :---: | :---: | :---: | :---: |
| Tell (A1 or A2) | $10.782^{* * *}$ |  | $0.313^{* * *}$ |  |
| Invite (A2) | $(0.662)$ |  | $(0.031)$ |  |
|  | -0.639 | 1.201 | $0.059^{* *}$ | -0.012 |
|  | $(0.644)$ | $(0.795)$ | $(0.028)$ | $(0.030)$ |
| A0 mean |  |  |  |  |
| A1 mean | 29.766 | 5.307 |  |  |
| N |  |  | 0.000 | -0.000 |

Figure C11: Heterogeneous influence motives by match similarity, inviter traits, and target traits
Match similarity atched traits
Politics
Gender
Age
Education
State


Coefficient on Invitation * feature
Similarity indice
\# Matched trait
Non-political sim
Influencer traits

Qual. inf. beliefs Positive
Target traits
Woman
Has 4-year college
Note: This figure plots the differential impacts of Wave-1 invitations on whether Wave-2 participants match to email records when senders and recipients match on a range of demographic traits, when Wave-1 senders fall in certain demographic categories, or when Wave-2 recipients fall in certain demographic categories. We estimate this heterogeneity in
 (i.e match similarity inviter traits, or recipient traits). These results are available upon request. These regressions use the in Table 2. The darker and lighter capped lines denote $90 \%$ and $95 \%$ heteroskedasticity-robust confidence intervals, respectively.

## D WTP appendix

## D. 1 WTP set-up explanation

## D.1.1 Explanation to participants

Figure D12: Explanation of the WTP survey

## Slide 1.

We have a roster of other study participants who we'll be recontacting to take a second short survey soon. In a few slides, we'll show you profiles for 20 of these other study participants.


In order to give these returning participants a sense of who else is participating in this survey, we'll randomly choose one of these $\mathbf{2 0}$ participants to pair with you.

## Slide 2.

During today's survey, we'll ask you to choose between two options for each possible participant you could be paired with.

## The two options are:

1. We just show the returning participant your basic demographic profile and then add \$6 to our team's purchase of carbon offsets.
2. We show the returning participant an extended profile of you saying that you emailed Congress and, in some cases, inviting them to join you.

We'll provide more detail about each of these options in the next few slides.

## Slide 3.

## Option 1:

Your first option for each possible matched participant is for us to show them just the basic demographic profile that you made earlier in this survey and also add $\$ 6$ to our team's purchase of carbon offsets.

As a reminder, here's the basic demographic profile that you made earlier in this survey:


## Slide 4.

In addition to showing the returning participant your basic demographic profile, we would also add $\$ 6$ to our team's purchase of carbon offsets when that participant returns.

What are carbon offsets?

- Buying carbon offsets means paying to reduce greenhouse gas emissions somewhere in the world.
- We will buy carbon offsets through a company called Clear, which is certified to invest in verified emissions-reduction projects.

How much will $\$ 6$ in offsets accomplish?

- Adding $\$ 6$ to our offset purchase will offset the equivalent of driving 650 miles in the average 2WD SUV on the market today.
- That's roughly the distance to drive from St. Louis, MO to Pittsburgh, PA or Baton Rouge, LA.


## Slide 5.

Option 2:

Your second option for each possible matched participant is for us to show them an extended profile that includes your basic demographics, tells them that you contacted Congress, and, in some cases, invites them to join you.

The appearance of this extended profile will depend on one key feature of the future participant you're paired with: whether they've already decided whether to contact Congress or not.

We'll explain this more in the next few slides.

## Slide 6.

The study participants that you could be paired with will differ from each other in lots of ways, like having different ages, avatars, education, etc.

One less intuitive way in which participants will vary is that some will be marked as "Already decided," while others will be marked as "Hasn't been asked."

| $\stackrel{1}{\text { Already }}$ decided | $\begin{aligned} & \mathbf{2} \\ & \text { Hasn't } \\ & \text { been } \\ & \text { asked } \end{aligned}$ | 3 <br> Hasn't been asked | $\stackrel{4}{4}$ decided |  | 6 Already decided |  | 8 Already decided | $\begin{aligned} & 9 \\ & \text { Hasn't } \\ & \text { been } \\ & \text { asked } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11 Already decided | 12 <br> Hasn't been asked | 13 $\begin{aligned} & \text { Already } \\ & \text { decided }\end{aligned}$ | 14 Already decided | 15 Already decided | 16 <br> Hasn't been asked | 17 Already decided | 18 <br> Hasn't been asked | 19 $H$ <br> Hasn' asked | 20 Already decided |

Here's what those mean:

- "Already decided:" When they see your basic or extended profile, these participants will already have decided whether to contact Congress or not, based on the structure of the survey they're signed up to complete.
- "Hasn't been asked:" These participants will see your profile before they decide whether to contact Congress, based on the survey structure.

Figure D13: Explanation of the WTP survey, cont.

Slide 7.

If you're paired with an "Already decided" participant and you decide to show them that you contacted Congress, they'll see the extended profile shown below:


Slide 8.

On the other hand, if you're paired with a "Haven't been asked" participant and you decide to tell them that you contacted Congress, they'll see the extended profile below:

(Note that it includes an invitation to join you in acting, since they haven't yet decided whether to contact Congress or not.)

## Slide 9.

During today's survey, we'll ask you to choose ahead of time which option you'd like us to carry out for each possible participant, if it turns out you're randomly paired with them and they return for the follow-up survey.

Later, we will randomly pair you with one of your $\mathbf{2 0}$ possible matches. When that participant returns for a follow-up survey, we'll then show them the profile about you that you chose today and make any carbon offset donations.

Here's a diagram laying that out:


Slide 10.

One last thing to note about the set-up:

The participant you're matched with would see your profile alone, not alongside profiles for any other earlier participants.

## D.1.2 What participants see about possible matches

Figure D14: Examples of profiles of possible WTP matches: Desktop versions
(a) Before match, with climate-belief info

(b) After match, without climate-belief info


Figure D15: Examples of profiles of possible WTP matches: Mobile versions
(a) Before match, with climate-belief info

(b) After match, without climate-belief info


## D.1.3 Making choices with and without climate-belief information

Participants make binary choices between basic and extended profiles for 20 possible matches. These choices look as follows.

Figure D16: Binary choices with and without climate beliefs

With climate-belief information:
Without climate-belief information:

If you're paired with an "Already decided" participant and you decide to show them that you contacted Congress, they'll see the extended profile shown below:


During today's survey, we'll ask you to choose ahead of time which option you'd like us to carry out for each possible participant, if it turns out you're randomly paired with them and they return for the follow-up survey.

Later, we will randomly pair you with one of your $\mathbf{2 0}$ possible matches. When that participant returns for a follow-up survey, we'll then show them the profile about you that you chose today and make any carbon offset donations.

## D. 2 WTP recruitment and completion

Sample recruitment: We recruit WTP participants from "inframarginal climate activists," or those who email Congress without knowing that anyone will be told that they did so. We recruit most of these participants from the Wave-1 A0 control group. However, this group did not yield enough participants to reach our pre-registered sample size, so we also recruited a top-up sample who took the equivalent of the Wave-1 A0 survey and were invited to join the WTP experiment if they emailed Congress, but who we do not include in the experimental sample for the Wave-1 action experiment. In both of these source samples, we invite participants who emailed Congress to take an extra 15 to 20-minute survey section in exchange for being entered into an additional gift-card lottery. We frame this survey section as an opportunity for them to choose how we should spend our time and research funding to have impact on climate change.

In total, 3,616 were assigned to the A0 control group in the Wave-1 action experiment and 1,205 participants were recruited in the top-up sample who completed an equivalent survey. Of these total 4,821 participants, $1,657(34 \%)$ said that they emailed Congress during the survey. While we were unable to confirm in real-time that they'd done so, $85 \%$ of these match with email records. We invited these 1,657 participants to take the additional WTP survey, and $1,519(92 \%)$ began the survey.

