Americans' Evaluations of Policies to Reduce Greenhouse Gas Emissions

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Introduction

A recent survey by ABC News, The Washington Post, and Stanford University found that the vast majority of Americans (some 84%) now believe that global warming has been occurring, while almost all Americans (94%) say they are willing to change some of the things they do to help the environment.[1] In the same survey, one of every three Americans cited climate change as the biggest environmental problem facing the world, up dramatically from just one year earlier. Climate change was the most frequently cited problem in answers to this question, by a large margin.

This survey also indicates that large numbers of Americans would like government to be devoting substantial attention to addressing climate change. And surveys like this one have indicated that large numbers of Americans favor a range of policies whereby government could encourage or require businesses to change their practices to reduce greenhouse gas emissions. But those survey questions did not explicitly describe a specific price that Americans would pay for each policy, nor did the questions describe specifically how much greenhouse gas reduction people could expect to be produced by any particular policy.

In the survey described here, we took some first steps toward measuring public attitudes toward specific policies at particular costs. To do so, we described a variety of policies to respondents and told them how much each policy would increase consumer costs. We then asked respondents whether they would favor or oppose each policy at that price and to rank order

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[1] ABC News/Washington Post/Stanford Poll: The Environment. April 20, 2007. Available at: http://abcnews.go.com/images/US/1035a1Environment.pdf

the policies. Different respondents were told different prices, while the amount of greenhouse gas reduction (5% by 2020) was held constant across all policies and all respondents.

The prices we chose are all realistic reflections of actual costs. It is impossible to know in advance exactly how much it would cost to produce a 5% decrease in emissions by 2020, so we established a range of possible prices for each policy. Some respondents were asked about the lowest reasonable price. Other respondents were asked about the highest reasonable price. And still other respondents were asked about a price midway between these extremes. This allowed us to assess whether public attitudes toward each policy became less positive as the cost increased, which would be expected based on economic theory.

However, it is important to bear in mind that public favorability toward a policy need not decline dramatically as price increases. The relation of price to attitudes should be monotonic (specifically, as price increases, support should decrease), but it need not be linear. Price increases may produce more dramatic decreases in public favorability in some regions of the price continuum than in other regions.

In current debates, policymakers are considering many options for greenhouse gas reduction, two of which are standards and incentives. Standards would involve a government mandate requiring that changes be made to the way energy is produced. This could involve specifying that more electricity be generated using certain energy sources (e.g., sunlight or wind) or that gasoline be blended with fuels such as ethanol that yield lower net carbon emissions.

Incentive based policies would reward companies for reducing carbon emissions, impose costs on high carbon emissions, or both. While standards specify how greenhouse gas reduction would be achieved, incentives leave it up to the energy producing industries to decide whether and how to achieve reductions, allowing for flexibility in that regard. Some economic research

suggests that incentives will be more efficient, costing society less than standards would for equal reductions in greenhouse gas emissions.

In addition to exploring whether attitudes toward the policies were determined by their financial costs, we explored a set of additional predictors as well. Specifically, we thought that people with lower incomes might be more reluctant to favor all policies. We thought people who spend more money on gasoline and electricity would be more reluctant to favor all policies. We thought that people who believed that the earth's temperature has been increasing would be more likely to favor the policies. We thought that people who labeled themselves as environmentalists would be more likely to favor the policies. And we thought that Democrats would favor the policies (which entailed government intervention in the marketplace) more than would Republicans. We also explored whether demographics were related to favorability, assessing whether younger adults (who might be more directly impacted by climate change in the distant future) and parents of young children (whose children might be more directly impacted by climate change than they themselves) would be more positive toward the policies.

Data

The survey was fielded by Knowledge Networks, who have recruited a representative national panel of American adults via random digit dial (RDD) telephone interviews. Before the initial recruiting telephone calls were made to potential panel members, households for which Knowledge Networks was able to recover a valid postal address (about 70% of the RDD sample) were sent letters describing the proposed exchange relationship entailed in joining the panel.

During the initial telephone interview, people were told they had been selected to participate in an important national study. Households without Internet access were told that Knowledge Networks would provide them with an Internet appliance (MSN TV equipment) and

an Internet service connection in exchange for their participation in surveys. Potential panel members who had access to the Internet were asked to participate in the panel using their own equipment and were given points in exchange for participation that could be redeemed for cash. Information was obtained on all members of the household, including names, ages, genders, and relationships to the person selected to be the primary respondent. Once a household had Internet access, respondents were asked to complete profile surveys that measured attributes of each household member aged 18 or older. Thereafter, panel members completed weekly surveys, usually not exceeding 15 minutes (see www.knowledgenetworks.com for details).