Randomizing participants to WTP version: When participants begin the WTP survey, we randomize them between two versions of the WTP survey. We randomize 1,350 participants to the main WTP version, where participants choose between two options for each possible match: passing on a basic demographic profile and delegating a carbon-offset donation of $\$ 3$ to $\$ 6$ from our research funds or passing on an extended profile saying that they emailed Congress. We randomize an additional 166 participants to a "money" version of the WTP experiment that we describe in detail in the next section (Appendix Section D.4). Our main analysis restricts to participants assigned to the main WTP variation.

## D.2.1 WTP completion and attrition

Of the 1,350 participants who begin the main WTP version, 1,239 go through the full description of the WTP set-up and begin answering comprehension questions (described in Appendix Section D.3). 1,109 participants reach the point of randomization to either see profiles of matches that show or hide their beliefs about climate change, and 1,091 participants finish answering the final comprehension question after this randomization. The next step in the survey is for participants to start making binary choices for their possible matches. 1,058 participants start making these choices, and 1,023 finish making all 20 choices. These participants compose our main sample for analysis.

Table D4: WTP attrition

|  | (1) | (2) | (3) |
| :---: | :---: | :---: | :---: |
|  | Finish 20 WTP choices |  |  |
|  | Round 1 |  | Round 2 |
|  | Full sample | Basic sample |  |
| Has money option | $\begin{gathered} -0.083^{* *} \\ (0.038) \end{gathered}$ |  |  |
| Has info |  | $\begin{aligned} & -0.006 \\ & (0.016) \end{aligned}$ |  |
| Can choose politics |  |  | $\begin{aligned} & -0.023 \\ & (0.023) \end{aligned}$ |
| Control means | 0.758 | 0.926 | 0.790 |
| N | 1516 | 1109 | 1278 |

## D.2.2 WTP sample description

Table D5: Summary statistics and balance in the WTP sample

|  | (1) <br> (2) <br> Comparing samples |  | (3) <br> (4) <br> (5) <br> Balance within WTP sample |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
|  |  |  | Has belief infoMean | No belief info |  |
|  | Wave-1 | WTP |  | $\Delta$ Mean | $p$-value |
| Woman | 0.632 | 0.761 | 0.770 | -0.021 | (0.437) |
| Hispanic | 1.027 | 1.039 | 1.044 | -0.010 | (0.405) |
| Has $\geq 4$-year college degree | 0.828 | 0.862 | 0.874 | -0.026 | (0.238) |
| Age ranges: |  |  |  |  |  |
| 20-39 | 0.119 | 0.146 | 0.162 | -0.036 | (0.102) |
| 40-59 | 0.337 | 0.354 | 0.358 | -0.008 | (0.790) |
| 60-79 | 0.544 | 0.500 | 0.480 | 0.044 | (0.156) |
| Income bins (USD): |  |  |  |  |  |
| Less than 50,000 | 0.170 | 0.166 | 0.177 | -0.023 | (0.318) |
| 50,000-99,999 | 0.325 | 0.338 | 0.341 | -0.007 | (0.816) |
| 100,000-149,999 | 0.231 | 0.238 | 0.226 | 0.024 | (0.374) |
| 150,000-199,999 | 0.126 | 0.118 | 0.113 | 0.011 | (0.582) |
| 200,000 or more | 0.147 | 0.140 | 0.142 | -0.005 | (0.820) |
| State marginality: |  |  |  |  |  |
| Red state | 0.231 | 0.220 | 0.217 | 0.006 | (0.818) |
| Blue state | 0.438 | 0.457 | 0.484 | -0.058* | (0.062) |
| Purple state | 0.331 | 0.324 | 0.299 | 0.052* | (0.073) |
| Climate beliefs: |  |  |  |  |  |
| Climate worry (1-7) | 6.430 | 6.547 | 6.560 | -0.028 | (0.525) |
| Desire for climate action (1-7) | 6.735 | 6.823 | 6.819 | 0.008 | (0.775) |
| Perceived local impacts (1-7) | 5.496 | 5.576 | 5.600 | -0.053 | (0.393) |
| Political engage. and beliefs: |  |  |  |  |  |
| Political engage. index (std) | -0.003 | 0.201 | 0.225 | -0.052 | (0.378) |
| Prev. contacted reps | 0.733 | 0.803 | 0.801 | 0.003 | (0.905) |
| Prev. donated | 0.816 | 0.863 | 0.863 | 0.000 | (1.000) |
| Prev. canvassed | 0.081 | 0.090 | 0.089 | 0.001 | (0.956) |
| Prev. signed petition | 0.835 | 0.880 | 0.894 | -0.031 | (0.140) |
| Prev. phonebanked | 0.100 | 0.134 | 0.153 | -0.042** | (0.046) |
| Political efficacy index (std) | 0.008 | -0.142 | -0.181 | 0.084 | (0.155) |
| Degree prefer Dem friends (1-7) | 6.040 | 6.072 | 6.035 | 0.081 | (0.156) |
| Sample size | 3616 | 1023 | 548 |  |  |

## D. 3 WTP comprehension questions

After going through the full WTP set-up once, we then next tell participants that we will go through it again and ask a series of comprehension questions as we go. These questions will be incentivized: we will randomly choose two participants to receive $\$ 5$ for each incentivize question that they answer correctly. We walk through this comprehension section as follows.

- Step 1. We remind participants that we will show them 20 other study participants that we will recontact for follow-up surveys, and to whom they may be randomly paired. Some of these participants would see their profile before they choose whether to contact Congress or not ("Hasn't been asked"), while others would see their profile after they choose ("Already decided").
- Step 2. We remind participants that for each of these 20 options, we will ask them to choose which of two options you would like us to carry out in case they're randomly paired with you and return for their survey. We then ask participants to choose the two options that they can choose between for each possible match, from the following options:
- We show the match their basic demographic profile and add [CORRECT AMOUNT] to our team's purchase of carbon offsets
- We show the match their basic demographic profile and add [INCORRECT AMOUNT] to our team's purchase of carbon offsets
- We show the match their extended profile saying that they contacted Congress
- We show the match nothing about them

We then correct participants' answers and reiterate the two choices available to them.

- We ask participants to imagine that they made the choices shown in the image below: they chose to show participants $\# 1,4,6,7,9,10,11,15,18$, and 19 their basic profile and to show participants \#2, $3,5,8,12,13,14,16,17$, and 20 the extended profile, if randomly paired.


Chose to show extended profile:


- Step 3. Next, we remind participants that a computer program will randomly choose one of the 20 study participants to pair with them when that match returns for a follow-up survey.
- We ask participants to imagine that the computer program randomly paired them with participant \#10 and ask them three questions in that case.

1. In that case, what information about you would participant \#10 see about you when they return for their follow-up survey?

- A profile including just your demographics
- A profile that just says you contacted Congress, with no demographics
- A profile that includes your demographics and says you contacted Congress

2. And what amount of money would we donate to carbon offsets on your behalf, when participant \#10 returns? [Multiple choice among \$0, the correct amount, and 2 incorrect amounts]
3. Would participant \#10 be choosing whether or not to contact Congress after they saw your profile? [Yes / No]

We then correct participants' answers and reiterate that participant \#10 would see their basic demographic profile (along with displaying this profile again), that we would add the correct amount to our carbon offset purchase then they return, and that participant \#10 would be choosing whether to contaact Congress after seeing their demographic profile. We then repeat this process for participant \#8.

- Finally, we ask participants to imagine that the computer program paired them with participant \#5 instead of participant \#8; in our imagined scenario, they had chosen to show both of these matches the extended profile saying that they contacted Congress. We then ask whether there is any difference between the extended profile that would be shown to participant \#8 and that shown to participant \#5, if they were randomly chosen.

We then correct their answer and reiterate that the invitation shown to participant \#5 would also include an invitation to join in action, since they would see it before deciding whether to email Congress or not.

Figure D17: Distribution of accuracy on WTP comprehension questions


## D. 4 WTP design with gift-card option

## D.4.1 Set-up and differential attrition

While participants in the main WTP version choose between two options for each possible match, we randomize some participants to a "Money" version of the experiment in which they choose between three options:
Option 1. Basic profile and carbon offsets: We show the returning match the WTP participant's basic demographic profile and add a fixed amount, randomized at $\$ 3, \$ 4, \$ 5$, or $\$ 6$ across participants, to a carbon offset purchase that our research team would make.

Option 2. Extended profile: We show the returning match an extended profile saying that the WTP participant emailed Congress and, in some cases, inviting them to join in action.

Option 3. Basic profile and take-home gift card: We show the returning match the WTP participant's basic demographic profile and send them a gift card valued at the same amount as the carbon-offset donation.
In total, we randomized 166 participants to the Money group. All of these participants see profiles of possible matches taht include their climate beliefs. Participants assigned to the Money group are about 8 pp ( $11 \%$ ) less likely to finish all 20 binary choices than those in the main WTP variant (column 1, Appendix Table D4). Due to this differential attrition, we restrict to participants in the main WTP variant throughout our main analysis of the WTP experiment. However, Section 8.3 shows that all of our results are fully robust to including all participants.

## D.4.2 Evidence that WTP participants value carbon offsets

One key question in interpreting our main WTP results is whether WTP participants in fact value carbon offsets. Participants' choices when they have the option to choose take-home gift cards suggest that they
do. Appendix Figure D18a plots the shares of finished participants in the Money group who choose offsets or gift cards in 0 through 20 choices. While participants chose the basic profile and offset donation in an average of 10.5 choices, they chose the basic profile and gift card in an average of 1.2 choices; about $80 \%$ of participants never chose the take-home gift card. Thus, most participants value one dollar of carbon offsets more highly than one dollar in a gift card.

There are two remaining concerns. First, we might worry that participants avoid choosing the gift cards due to the perceived social desirability of taking a pro-climate action. To mitigate this risk, we explicitly frame all of the options as ways to take action on climate change: in presenting the gift-card option, we suggest that participants could use it to buy an eco-friendly product or free up other money to donate to an environmental organization. Second, we might worry that participants' valuation of gift cards may in turn be low because of the hassle cost of redeeming them. However, we find that participants are just as unlikely to choose gift cards of $\$ 5$ or $\$ 6$ relative to offset donations of the same amounts-where gift-card hassle costs are less likely to be prohibitively high—than across all amounts between $\$ 3$ and $\$ 6$ (Appendix Figure D18b).

Figure D18: Share of respondents choosing offset donation vs. gift card
(a) Across all randomized amounts

(b) Among participants randomized to $\$ 5$ or $\$ 6$ amounts


## E Appendix on mechanism experiments

## E. 1 The belief sample

## E.1. 1 Democrats under-estimate the role of non-political similarity

We estimate the role of non-political similarity in participants' influence beliefs in a variant of equation 5, where we interact Profile $e_{i j}$ with indicators that senders and recipients match on gender, age group, educational attainment, and state group.

Figure E20 plots our estimates for the role of non-political similarity in both participants' estimates of $\Delta P$ and, in comparison, in Wave-2 regressions of profiles' actual influence. All of these coefficients have large standard errors, but the point estimates reveal a consistent pattern. While the Wave- 2 results suggest
that invitations are substantially more effective when senders and recipients share traits like age, educational attainment, and area of residence, Democrats' influence beliefs do not reflect these interactions. Indeed, politics are the only dimension on which Democrats in the belief sample do not underestimate the role of similarity.

Figure E19: Differential influence beliefs by Wave-2 traits


Figure E20: How non-political similarity affects invitations' estimated versus actual influence

Table E6: Comparing the belief and certainty samples to Wave 1 and the WTP samples

|  | (1) <br> Wave-1 | (2) <br> WTP | Belief sample |  |  | Certainty sample |  |  | WTP Round 2 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Mean | $\Delta$ Wave1 | $\Delta$ WTP | Mean | $\Delta$ Wavel | $\Delta$ WTP | Mean | $\Delta$ Wavel | $\Delta$ WTP |
| Woman | 0.632 | 0.761 | 0.587 | -0.045* | -0.174*** | 0.727 | 0.095*** | -0.033* | 0.677 | 0.045*** | $-0.083^{* * *}$ |
| Hispanic | 1.027 | 1.039 | 1.028 | 0.001 | -0.011 | 1.026 | -0.000 | -0.013 | 1.025 | -0.001 | -0.014* |
| Has $\geq 4$-year college degree | 0.828 | 0.862 | 0.854 | 0.026 | -0.008 | 0.867 | $0.040^{* * *}$ | 0.005 | 0.845 | 0.018 | -0.017 |
| Age ranges: |  |  |  |  |  |  |  |  |  |  |  |
| 20-39 | 0.119 | 0.146 | 0.264 | $0.145^{* * *}$ | $0.119^{* * *}$ | 0.179 | $0.060^{* * *}$ | $0.033^{* *}$ | 0.055 | $-0.064^{* * *}$ | $-0.090^{* * *}$ |
| 40-59 | 0.337 | 0.354 | 0.385 | 0.049* | 0.032 | 0.422 | $0.086^{* * *}$ | $0.068^{* * *}$ | 0.264 | -0.072*** | -0.090*** |
| 60-79 | 0.544 | 0.500 | 0.350 | $-0.194^{* * *}$ | $-0.150^{* * *}$ | 0.399 | $-0.145^{* * *}$ | $-0.102^{* * *}$ | 0.680 | $0.136^{* * *}$ | $0.180 * * *$ |
| Income bins (USD): |  |  |  |  |  |  |  |  |  |  |  |
| Less than 50,000 | 0.170 | 0.166 | 0.113 | $-0.057^{* * *}$ | $-0.053^{* * *}$ | 0.143 | -0.027** | -0.023 | 0.172 | 0.002 | 0.006 |
| 50,000-99,999 | 0.325 | 0.338 | 0.229 | -0.096*** | -0.109*** | 0.281 | -0.045*** | $-0.057^{* * *}$ | 0.350 | 0.024 | 0.012 |
| 100,000-149,999 | 0.231 | 0.238 | 0.300 | $0.069^{* * *}$ | 0.062** | 0.251 | 0.020 | 0.013 | 0.234 | 0.004 | -0.003 |
| 150,000-199,999 | 0.126 | 0.118 | 0.181 | $0.055^{* *}$ | $0.063{ }^{* *}$ | 0.150 | $0.024^{* *}$ | $0.032^{* *}$ | 0.117 | -0.010 | -0.002 |
| 200,000 or more | 0.147 | 0.140 | 0.176 | 0.029 | 0.037* | 0.175 | $0.028^{* *}$ | $0.035^{* *}$ | 0.128 | -0.020* | -0.012 |
| State marginality: |  |  |  |  |  |  |  |  |  |  |  |
| Red state | 0.231 | 0.220 | 0.227 | -0.004 | 0.007 | 0.240 | 0.009 | 0.020 | 0.243 | 0.013 | 0.023 |
| Blue state | 0.438 | 0.457 | 0.481 | 0.043* | 0.025 | 0.451 | 0.013 | -0.005 | 0.454 | 0.016 | -0.002 |
| Purple state | 0.331 | 0.324 | 0.292 | -0.039 | -0.031 | 0.309 | -0.022 | -0.015 | 0.303 | -0.029* | -0.021 |
| Climate beliefs: |  |  |  |  |  |  |  |  |  |  |  |
| Climate worry (1-7) | 6.430 | 6.547 | 6.395 | -0.034 | -0.152*** | 6.466 | 0.036 | -0.082** | 6.605 | $0.175^{* *}$ | 0.058* |
| Desire for climate action (1-7) | 6.735 | 6.823 | 6.725 | -0.009 | -0.098*** | 6.744 | 0.010 | -0.079*** | 6.809 | $0.075^{* *}$ | -0.014 |
| Perceived local impacts (1-7) | 5.496 | 5.576 | 5.479 | -0.018 | -0.097* | 5.490 | -0.006 | -0.086* | 5.610 | $0.114^{* * *}$ | 0.034 |
| Political engage. and beliefs: |  |  |  |  |  |  |  |  |  |  |  |
| Prev. contacted reps | 0.733 | 0.803 | 0.703 | -0.030 | $-0.100^{* * *}$ | 0.727 | -0.006 | $-0.076^{* * *}$ | 0.806 | 0.073*** | 0.003 |
| Prev. donated | 0.816 | 0.863 | 0.798 | -0.017 | -0.065*** | 0.813 | -0.002 | -0.050*** | 0.841 | 0.026** | -0.022 |
| Prev. canvassed | 0.081 | 0.090 | 0.091 | 0.009 | 0.001 | 0.098 | 0.016 | 0.008 | 0.107 | 0.025** | 0.017 |
| Prev. signed petition | 0.835 | 0.880 | 0.816 | -0.019 | -0.064*** | 0.822 | -0.013 | $-0.058^{* * *}$ | 0.855 | 0.021 | -0.024 |
| Prev. phonebanked | 0.100 | 0.134 | 0.091 | -0.010 | -0.043** | 0.118 | 0.018 | -0.016 | 0.143 | 0.042*** | 0.009 |
| Degree prefer Dem friends (1-7) | 6.040 | 6.072 | 6.033 | -0.008 | -0.040 | 6.049 | 0.009 | -0.023 | 6.005 | -0.035 | -0.067 |
| Sample size | 3616 | 1023 |  | 397 |  |  | 1033 |  |  | 995 |  |