Each household member had his or her own e-mail account (with separate log-in names and passwords). E-mails were sent to selected respondents inviting them to participate in each week's survey. Respondents could complete each questionnaire whenever they liked, and people could stop before completing a survey and return to it later.

For this survey, 1,491 respondents completed the questionnaire between April 13 and 19, 2007.

The survey began with some questions measuring general political attitudes. These were followed by general questions asking whether respondents thought that the Earth's temperature had been increasing, how sure respondents were about that, and how serious a problem they believed it will be if nothing is done to prevent it.

This was followed by text introducing the issue of climate change and setting the scene for policy making in this area:

"In recent decades, people have been putting large amounts of "greenhouse gases" such as carbon dioxide into the air, mostly by burning gasoline, coal, and natural gas.

Most scientists who study the Earth's climate believe that these greenhouse gases trap heat from the Sun on Earth.

So these scientists believe that by adding carbon dioxide to the air in recent years, people have been making the Earth warmer.

These scientists also say that the Earth will continue to get warmer in the future.

If the Earth keeps getting warmer, this could hurt people and nature: scientists say, for example, that there are likely to be more droughts, flooding of coastal areas where people live, more severe storms, and many plants and animals will become extinct.

The scientists who study the Earth's climate say that the warming and its effects can be reduced if people put less carbon dioxide into the air in the future.

For this reason, some people in the U.S. federal government are thinking about ways to reduce the amount of carbon dioxide that Americans put into the air.

In this survey, we would like to ask for your opinion about six possible ways to do this. You might think they are all good ideas. You might think they are all bad ideas. Or you might think some are good and others are bad.

We want to know what you think, so that we can inform policy-makers in Washington about which, if any, of these policies the American public would favor and which they would oppose."

Respondents were then shown brief descriptions of the policies:[2]

[G1:]
1) Require oil companies to change the way they make fuel for cars and trucks. This will reduce the amount of greenhouse gases put out by vehicles, increase the price of fuel, and cause people to use less of it.

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[2] The order of presentation of these summaries followed the rules laid out below regarding the full policy descriptions.

[G2:]
2) Require oil companies to pay a tax on the greenhouse gases that come from the fuel they sell. This will increase fuel prices and cause people to use less fuel. It will also cause oil companies to change the way they make fuel for cars and trucks so that the fuel puts out less greenhouse gases than gasoline.

[G3:]
3) Require oil companies to limit the amount of greenhouse gases that come from the fuel they sell. This will increase fuel prices and cause people to use less fuel. It will also cause oil companies to change the way they make fuel for cars and trucks so that the fuel puts out less greenhouse gases than gasoline.

[E1:]
4) Require companies that sell electricity to make more electricity in ways that do not produce greenhouse gases. This will reduce the amount of greenhouse gases put out making electricity, increase the price of electricity, and cause people to use less of it.

[E2:]
5) Require companies that put out greenhouse gases when making electricity to pay a tax on the greenhouse gases. This will increase the price of electricity and cause people to use less of it. It will also cause power companies to make more electricity in ways that don't put out greenhouse gases.

[E3:]
6) Require companies that sell electricity to limit the amount of greenhouse gases they put out. This will increase the price of electricity and will cause people to use less of it. It will also cause power companies to make more electricity in ways that don't put out greenhouse gases.

The respondent then read longer descriptions of all six policies and reported whether he or she would vote for or against each one. The full descriptions of the six policies shown to respondents were:

[G1:]
The government could require each oil company to change the way they make fuel.

By 2020, 30% of the fuel each company sells would have to be a type that produces less greenhouse gases than gasoline. Oil companies can do this by mixing gasoline with ethanol, which is a kind of alcohol usually made from plants.

This requirement would cause fuel prices to go up, because oil companies would pass on to their customers the cost of the ethanol, and the cost of setting up their factories to mix the new fuel.

The increased price of fuel would also cause people to drive less and/or to buy cars that use less fuel.

Compared to current gasoline prices the price of fuel will go up about [10/30/70] cents per gallon each year until it reaches about [$4/$7/$15] per gallon in 2020.

This will reduce the amount of greenhouse gases put out by the U.S. in 2020 by 5%.

If an election were being held today, would you vote in favor of this policy or would you vote against it?

[G2]
The government could require oil companies to pay a new tax for every ton of greenhouse gases that comes from the fuel they sell.

The more greenhouse gases are put out when burning the fuel, the higher the tax would be. For example, gasoline puts out more greenhouse gases when burned than a new fuel made by mixing gasoline with ethanol, a kind of alcohol usually made from plants. The tax paid by oil companies would be higher on gasoline than it would on this new fuel.

This tax would cause oil companies to mix more ethanol with gasoline so they could reduce the taxes they would have to pay.

The tax would cause fuel prices to go up, because the oil companies would pass on to their customers the cost of the tax, ethanol, and setting up their factories to mix the new fuel.

The increased price of fuel would also cause people to drive less and/or to buy cars that use less fuel.

Compared to current gasoline prices the price of fuel will go up about [10/30/70] cents per gallon each year until it reaches about [$4/$7/$15] per gallon in 2020.

This will reduce the amount of greenhouse gases put out by the U.S. in 2020 by 5%.

If an election were being held today, would you vote in favor of this policy or would you vote against it?

[G3:]
The government can limit the amount of greenhouse gases put out by cars and trucks each year.

To make this happen, the government can give permits to each oil company, allowing them to make fuel that will put out up to a specific amount of greenhouse gases.

Companies could choose to mix gasoline with ethanol, a kind of alcohol usually made from plants. This new fuel would put out less greenhouse gases and therefore require fewer permits than regular gasoline. Companies could also choose to sell less fuel than their permits allow. The companies could then sell their extra permits to other companies that want to sell more fuel.

Companies that sell less fuel than their permits allow can make money selling their permits. And companies that sell more fuel have to buy more permits, which would increase their costs.

The limit would cause the price of fuel to go up, because oil companies will pass on to their customers the cost of permits, ethanol, and setting up their factories to mix the new fuel.

The increased price of fuel would also cause people to drive less and/or to buy cars that use less fuel.

Compared to current gasoline prices the price of fuel will go up about [10/30/70] cents per gallon each year until it reaches about [$4/$7/$15] per gallon in 2020.

This will reduce the amount of greenhouse gases put out by the U.S in 2020 by 5%.

If an election were being held today, would you vote in favor of this policy, or would you vote against it?

[E1:]
The government could require power companies to build new plants that would make electricity in ways that don't put out greenhouse gases, such as from sunlight, wind, nuclear power, water flowing over dams, or heat deep under the surface of the Earth.

The amount of electricity made in the U.S. in these ways would be required to increase by 35% by 2020.

This requirement would cause the price of electricity to go up, because the power companies would pass on the cost of building new plants to their customers.

The increased price of electricity would also cause people to use less electricity and/or to buy appliances that use less electricity.

A typical household electricity bill will rise gradually from $85 per month now until it reaches [$87/$95/$155] per month in 2020. So the typical household will pay [$2/$10/$70] more per month for electricity in 2020.

This will reduce the amount of greenhouse gases put out by the U.S. in 2020 by 5%.

If an election were being held today, would you vote in favor of this policy or would you vote against it?

[E2:]
The government could require power companies to pay a new tax for every ton of greenhouse gases they put out when making electricity.

The more greenhouse gases they put out, the higher the tax would be.

This tax would cause power companies to find ways to reduce the amount of greenhouse gases by building new plants that make electricity without putting out greenhouse gases.

The tax would cause the price of electricity to go up, because the power companies would pass on the cost of the tax and building new plants to their customers.

The increased price of electricity would also cause people to use less electricity and/or to buy appliances that use less electricity.

A typical household electricity bill will rise gradually from $85 per month now until it reaches [$87/$95/$155] per month in 2020. So the typical household will pay [$2/$10/$70] more per month for electricity in 2020.

This will reduce the amount of greenhouse gases put out by the U.S. in 2020 by 5%.

If an election were being held today, would you vote in favor of this policy or would you vote against it?

[E3:]
The government can limit the amount of greenhouse gases that power companies can put out while making electricity each year.

To make this happen, the government can give permits to each power company, allowing them to put out up to a specific amount of greenhouse gases.

Companies could choose to put out less greenhouse gases than their permits allow by making less electricity, or by building new plants that make electricity without putting out greenhouse gases. The companies could then sell their extra permits to other companies that want to put out more greenhouse gases.