## E. 2 The certainty experiments

## E.2.1 Text of the explanation to certainty participants

The figure below shows the survey slides in which we explain the set-up of the certainty experiment. We only included the third slide (including the reminder preview of the email form) in round two.

## Figure E21: Explanation of the certainty experiment

## Slide 1.

Earlier in this project, we recruited many Americans who took one of our surveys, but who didn't have a chance to email Congress through our form.

Over the next few months, we can arrange for some of these past participants to email Congress about climate policy through our form.

Over the next few slides, we'll show you demographic profiles for [10/14] groups of Americans who we previously recruited. For each profile you see, we'll ask you to choose between two options:

- We enlist a past participant like this to email Congress about climate policy through our form. (This means that a letter would be sent for sure, not just a possibility of a letter being sent. We can easily recruit someone like each of these groups.)
- We donate $[\$ 8-\$ 16]$ to carbon offsets.

We'll provide more detail about these options in the next few slides.

## Slide 2.

First, what are carbon offsets?

- Buying carbon offsets means paying to reduce greenhouse gas emissions somewhere in the world.
- We will buy carbon offsets through a company called Clear, which is certified to invest in verified emissions-reduction projects.

How much will [\$8-\$16] in offsets accomplish?

- Adding $[\$ 8-\$ 16]$ to our offset purchase will offset the equivalent of driving [865-1730] miles in the average 2WD SUV on the market today.
- That's roughly the distance to drive from [e.g. Chicago to Houston].


## Slide 3. (Only in Round 2)

Like we said, the other option is for us to re-enlist a past participant to email Congress through the form previewed below.

Here are some quick reminders about what the form entails. First, the email will have an un-editable subject line supporting climate policy.

Then, the body of the message has several blanks where we ask surveytakers to fill in details about who they are and why they care about climate change.

Recall that you'd be choosing between carbon offsets and a letter sent with certainty---we would make sure that someone like the demographic profile shown actually emailed Congress.

## Slide 4.

Next, will your choices matter?

Yes, they will.
We will randomly choose 20 people and implement one of their choices. If one of your choices is selected, we'll do whatever you picked in that choice: We'll either donate $\$ 10$ to carbon offsets, or we'll arrange for a past participant like that to email Congress.

As you make your choices, please don't worry about some options being harder or more expensive for us to carry out. We would like to carry out whichever choice you prefer.

On the next page, you can start making your choices. Since there's a lot of information in each profile, the page will only advance once 5 seconds have passed.

## E.2.2 Other differences between rounds 1 and 2

In addition to slightly revising our description of the choice set-up in the second round, we made several changes to the experimental set-up. First, participants in the second round of the certainty experiment made choices over 14 demographic groups, while those in the first round only made 10 choices. Second, all participants in the second round made choices between letters and $\$ 10$ in carbon offsets, while those in the first round were randomized to $\$ 8, \$ 10, \$ 12, \$ 14$, or $\$ 16$ in carbon offsets.

Next, we changed our strategy for constructing demographic groups of email-writers in the second round of the experiment. In the first round, we generated a sample of possible match groups from the full profiles (including avatars and names) of past study participants who had started but were ineligible for the Wave-1 survey because they were not members of the Democratic party. We first selected a set of 40 conservatives and then matched them on all visible demographics to a sample of liberals. We then randomized the resulting 80 profiles into 100 different groups of 10 demographic groups, including 5 conservatives and 5 liberals in each one. While liberals and conservatives in the possible demographic match groups are thus balanced on the other demographic traits shown in the profiles-age, gender, educational attainment, and stateconservatives and liberals could have differed in names and avatars chosen, and the sample on average had non-political demographic traits more representative of conservatives than liberals in our experimental samples.

In the second round, in contrast, we fully randomize political party with respect to other demographicgroup traits. Among the set of past study participants who had started but were ineligible for the Wave-1 survey, and were not redirected to the Wave-2 survey, we identify groups by gender, age group (15-year bins), whether they have a college degree, and the 13 state groups where we have both Democratic and Republican leaners. There are 87 such groups. Among these, we try to create a list of demographic groups where it is relatively easy to recruit people in both parties. Within groups by age group and gender, we then select the 8 groups with the most Republicans in our data collected so far and then drop an additional 4 group of men from frequent state groups. We split the remaining 56 groups into 4 groups of 14 demographic profile, and randomize the set of profiles within each set into four orders. Finally, we cross-randomize political party with respect to these demographics by pairing each of these demographic orders with 100 orders of 7 liberals and 7 conservatives, creating a total of 1600 possible match lists of demographic groups in the letter-certainty experiment. Across these groups, political party of each profile is exogenous with respect to other demographic traits for each match. When participants complete the letter-certainty experiment, we randomly pair them to one of these lists of demographic-political groups.

## E.2.3 Certainty recruitment

We recruit participants for two rounds of the certainty experiment. We implement the first round among participants recruited alongside the Wave-1 action-experiment sample and assigned to the belief-elicitation sample described in Section 7.1 above; participants complete the certainty-valuation choices before completing the belief-elicitation exercise. In total, 521 participants are randomized to begin the first-round certainty experiment, 473 make at least one choice, and 459 complete all 10 binary choices.

Figure E22: Recruitment to the letter-certainty experiment


In contrast, we recruit participants for the second round of the certainty experiment via social media after finishing main Wave-1 recruitment. In the second round, we explicitly ask participants to choose whether to complete an additional survey section for the certainty analysis. Of 814 participants randomly assigned to be offered the certainty survey, 793 got to the question in which we invite them to take it and 678 agreed to do so. Of these participants, 610 make at least one binary choice, and 574 complete all 14 binary choices.