Companies that put out less greenhouse gases can make money selling their permits. And companies that put out more greenhouse gases have to buy more permits, which would increase their costs.

The limit would cause the price of electricity to go up, because power companies will pass on the cost of permits and building new plants to their customers.

The increased price of electricity would also cause people to use less electricity and/or to buy appliances that use less electricity.

A typical household electricity bill will rise gradually from $85 per month now until it reaches [$87/$95/$155] per month in 2020. So the typical household will pay [$2/$10/$70] more per month for electricity in 2020.

This will reduce the amount of greenhouse gases put out by the U.S. in 2020 by 5%. If an election were being held today, would you vote in favor of this policy, or would you vote against it?

After each policy description and the question, "Would you vote in favor of this policy, or would you vote against it?", respondents were asked how strongly they favored or opposed the policy.

Respondents were each randomly assigned to be asked all electricity questions before all vehicle fuel questions or to be asked all vehicle fuel questions before all electricity questions. Within each of these two domains, the three policies (G1, E1: a government mandated standard; G2, E2: a tax; and G3, E3: a cap-and-trade policy) were presented in a random order to each respondent. The same presentation order was used for vehicle fuel and electricity for the respondent. So, for example, respondents whose first vehicle fuel policy was the cap-and-trade policy also saw the electricity cap-and-trade policy before seeing the other two electricity policies. Respondents therefore saw these policies in one of twelve possible orderings (e.g. vehicle fuel policy 1; vehicle fuel policy 2; vehicle fuel policy 3; electricity policy 1; electricity policy 2; electricity policy 3).

To investigate the impact of the cost of each policy on favorability, respondents were randomly assigned to one of three price levels for the vehicle fuel policies and, independently, to one of three cost conditions for the electricity policies. Respondents were told the expected cost of each policy in the year 2020.

In the low cost condition for vehicle fuel, the policies were described as being expected to yield a fuel cost of $4 per gallon in 2020; the medium condition described the expected cost as $7 per gallon, and the high cost was set at $15 per gallon. The average gasoline price in the U.S. at the time of the survey was $2.88.

For the electricity policies, respondents were told that a typical household's monthly U.S. electricity bill would rise from $85 per month then to $87 in the low cost condition, $95 in the medium cost condition, and $155 in the high cost condition.

Costs were held constant within policy domains (electricity or fuel), so that a respondent in the medium cost condition for vehicle fuels, for example, would read about three policies that all resulted in vehicle fuel prices of $7 per gallon. Thus, for each respondent, the policies differed only in the means by which a 5% greenhouse gas reduction would be achieved, not the cost.

Following the questions about each proposed policy, respondents were offered the opportunity to confirm or change their evaluations of the policies. They were then asked to rank order the six policies from their most favored to their least favored.

Three final questions measured the respondent's household's expenditure on vehicle fuels and on electricity. Respondents were asked, "During the last month, what is the total amount of money your household spent on gasoline and diesel fuel?" They were then asked, "Does your household pay an electricity bill, or not?" Finally, if respondents answered "yes" to that question, they were also asked, "About how much money would you say your household paid for electricity during the last 12 months?"

Results

A majority of respondents voted against all of three vehicle fuel policies at all of the prices we offered (see Table 1). At the lowest price ($4), 46%, 37%, and 32% of people voted in favor of G1, G2, and G3, respectively.   In contrast, the electricity policies were viewed more favorably. Large majorities of respondents voted in favor of E1 (the mandated standard policy, also referred to as "low-carbon standard" in the New Scientist article) at the low and medium prices (75% and 73% at $87 and $95 per month, respectively), and smaller majorities voted in favor of E2 and E3 at the lowest prices (60% and 53%, respectively, at $87 per month). After rounding, a bare majority (50%) voted in favor of E1 at the highest price and E2 at the medium price. Thus, the electricity policies were more appealing than the vehicle fuel policies. For both vehicle fuel and electricity, mandated standards were more appealing than emissions taxes and cap-and-trade. For vehicle fuel, cap-and-trade was more appealing than a tax, and for electricity, a tax was more appealing than cap-and-trade.

An interesting way to view the policies is in terms of the lowest price at which at least 50% of Americans would vote in favor of it. E1 (the mandated standards policy) was favored by 50% of respondents when the price was $155 per month. E2, the tax policy, was favored by 50% of respondents when the price was $95 per month. E3, the cap-and-trade policy, would have been favored by 50% of respondents at a price somewhere between $87 and $95 per month. A linear interpolation suggests that 50% would have voted in favor at approximately $91. This $91 estimate is an upper bound, because the true shape of the distribution of approval between $85 and $97 is probably concave, which would pull that dollar value down a bit. 50% approving of G1 would presumably have occurred at a price below $4 per gallon (since slightly fewer than 50% approved at $4), but we cannot know whether 50% would have approved of G2 or G3 at

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prices lower than $4 per gallon, since a majority of respondents did not vote in favor of either of these policies at any of the prices we offered.

It is useful to interpret these results in terms of the increased monthly electricity bill a typical household would pay. The electricity mandated standard elicited 50% in favor when the typical household's bill increased by $70 per month, the carbon tax elicited 50% in favor when it cost the typical household $10 per month, and the cap-and-trade policy elicited 50% in favor when it cost the typical household $6 per month or less. Thus, majority support was achieved for the mandated standard even when it cost several times more money than the tax or cap-and-trade policies did to yield the same greenhouse gas reduction.

In line with our expectations, fewer and fewer people voted in favor of each policy as the price increased (compare across the rows showing the percent voting in favor of each policy in Table 1). As shown in Table 2, in 16 of the 18 pairwise comparisons of the percents of people voting in favor of a policy at different prices, significantly or marginally significantly fewer people voted in favor at the higher price. These significance tests were computed via logistic regressions predicting votes in favor or against each policy (coded 1 and 0, respectively) with a dummy variable for price (coded 1 for the higher price and 0 for the lower price). Only the differences between the $4 and $7 prices for policy G3 between the $4 and $7 prices for policy E1 were not significant.

Table 3 shows the significance levels of the differences in favorability holding cost constant and comparing across policies, using one-sample tests of proportions. The majority of these differences are statistically significant, reinforcing the conclusions that the electricity policies were more appealing than the vehicle fuel policies and that mandated standards were more appealing than taxes and cap-and-trade.

Given that these policies all entail government intervention in the energy marketplace, we expected Democrats to be more favorable toward them than Republicans. As shown in Table 4, a larger proportion of strong Democrats than strong Republicans favored each of the six policies, and the proportion of people favoring a policy generally increased (though not completely consistently) as we move across the political spectrum (the rows in that table) from strong Republicans to strong Democrats.

Next, we sought to identify the characteristics of respondents who were especially likely to vote in favor of the policies. The parameters of a negative binomial regression were estimated, predicting whether the respondent voted in favor of 0, 1, 2, 3, 4, 5, or 6 policies in total.[3]

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[3] Geographically adjusted vehicle fuel and electricity spending increases reflect the estimated increased amount the respondent's household would pay for vehicle fuel or electricity under a proposed policy. These estimates were based on the amount of money respondents reported their households currently paid for vehicle fuel or electricity, increased in proportion to the energy price increase associated with a particular policy, and adjusted on the basis of geographic average prices to create a measure of the impact of each policy on each respondent. Gasoline prices were based on regional averages as of April 16, 2007; electricity prices were based on monthly average bill per state as of 2005 according to the Department of Energy.

Political party identification was coded to range from 1 = strong Republican through 4 = undecided/ independent/other to 7 = strong Democrat.

When they first joined the Knowledge Networks panel, respondents were asked, "Would you describe yourself as an environmentalist?" People who said "yes, definitely" were coded 1, people who said "yes, somewhat" were coded .5, and people who said "no" were coded 0.

Respondents who said they believed that the earth's temperature had been going up were coded 1 on "Believe GW has been happening," and people who said the earth's temperature had not been going up were coded 0.

Respondents reported their household incomes by selecting one range from a set of offered ranges. These responses were transformed to a continuous variable by assigning a dollar value to a respondent at the midpoint of the range he or she selected. For people who said their household income was above $150,000, we assigned them to the U.S. Census Bureau's average household income for households with incomes above $150,000. These values were then rescaled to indicate household income in thousands of dollars. Household income was reported over the period April 2003 – March 2007. 1.2% of respondents provided this information before 2006, 9.7% provided it in 2007 while the rest (88.1%) provided it during 2006. The median response date for this information was February 22, 2006.

Age was coded in years.

Respondents were asked, "Are you the parent or legal guardian of children and teens in your household?" – people who said they were parents or guardians were coded 1, and everyone else was coded 0.

Region = West was coded 1 if the respondent resided in one of the following states, 0 otherwise: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, and Hawaii.