Table E7: Demographics across certainty rounds

|  | (1) (2) |  | $\begin{aligned} & p \text {-value } \\ & (1)=(2) \end{aligned}$ |
| :---: | :---: | :---: | :---: |
|  | Means: |  |  |
|  | Round 1 | Round 2 |  |
| Woman | 0.584 | 0.841 | (0.000) |
| Hispanic | 1.028 | 1.024 | (0.689) |
| Has $\geq 4$-year college degree | 0.863 | 0.871 | (0.703) |
| Age ranges: |  |  |  |
| 20-39 | 0.251 | 0.122 | (0.000) |
| 40-59 | 0.375 | 0.460 | (0.006) |
| 60-79 | 0.375 | 0.418 | (0.166) |
| Income bins (USD): |  |  |  |
| Less than 50,000 | 0.113 | 0.167 | (0.014) |
| 50,000-99,999 | 0.244 | 0.310 | (0.019) |
| 100,000-149,999 | 0.294 | 0.216 | (0.004) |
| 150,000-199,999 | 0.172 | 0.132 | (0.082) |
| 200,000 or more | 0.176 | 0.174 | (0.934) |
| State marginality: |  |  |  |
| Red state | 0.240 | 0.240 | (0.970) |
| Blue state | 0.466 | 0.439 | (0.384) |
| Purple state | 0.294 | 0.321 | (0.370) |
| Climate beliefs: |  |  |  |
| Climate worry (1-7) | 6.388 | 6.528 | (0.003) |
| Desire for climate action (1-7) | 6.708 | 6.774 | (0.049) |
| Perceived local impacts (1-7) | 5.484 | 5.495 | (0.859) |
| Political engage. and beliefs: |  |  |  |
| Political engage. index (std) | -0.098 | 0.088 | (0.004) |
| Prev. contacted reps | 0.688 | 0.758 | (0.014) |
| Prev. donated | 0.793 | 0.829 | (0.150) |
| Prev. canvassed | 0.089 | 0.105 | (0.405) |
| Prev. signed petition | 0.802 | 0.838 | (0.134) |
| Prev. phonebanked | 0.092 | 0.139 | (0.017) |
| Political efficacy index (std) | -0.001 | -0.043 | (0.509) |
| Degree prefer Dem friends (1-7) | 6.024 | 6.070 | (0.412) |
| Sample size | 459 | 574 |  |

## E.2.4 Certainty results

Table E8: Certainty results table

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Chose email over offsets |  |  |  | Impact on climate policy |  |  |  |
|  | All | State groups |  |  | All | State groups |  |  |
|  |  | Red | Blue | Purple |  | Red | Blue | Purple |
| Republican | $\begin{gathered} -0.001 \\ (0.013) \end{gathered}$ | $\begin{gathered} -0.003 \\ (0.017) \end{gathered}$ | $\begin{gathered} 0.012 \\ (0.020) \end{gathered}$ | $\begin{gathered} -0.019 \\ (0.026) \end{gathered}$ | $\begin{gathered} 0.080 \\ (0.063) \end{gathered}$ | $\begin{aligned} & 0.199^{*} \\ & (0.119) \end{aligned}$ | $\begin{gathered} -0.045 \\ (0.101) \end{gathered}$ | $\begin{gathered} 0.121 \\ (0.123) \end{gathered}$ |
| Woman | $\begin{gathered} 0.001 \\ (0.008) \end{gathered}$ | $\begin{gathered} 0.011 \\ (0.014) \end{gathered}$ | $\begin{gathered} -0.002 \\ (0.018) \end{gathered}$ | $\begin{gathered} -0.002 \\ (0.032) \end{gathered}$ | $\begin{gathered} -0.007 \\ (0.069) \end{gathered}$ | $\begin{aligned} & -0.085 \\ & (0.127) \end{aligned}$ | $\begin{gathered} 0.073 \\ (0.119) \end{gathered}$ | $\begin{aligned} & -0.049 \\ & (0.245) \end{aligned}$ |
| Has 4-year college | $\begin{gathered} 0.012 \\ (0.011) \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.019) \end{gathered}$ | $\begin{aligned} & -0.000 \\ & (0.020) \end{aligned}$ | $\begin{gathered} 0.006 \\ (0.046) \end{gathered}$ | $\begin{aligned} & -0.004 \\ & (0.082) \end{aligned}$ | $\begin{gathered} 0.032 \\ (0.162) \end{gathered}$ | $\begin{aligned} & -0.014 \\ & (0.133) \end{aligned}$ | $\begin{aligned} & -0.150 \\ & (0.201) \end{aligned}$ |
| Age ranges: |  |  |  |  |  |  |  |  |
| 35-49 | $\begin{gathered} 0.013 \\ (0.013) \end{gathered}$ | $\begin{gathered} -0.014 \\ (0.019) \end{gathered}$ | $\begin{gathered} 0.009 \\ (0.035) \end{gathered}$ | $\begin{gathered} -0.009 \\ (0.054) \end{gathered}$ | $\begin{gathered} -0.080 \\ (0.108) \end{gathered}$ | $\begin{aligned} & -0.280 \\ & (0.175) \end{aligned}$ | $\begin{gathered} 0.021 \\ (0.195) \end{gathered}$ | $\begin{gathered} 0.049 \\ (0.237) \end{gathered}$ |
| 50-64 | $\begin{gathered} 0.014 \\ (0.012) \end{gathered}$ | $\begin{gathered} 0.010 \\ (0.019) \end{gathered}$ | $\begin{gathered} 0.027 \\ (0.034) \end{gathered}$ | $\begin{gathered} 0.011 \\ (0.051) \end{gathered}$ | $\begin{gathered} -0.139 \\ (0.105) \end{gathered}$ | $\begin{aligned} & -0.163 \\ & (0.187) \end{aligned}$ | $\begin{aligned} & -0.288 \\ & (0.181) \end{aligned}$ | $\begin{aligned} & -0.015 \\ & (0.253) \end{aligned}$ |
| 65-79 | $\begin{gathered} 0.013 \\ (0.014) \end{gathered}$ | $\begin{aligned} & -0.032 \\ & (0.020) \end{aligned}$ | $\begin{gathered} 0.032 \\ (0.035) \end{gathered}$ | $\begin{gathered} 0.035 \\ (0.056) \end{gathered}$ | $\begin{gathered} -0.201^{* *} \\ (0.100) \end{gathered}$ | $\begin{aligned} & -0.359 \\ & (0.238) \end{aligned}$ | $\begin{aligned} & -0.264^{*} \\ & (0.141) \end{aligned}$ | $\begin{gathered} 0.021 \\ (0.195) \end{gathered}$ |
| State policy groups: |  |  |  |  |  |  |  |  |
| Blue state | $\begin{gathered} -0.108^{* * *} \\ (0.015) \end{gathered}$ |  |  |  | $\begin{gathered} 0.245^{* * *} \\ (0.080) \end{gathered}$ |  |  |  |
| Purple state | $\begin{gathered} 0.047^{* * *} \\ (0.011) \end{gathered}$ |  |  |  | $\begin{aligned} & 0.200^{* *} \\ & (0.088) \end{aligned}$ |  |  |  |
| Sample mean | 0.601 | 0.630 | 0.523 | 0.671 | -0.025 | -0.160 | 0.054 | 0.017 |
| N | 11593 | 4862 | 4020 | 2711 | 1002 | 326 | 400 | 276 |

## E. 3 Follow-up WTP experiment

## E.3.1 Explanation to participants

The vast majority of the round-two WTP experiment exactly matches the main WTP set-up. Participants wh oare randomly assigned to have the option to hide their own political leanings also see the following explanation slide, in between slides 9 and 10 of the main WTP explanation (Appendix Figure D12).

Figure E23: Explanation of the option to hide your WTP participants' leanings
We have two last important notes about the set-up.

First, all of the sample profiles we've shown you so far have included your own political leanings, like this one:


However, some people might prefer to pass on profiles that don't show this information.

For each possible match, you can choose whether to show your political leanings or to remove that line from the profile you've decided to pass on.

If you removed your political leanings from the extended profile shown above, for example, it would look like this:


## E.3.2 Making binary choices to hide politics

Participants assigned to have the option to hide their own political leanings make that choice for each possible match on the same page where they choose whether to show that match their basic or extended profile.

Figure E24: Making binary choices with the option to hide politics
Here is possible match \#1. Which option should we carry out if you are randomly paired with them?