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As shown in the first two rows of Table 5, respondents who would have to pay more money under the proposed policies favored fewer policies. Democrats, environmentalists, and people who believed that global warming had probably been happening were more likely to vote in favor of the policies than were Republicans, non-environmentalists, and people who believed global warming had probably not been happening. Having a higher income and being a parent or guardian of children living in the respondent's home were associated with greater likelihood of voting in favor of the policies. Living in the western region of the U.S. also increased a respondent's likelihood of voting in favor of more policies, compared to living in another part of the country.

To illustrate how environmentalism was related to voting in favor of policies, we used the parameter estimates in the regression shown in Table 5 to generate predicted probabilities of voting in favor, while holding the other independent variables at their means. Table 6 shows the predicted probabilities of voting in favor of between 0 and 6 policies for people who said they were definitely environmentalists (see column 1) and people who said they were not environmentalists (column 2). Column 3 shows the difference between these two probabilities. People who were definitely environmentalists were likely to vote for one more policy overall than non-environmentalists.

Discussion

The results reported here indicate that public attitudes toward policies designed to reduce the emissions of greenhouse gases were dependent on both the nature of the policy and the likely cost that people would have to pay. When respondents were asked about policies with the same stated outcome in terms of greenhouse gas reduction, the means by which that outcome was achieved was related to the proportion of the public in favor.

Of the three proposed policies targeting a reduction in greenhouse gas emissions from vehicle fuel, respondents preferred a government mandate dictating how fuels would be made over a tax on greenhouse gas emissions by oil companies or a cap-and-trade scheme, at all cost levels. The same was true of electricity policies, with respondents preferring a government mandated standard over an emissions tax or a cap-and-trade policy.

Voting in favor of the policies declined as the price rose, which is as would be expected based on economic theory. And people's predispositions were significant predictors of their inclination to vote favorably: Democrats, environmentalists, people who thought global warming had been happening, people with higher incomes, people who would face smaller price increases for vehicle fuel and electricity under the proposed policies, and people living with children and in the western region of the country were more likely to vote in favor.

Using cost ranges believed to span realistic prices for each of these two industries, public attitudes toward the electricity policies were significantly more favorable than those toward policies targeting vehicle fuel. However, the cost of achieving a 5% reduction in greenhouse gas emissions by targeting vehicle fuel is considerably higher than that to achieve a 5% reduction by targeting electricity generation.

It is interesting to note that the $4 per gallon vehicle fuel scenario represents an increase in average household expenses similar to that of a $155 monthly electricity bill. Comparing across these costs, the corresponding vehicle fuel and electricity policies were about equivalently appealing to respondents: 46.1% of respondents voted for G1 at $4, while 49.7% of respondents voted for E1 at $155. 37.2% of respondents voted for G2 at $4, while 37.9% of respondents voted for E2 at $155. And 32.2% of respondents voted for G3 at $4, while 34.9% of respondents voted for E3 at $155. Thus, when approximately holding constant the likely cost of the policies

to the respondents, people did not manifest a preference for reducing greenhouse gas emissions via electricity prices over vehicle fuel prices. Rather, this preference seems to have appeared in our survey data because it is less expensive to reduce greenhouse gases by 5% by the year 2020 via electricity mandates than via vehicle fuel manufacturing mandates.

This study represents a first step in assessing which greenhouse gas reduction policies are likely to enjoy majority support and which are not. However, this study raises many interesting questions to be explored in future research. We look forward to conducting such studies.

G1. Require oil companies to change the way they make fuel for cars and trucks. This will reduce the amount of greenhouse gases put out by vehicles, increase the price of fuel, and cause people to use less of it.

	$4 gallon	$7 gallon	$15 gallon
For	46.12%	35.02%	27.02%
Against	53.88%	64.98%	74.20%
Total	100%	100%	100%
Total N	*346*	*312*	*304*

G2. Require oil companies to pay a tax on the greenhouse gases that come from the fuel they sell. This will increase fuel prices and cause people to use less fuel. It will also cause oil companies to change the way they make fuel for cars and trucks so that the fuel puts out less greenhouse gases than gasoline.

	$4 gallon	$7 gallon	$15 gallon
For	37.20%	27.54%	22.07%
Against	62.80%	72.46%	77.93%
Total	100%	100%	100%
Total N	*346*	*312*	*303*

G3. Require oil companies to limit the amount of greenhouse gases that come from the fuel they sell. This will increase fuel prices and cause people to use less fuel. It will also cause oil companies to change the way they make fuel for cars and trucks so that the fuel puts out less greenhouse gases than gasoline.