Show basic demographic profile and buy $\$ 4$ in carbon offsets

Show extended profile saying you contacted Congress

Should the profile we pass on include or remove your political leanings?

> Remove political leanings

Include political leanings

## E.3.3 Comprehension check for option to hide politics

Figure E25: Additional comprehension check for those with the option to hide politics

## Comprehension check text:

Performance on comprehension check:
We have one last comprehension question to ask you before we get to the choices.
Remember that, as a default, the basic demographic and extended profiles you can choose to pass on will include all of the demographic information below:


Comprehension check 9: What is the one dimension of your demographics that you can choose to exclude from any of the basic or extended profiles you will pass on?

Your political leanings

Your age

Whether you believe climate change is mostly human-caused

Whether you have a 4-year college degree

## E.3.4 Recruitment for round-two WTP

We recruit participants for the round-two WTP experiment with advertising on Facebook. In total, 4,492 participants qualified for the full set of sample restrictions for Democratic influencers and were randomized to be eligible for the round-two WTP experiment. Of these, 1,612 said that they emailed Congress ( $36 \%$ ). We invited all of these participants to complete the additional WTP survey, and $1,420(88 \%)$ started the round-two WTP survey. In total, 995 participants ( $70 \%$ ) completed all 20 binary choices; as in the main WTP experiment, we will restrict our analysis to this sample of participants.

Table E9: Balance table, Round 2 WTP

|  | (1) | (2) | ) |
| :---: | :---: | :---: | :---: |
|  | Means |  | $p$-value |
|  | Baseline | Choose politics | $(1)=(2)$ |
| Woman | 0.675 | 0.680 | (0.894) |
| Hispanic | 1.022 | 1.029 | (0.484) |
| Has $\geq 4$-year college degree | 0.818 | 0.873 | (0.015) |
| Age ranges: |  |  |  |
| 20-39 | 0.053 | 0.057 | (0.790) |
| 40-59 | 0.267 | 0.261 | (0.830) |
| 60-79 | 0.679 | 0.682 | (0.947) |
| Income bins (USD): |  |  |  |
| Less than 50,000 | 0.196 | 0.147 | (0.041) |
| 50,000-99,999 | 0.350 | 0.349 | (0.947) |
| 100,000-149,999 | 0.220 | 0.249 | (0.283) |
| 150,000-199,999 | 0.119 | 0.114 | (0.803) |
| 200,000 or more | 0.115 | 0.141 | (0.216) |
| State marginality: |  |  |  |
| Red state | 0.263 | 0.222 | (0.129) |
| Blue state | 0.446 | 0.463 | (0.574) |
| Purple state | 0.291 | 0.314 | (0.428) |
| Climate beliefs: |  |  |  |
| Climate worry (1-7) | 6.600 | 6.610 | (0.807) |
| Desire for climate action (1-7) | 6.812 | 6.806 | (0.830) |
| Perceived local impacts (1-7) | 5.586 | 5.635 | (0.444) |
| Political engage. and beliefs: |  |  |  |
| Political engage. index (std) | 0.195 | 0.159 | (0.549) |
| Prev. contacted reps | 0.822 | 0.790 | (0.201) |
| Prev. donated | 0.830 | 0.853 | (0.318) |
| Prev. canvassed | 0.095 | 0.118 | (0.250) |
| Prev. signed petition | 0.871 | 0.839 | (0.134) |
| Prev. phonebanked | 0.141 | 0.145 | (0.856) |
| Political efficacy index (std) | -0.080 | -0.032 | (0.439) |
| Degree prefer Dem friends (1-7) | 6.016 | 5.994 | (0.723) |
| Sample size | 505 | 490 |  |

Table E10: Main WTP results, Round 2

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Showed extended profile |  |  |  |
|  | Must show politics |  | Can hide politics |  |
| Before | $\begin{gathered} 0.448^{* * *} \\ (0.022) \end{gathered}$ | $\begin{gathered} 0.497^{* * *} \\ (0.024) \end{gathered}$ | $\begin{gathered} 0.409^{* * *} \\ (0.021) \end{gathered}$ | $\begin{gathered} 0.453^{* * *} \\ (0.022) \end{gathered}$ |
| Republican |  | $\begin{gathered} -0.040^{* * *} \\ (0.013) \end{gathered}$ |  | $\begin{gathered} -0.064^{* * *} \\ (0.015) \end{gathered}$ |
| Before * Republican |  | $\begin{gathered} -0.097^{* * *} \\ (0.015) \end{gathered}$ |  | $\begin{gathered} -0.088^{* * *} \\ (0.015) \end{gathered}$ |
| Mean: After Dem + Rep | 0.265 |  | 0.294 |  |
| Mean: After Dem |  | 0.284 |  | 0.326 |
| Num. participants | 500 | 500 | 486 | 486 |
| Num. choices | 10000 | 10000 | 9720 | 9720 |
| p-values (2) $=(4)$ <br> Republican: 0.234 <br> Before * Republican: 0.673 |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Figure E26: Influence beliefs if hide politics or not: Those without the option


## F Robustness appendix

## F. 1 Appendix for Wave-2 robustness

Figure F27: Wave-2 specification charts
Panel A. Whether participants start the email process

Liberals

$-.04$

| Sample definitions |  |
| ---: | :--- |
| Full sample (filling in 0) | $\bullet \bullet \bullet \bullet \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ$ |
| First $4250($ filling in 0) | $\circ \circ \circ \circ \bullet \bullet \bullet \bullet \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ$ |
| All finished | $\circ \circ \circ \circ \circ \circ \circ \circ \bullet \bullet \square \bullet \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ$ |
| First 4250 finished | $\circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \bullet \bullet \bullet \bullet \circ \circ \circ \circ \circ \circ \circ \circ$ |
| Correct: Emailed | $\circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \bullet \bullet \bullet \bullet \circ \circ \circ \circ$ |
| Not guess purpose | $\circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \bullet \bullet \bullet \bullet$ |
| Included controls |  |
| No controls | $\bullet \circ \circ \circ \bullet \circ \circ \circ \bullet \circ \circ \circ \bullet \circ \circ \circ \bullet \circ \circ \circ \bullet \circ \circ \circ$ |
| Demographic controls | $\circ \bullet \circ \circ \circ \bullet \circ \circ \circ \bullet \circ \circ \circ \bullet \circ \circ \circ \bullet \circ \circ \circ \bullet \circ \circ$ |
| Main controls | $\circ \circ \bullet \circ \circ \circ \bullet \circ \circ \circ \square \circ \circ \circ \bullet \circ \circ \circ \bullet \circ \circ \circ \bullet \circ$ |
| Lasso-selected | $\circ \circ \circ \bullet \circ \circ \circ \bullet \circ \circ \circ \bullet \circ \circ \circ \bullet \circ \circ \circ \bullet \circ \circ \circ \bullet$ |

Conservatives

$-.04$

$\square$ Main spec. Point estimate
$95 \% \mathrm{CI} \quad 90 \% \mathrm{CI}$

Panel B. Whether participants match to an email record


Conservatives



## F.1.1 Robustness to the Wave-1 attrition assumption

One of the Wave-2 robustness checks that we conduct in Section 8.1 is to show that our main results hold when we assume that those who leave the experimental survey after the email preview but before choosing whether to email Congress or not would not have done so. (We impose this assumption in our main specifications to deal with differential attrition in Wave 1.) As in Wave 1, this assumption appears to be justified in Wave 2. The small sample of participants in the main Wave-2 sample for whom we do not observe explicit email choices are more likely to be under 40 , less likely to be over 70 , express less concern about climate change, and are less politically engaged, though some of these gaps are not statistically significant (Appendix Table F13). In the Wave-2 control group, many of these patterns correlate with lower likelihood of explicitly choosing not to email Congress (column 2 of Appendix Table C2).

Table F11: Wave-2 attrition detail


However, we do not make this assumption in our main Wave-2 results because it actually induces differential attrition by treatment arm. In Wave 1, all participants randomized to a treatment group had already seen the email-form preview, so this assumption allows us to retain all randomized participants in the main Wave-1 experimental sample. In contrast, our Wave-2 approach opens up the possibility of differential selection into the main Wave-2 experimental sample. This attrition could arise simply from participants leaving the survey between randomization and the email preview, but it also arises from an attention check question that was asked of participants recruited via social media after randomization and just before the email preview. In the social-media sample, treatment participants are 1.9 pp more likely to answer this attention
check correctly (column 6, Panel A, Appendix Table B1), despite the fact the two treatment groups’ surveys have not diverged by this point. Overall, treatment participants are 1.4 pp more likely to see the email preview (column 3, Panel A, Appendix Table B1), driven entirely by participants recruited from social media (column 4, Panel A, Appendix Table B1).

However, we find no evidence for differential selection on observable traits in attrition across treatment arms. Appendix Table F12 compares participants who see the email preview separately among the treatment and control groups. While those who attrit differ substantially from those who do not in both treatment groups, we cannot reject that the attriters are identical across treatment groups on nearly every trait. Moreover, as we note above, there are no substantive differences in the treatment versus control surveys to this point, so there is no obvious mechanism that could drive differential selection. Nevertheless, for simplicity we restrict the main Wave-2 analysis to those who remained in the survey through choosing whether to email Congress or not.

Table F12: Comparing Wave-2 participants who do and do not see email preview

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Control group: |  | Treatment group: |  |  |  |  |
|  | See email |  |  | See email |  |  | Among attrited |  |
|  | preview | $\Delta$ Attrit | (p-val) | preview | $\Delta$ Attrit | (p-val) | $\Delta$ Treat | ( $p$-val) |
| Woman | 0.545 | $0.166^{* * *}$ | (0.000) | 0.551 | $0.149^{* * *}$ | (0.000) | 0.029 | (0.500) |
| Hispanic | 1.073 | 0.014 | (0.203) | 1.071 | 0.009 | (0.489) | 0.003 | (0.851) |
| Has $\geq 4$-year college degree | 0.614 | 0.040 | (0.139) | 0.614 | 0.042 | (0.162) | -0.013 | (0.732) |
| Age ranges: |  |  |  |  |  |  |  |  |
| 20-39 | 0.291 | 0.056** | (0.011) | 0.290 | $0.090^{* * *}$ | (0.000) | -0.036 | (0.199) |
| 40-59 | 0.331 | $0.081^{* * *}$ | (0.004) | 0.316 | 0.006 | (0.851) | 0.057 | (0.155) |
| 60-79 | 0.378 | $-0.137^{* * *}$ | (0.000) | 0.394 | $-0.096^{* * *}$ | (0.005) | -0.021 | (0.625) |
| Income bins (USD): |  |  |  |  |  |  |  |  |
| Less than 50,000 | 0.289 | -0.031 | (0.233) | 0.295 | 0.005 | (0.858) | -0.029 | (0.421) |
| 50,000-99,999 | 0.349 | 0.059** | (0.035) | 0.336 | 0.002 | (0.950) | 0.057 | (0.155) |
| 100,000-149,999 | 0.187 | -0.021 | (0.437) | 0.193 | 0.020 | (0.475) | -0.039 | (0.292) |
| 150,000-199,999 | 0.085 | -0.005 | (0.803) | 0.092 | 0.002 | (0.924) | -0.013 | (0.643) |
| 200,000 or more | 0.089 | -0.002 | (0.924) | 0.084 | -0.029 | (0.246) | 0.024 | (0.439) |
| Residence by state marginality: |  |  |  |  |  |  |  |  |
| Red state | 0.323 | -0.010 | (0.721) | 0.320 | 0.009 | (0.764) | -0.020 | (0.608) |
| Blue state | 0.359 | 0.038 | (0.205) | 0.361 | 0.004 | (0.906) | 0.031 | (0.471) |
| Purple state | 0.318 | -0.028 | (0.351) | 0.318 | -0.014 | (0.662) | -0.010 | (0.812) |
| Climate beliefs: |  |  |  |  |  |  |  |  |
| Climate worry (1-7) | 5.819 | 0.154** | (0.033) | 5.810 | $0.245^{* * *}$ | (0.005) | -0.124 | (0.256) |
| Desire for climate action (1-7) | 6.100 | $0.301 * * *$ | (0.000) | 6.136 | 0.292*** | (0.000) | 0.016 | (0.878) |
| Perceived local impacts (1-7) | 5.250 | -0.030 | (0.775) | 5.247 | 0.250** | (0.028) | -0.240 | (0.115) |
| Political affiliation: |  |  |  |  |  |  |  |  |
| Republican | 0.265 | -0.030** | (0.021) | 0.272 | -0.013 | (0.237) | -0.018 | (0.290) |
| R-leaning Independent | 0.096 | -0.021* | (0.080) | 0.091 | -0.018 | (0.166) | -0.003 | (0.860) |
| L-leaning Independent | 0.436 | 0.039 | (0.164) | 0.436 | -0.001 | (0.973) | 0.029 | (0.457) |
| Democrat | 0.202 | 0.012 | (0.631) | 0.200 | 0.032 | (0.236) | -0.008 | (0.819) |
| Other political beliefs: |  |  |  |  |  |  |  |  |
| Political engage. index (std) | 0.037 | $0.774^{* * *}$ | (0.001) | 0.039 | 0.039 | (0.883) | 0.636* | (0.057) |
| Prev. contacted reps | 0.246 | 0.033 | (0.187) | 0.254 | 0.058** | (0.032) | -0.018 | (0.607) |
| Prev. donated | 0.525 | $0.106^{* * *}$ | (0.000) | 0.526 | 0.029 | (0.350) | 0.068* | (0.098) |
| Prev. canvassed | 0.054 | 0.017 | (0.191) | 0.057 | -0.035* | (0.080) | 0.057** | (0.014) |
| Prev. signed petition | 0.619 | $0.103^{* * *}$ | (0.000) | 0.618 | 0.049 | (0.102) | 0.041 | (0.306) |
| Prev. phonebanked | 0.069 | 0.005 | (0.769) | 0.065 | -0.033 | (0.116) | 0.031 | (0.234) |
| Political efficacy index (std) | -0.006 | -0.027 | (0.427) | 0.002 | -0.061* | (0.090) | 0.052 | (0.269) |
| Prefer friend of own party (1-7) | 5.392 | $0.211^{* * *}$ | (0.005) | 5.378 | 0.195** | (0.011) | -0.001 | (0.992) |
| Sample size | 4065 | 291 |  | 4095 | 234 |  |  |  |

Add note here that we're missing perceptions of local climate impacts for some people.

Table F13: Comparing Wave-2 participants for whom we observe emails or not, among those who saw email preview