	$4 gallon	$7 gallon	$15 gallon
For	32.21%	24.77%	23.18%
Against	67.79%	75.23%	76.82%
Total	100%	100%	100%
Total N	*346*	*312*	*304*

E1. Require companies that sell electricity to make more electricity in ways that do not produce greenhouse gases. This will reduce the amount of greenhouse gases put out making electricity, increase the price of electricity, and cause people to use less of it.

	$87/mth	$95/mth	$155/mth
For	74.65%	72.58%	49.68%
Against	25.35%	27.42%	50.32%
Total	100%	100%	100%
Total N	*313*	*332*	*316*

E2. Require companies that put out greenhouse gases when making electricity to pay a tax on the greenhouse gases. This will increase the price of electricity and cause people to use less of it. It will also cause power companies to make more electricity in ways that don't put out greenhouse gases.

	$87/mth	$95/mth	$155/mth
For	59.85%	49.55%	37.88%
Against	40.15%	50.45%	62.12%
Total	100%	100%	100%
Total N	*313*	*332*	*316*

E3. Require companies that sell electricity to limit the amount of greenhouse gases they put out. This will increase the price of electricity and will cause people to use less of it. It will also cause power companies to make more electricity in ways that don't put out greenhouse gases.

	$87/mth	$95/mth	$155/mth
For	53.45%	46.92%	34.89%
Against	46.55%	53.08%	65.11%
Total	100%	100%	100%
Total N	*313*	*332*	*316*

Table 2: Statistical Significance of Differences Between the Proportion Favoring each Policy at Two Different Prices

Policy; price pair	Significance of Difference
Gasoline Mandate/Standard	
$4 / $15	**<.001**
$4 / $7	**< .05**
$7 / $15	**< .01**
Gasoline Tax	
$4 / $15	**< .001**
$4 / $7	= .108
$7 / $15	**< .01**
Gasoline Cap-and-Trade	
$4 / $15	**< .05**
$4 / $7	= .650
$7 / $15	**< .05**
Electricity Mandate/Standard	
$87 / $155	**<.001**
$87 / $95	= .577
$95 / $155	**<.001**
Electricity Tax	
$87 / $155	**<.001**
$87 / $95	**< .01**
$95 / $155	**< .01**
Electricity Cap-and-Trade	
$87 / $155	**<.001**
$87 / $95	**< .01**
$95 / $155	= .100

Note: p values are based on logistic regression coefficients predicting the proportion favoring using a dummy variable representing the two prices. Bolded entries show significant differences.

Table 3: Statistical Significance of Differences Between the Proportion of People Favoring Two Policies at the Same Price Level (Low, Medium, or High)