|  | (1) <br> Mean: Observe if email | (2) <br> $\Delta$ Not observe if email | (3) $\text { ( } p \text {-value) }$ |
| :---: | :---: | :---: | :---: |
| Woman | 0.549 | 0.076** | (0.046) |
| Hispanic | 1.072 | -0.029 | (0.147) |
| Has $\geq 4$-year college degree | 0.611 | 0.045 | (0.173) |
| Age ranges: |  |  |  |
| 20-39 | 0.295 | $0.098^{* *}$ | (0.000) |
| 40-59 | 0.323 | -0.001 | (0.978) |
| 60-79 | 0.382 | -0.097** | (0.011) |
| Income bins (USD): |  |  |  |
| Less than 50,000 | 0.293 | -0.029 | (0.365) |
| 50,000-99,999 | 0.344 | 0.044 | (0.196) |
| 100,000-149,999 | 0.190 | 0.024 | (0.439) |
| 150,000-199,999 | 0.087 | -0.035 | (0.195) |
| 200,000 or more | 0.086 | -0.004 | (0.878) |
| Residence by state marginality: |  |  |  |
| Red state | 0.321 | -0.074** | (0.040) |
| Blue state | 0.359 | 0.011 | (0.766) |
| Purple state | 0.320 | 0.063* | (0.056) |
| Climate beliefs: |  |  |  |
| Climate worry (1-7) | 5.802 | -0.130** | (0.046) |
| Desire for climate action (1-7) | 6.107 | -0.042 | (0.453) |
| Perceived local impacts (1-7) | 5.244 | -0.083 | (0.293) |
| Political affiliation: |  |  |  |
| Republican | 0.275 | 0.001 | (0.920) |
| R -leaning Independent | 0.096 | 0.004 | (0.689) |
| L-leaning Independent | 0.429 | -0.000 | (1.000) |
| Democrat | 0.201 | -0.004 | (0.897) |
| Other political beliefs: |  |  |  |
| Political engage. index (std) | -0.000 | -0.324 | (0.316) |
| Prev. contacted reps | 0.250 | -0.026 | (0.444) |
| Prev. donated | 0.522 | 0.022 | (0.530) |
| Prev. canvassed | 0.056 | -0.000 | (1.000) |
| Prev. signed petition | 0.614 | -0.014 | (0.641) |
| Prev. phonebanked | 0.066 | -0.048* | (0.055) |
| Political efficacy index (std) | -0.000 | -0.012 | (0.770) |
| Prefer friend of own party (1-7) | 5.379 | -0.003 | (0.970) |
| Sample size | 7981 | 179 |  |

Figure F28: Robustness of Wave-2 estimates to demand effects
Panel A. Impacts on opting into the email process


Panel B. Impacts on email records
Impacts on liberals
Main estimates

Demand effects

$$
+0.2 \mathrm{sd}
$$

Demand effects

- 0.2sd


Impacts on conservatives
Main estimates

Demand effects $+0.2 \mathrm{sd}$

Demand effects - 0.2sd


Figure F29: Robustness of Wave-2 partisan gaps
Panel A. Impacts on opting into the email process


Panel B. Impacts on email records


## F． 2 Appendix for Wave－1 robustness

## Figure F30：Wave－1 specification charts

Panel A．Whether participants start the email process


| Sample definitions | Sample definitions |  |  |
| :---: | :---: | :---: | :---: |
| Full sample（filling in 0 ） | －・ロ・०००००००००००。 | Full sample（filling in 0 ） | －・ロ・०००००००००००००००००००。 |
| First 8200 （filling in 0） | －○○○•••००००००。 | First 8200 （filling in 0） | －○○○•・ー००००००००००००००。 |
| All finished | － 0 － 0 － | All finished |  |
| First 8200 finished | － $0 \circ \circ$ ००००००००•••• | First 8200 finished |  |
| Correct：Profile timing | －0．0000000000000 | Correct：Profile timing |  |
| Correct：Can influence | －००००००००००००००० | Correct：Can influence | －०००००००००००००००००००•••• |
| Included controls |  | Included controls |  |
| No controls |  | No controls |  |
| Demographic controls |  | Demographic controls |  |
| Main controls |  | Main controls |  |
| Lasso－selected |  | Lasso－selected |  |
|  | $\square$ Main spec．$\leqslant$ Point | ate $\quad 95 \% \mathrm{CI}$ | 90\％CI |

Panel B．Whether participants match to an email record

Tell


Tell＊before

． 2
.16
.12
.08


| Sample definitions |  |
| :---: | :---: |
| Full sample（filling in 0） | －－－ 00000000000000000000 |
| First 8200 （filling in 0） |  |
| All finished | －0000000－－ 000000000000 |
| First 8200 finished | －00000000000＊＊○0000000 |
| Correct：Profile timing | －000000000000000－－ 0000 |
| Correct：Can influence |  |
| Included controls |  |
| No controls |  |
| Demographic controls |  |
| Main controls |  |
| Lasso－selected |  |

Figure F31: Point estimates for Tell before coefficient with adjustment for differential A2 demand effects
Panel A. Whether participants start the process of emailing Congress


Panel B. Whether participants match to records of emailing Congress


## F． 3 Appendix for WTP robustness

Figure F32：Specification chart：WTP experiment，Before


## Sample definitions

Main sample＋Money
Main sample Dropping low comp
Dropping Rep concerns Included controls Indiv FE



－ 00000000000000000 ・セ・セ・
－ 00000000000000000000

+ Basic profile controls
+ Richer age／state controls
+ Lasso profile controls




| Sample definitions |  |
| :---: | :---: |
| Main sample＋Money | －•••・ー००००००००००००००००० |
| Main sample | －0000－ロー・・ヤ०००००००००० |
| Dropping low comp | －0000000000．••••••००००० |
| Dropping Rep concerns |  |
| Included controls |  |
| Indiv FE | － 00000 －${ }^{\text {c }}$ |
| ＋Basic profile controls | － 00000 － $0000 \bullet 0000 \bullet 0000$ |
| ＋Richer age／state controls | $\bigcirc \bullet \bullet 000 \cdot \bullet 000 \cdot \bullet 00000 \bullet 000$ |
| ＋Lasso profile controls |  |
| No indiv FE |  |
| ＋Wave－1 indiv controls | －०००－०००००－००० |

Figure F33: Specification chart: WTP experiment, Republican


-. 08
-. 16
$-.2$

| Sample definitions |  |
| :---: | :---: |
| Main sample + Money | -000000000000000000000000000 |
| Main sample |  |
| Dropping low comp | $00000000000 \cdot 0$ |
| Dropping Rep concerns | -00000000000000000000****** |
| Included controls |  |
| Indiv FE | -000000•000000•00000-*000000 |
| + Basic profile controls | $\bigcirc \bullet 000000 \square 000000 \bullet 00$ |
| + Richer age/state controls | $\bigcirc 0 \bullet 0000 \cdot \bullet 000000 \bullet 0000 \bullet \bullet 000$ |
| + Lasso profile controls | -0. |
| + Lasso Rep profile controls | 0000 $\bullet 00000 \cdot \bullet 00000 \bullet 000000 \cdot 0$ |
| No indiv FE | $\bullet$ |
|  |  |

95\% CI
$90 \% \mathrm{CI}$

Figure F34：Specification chart：WTP experiment，Republican＊Before



## Sample definitions

Main sample＋Money $\bullet \bullet \bullet \bullet \bullet \bullet \bullet 0000000000000000000$

Dropping low comp $00000000000000 \bullet \bullet \bullet \bullet \bullet \bullet 000000$
Dropping Rep concerns 00000000000000000000 •eッeッセ
Included controls
Indiv FE •000000 •000000 •000000 •000000

+ Basic profile controls $0 \bullet 00000000000 \bullet 00000000000$
＋Richer age／state controls $0 \bullet 000000 \cdot 00000 \bullet 00000 \bullet 0000$
＋Lasso profile controls $000 \bullet 00000 \bullet 00000 \bullet 000000 \bullet 00$
＋Lasso Rep profile controls $0000 \bullet 00000 \bullet 000000 \bullet 00000 \bullet 00$
No indiv FE $00000 \bullet 00000 \bullet 00000 \bullet 00000 \cdot$
＋Wave－1 indiv controls $000000 \bullet 000000000000 \bullet 00000$ •

95\％CI
90\％CI


[^0]:    ${ }^{53}$ Note that we cannot show a profile of an A0 participant who emailed Congress because these participants are invited to complete a separate sub-experiment, described in Section 6, in which we tell participants that we will show profiles saying that they emailed Congress only to specific returning participants.

[^1]:    ${ }^{54}$ This total includes emails sent by participants who are not included in the sample for the Wave- 1 action experiment, but rather who were recruited directly for the WTP experiment (Appendix Section XX) or randomized to the belief sample (Section XXX).

[^2]:    ${ }^{55}$ We elicit Wave-2 participants' perceptions of how similar they are to their paired Wave-1 match on a scale from 1 (Not at all similar) to 7 (Extremely similar) after first showing them this match's basic demographic profile. We regress this Likert-scale