Price, policy	p value ($p \geq .10$ non-significant)
Low (gasoline = $4, electricity = $87)	
Gasoline Mandate / Gasoline Tax	**< .05**
Gasoline Mandate / Gasoline Cap-and-Trade	**< .001**
Gasoline Mandate / Electricity Mandate	**< .001**
Gasoline Mandate / Electricity Tax	**<. 001**
Gasoline Mandate / Electricity Cap-and-Trade	**< .10**
Gasoline Tax / Gasoline Cap-and-Trade	= .17
Gasoline Tax / Electricity Mandate	**< .001**
Gasoline Tax / Electricity Tax	**< .001**
Gasoline Tax / Electricity Cap-and-Trade	**< .001**
Gasoline Cap-and-Trade / Electricity Mandate	**< .001**
Gasoline Cap-and-Trade / Electricity Tax	**< .001**
Gasoline Cap-and-Trade / Electricity Cap-and-Trade	**< .001**
Electricity Mandate / Electricity Tax	**< .001**
Electricity Mandate / Electricity Cap-and-Trade	**< .001**
Electricity Tax / Electricity Cap-and-Trade	= .11
Medium (Gasoline = $7, Electricity =$95)	
Gasoline Mandate / Gasoline Tax	**< .05**
Gasoline Mandate / Gasoline Cap-and-Trade	**< .01**
Gasoline Mandate / Electricity Mandate	**< .001**
Gasoline Mandate / Electricity Tax	**< .001**
Gasoline Mandate / Electricity Cap-and-Trade	**< .01**
Gasoline Tax / Gasoline Cap-and-Trade	= .44
Gasoline Tax / Electricity Mandate	**< .001**
Gasoline Tax / Electricity Tax	**< .001**
Gasoline Tax / Electricity Cap-and-Trade	**< .001**
Gasoline Cap-and-Trade / Electricity Mandate	**< .001**
Gasoline Cap-and-Trade / Electricity Tax	**< .001**
Gasoline Cap-and-Trade / Electricity Cap-and-Trade	**< .001**
Electricity Mandate / Electricity Tax	**< .001**
Electricity Mandate / Electricity Cap-and-Trade	**< .001**
Electricity Tax / Electricity Cap-and-Trade	= .50
High (Gasoline = $15, Electricity = $155)	
Gasoline Mandate / Gasoline Tax	= .15
Gasoline Mandate / Gasoline Cap-and-Trade	= .27
Gasoline Mandate / Electricity Mandate	**< .001**
Gasoline Mandate / Electricity Tax	**< .001**
Gasoline Mandate / Electricity Cap-and-Trade	**< .01**
Gasoline Tax / Gasoline Cap-and-Trade	= .74
Gasoline Tax / Electricity Mandate	**< .001**
Gasoline Tax / Electricity Tax	**< .001**
Gasoline Tax / Electricity Cap-and-Trade	**< .001**
Gasoline Cap-and-Trade / Electricity Mandate	**< .001**
Gasoline Cap-and-Trade / Electricity Tax	**< .001**
Gasoline Cap-and-Trade / Electricity Cap-and-Trade	**< .01**
Electricity Mandate / Electricity Tax	**< .01**

Electricity Mandate / Electricity Cap-and-Trade	**< .001**
Electricity Tax / Electricity Cap-and-Trade	= .44
Aggregated across all price conditions	
Gasoline Mandate / Gasoline Tax	**< .001**
Gasoline Mandate / Gasoline Cap-and-Trade	**< .001**
Gasoline Mandate / Electricity Mandate	**< .001**
Gasoline Mandate / Electricity Tax	**< .001**
Gasoline Mandate / Electricity Cap-and-Trade	**< .001**
Gasoline Tax / Gasoline Cap-and-Trade	= .26
Gasoline Tax / Electricity Mandate	**< .001**
Gasoline Tax / Electricity Tax	**< .001**
Gasoline Tax / Electricity Cap-and-Trade	**< .001**
Gasoline Cap-and-Trade / Electricity Mandate	**< .001**
Gasoline Cap-and-Trade / Electricity Tax	**< .001**
Gasoline Cap-and-Trade / Electricity Cap-and-Trade	**< .001**
Electricity Mandate / Electricity Tax	**< .001**
Electricity Mandate / Electricity Cap-and-Trade	**< .001**
Electricity Tax / Electricity Cap-and-Trade	**< .10**

Note: each *p* value is based on the Z statistic obtained from a one-sample test of proportions. Bolded entries show significant differences.

Table 4: The Proportion of Respondents Favoring Each Policy Within Groups Determined by Political Party Identification

Policy	Strong Republican	Not Strong Republican	Independent Leaning Toward Republicans	Independent/ Undecided/ Other	Independent Leaning Toward Democrats	Not Strong Democrat	Strong Democrat	All Respondents
Gasoline Mandate								
For	23.65%	23.54%	35.72%	35.16%	46.63%	39.29%	39.42%	36.20
Total N	*136*	*87*	*145*	*55*	*177*	*151*	*191*	*942*
Gasoline Tax								
For	13.67%	19.96%	28.54%	33.61%	38.87%	29.55%	33.71%	29.05%
Total N	*136*	*87*	*145*	*55*	*177*	*151*	*191*	*942*
Gasoline Cap-and-Trade								
For	15.75%	16.41%	22.18%	20.71%	36.95%	32.09%	31.50%	26.89%
Total N	*136*	*87*	*145*	*55*	*177*	*151*	*191*	*942*
Electricity Mandate								
For	53.54%	66.49%	59.08%	59.58%	74.89%	68.44%	70.68%	65.82%
Total N	*136*	*87*	*145*	*55*	*177*	*151*	*191*	*942*
Electricity Tax								
For	31.57%	40.62%	48.46%	48.91%	55.75%	50.43%	56.58%	48.66%
Total N	*136*	*87*	*145*	*55*	*177*	*151*	*191*	*942*
Electricity Cap-and-Trade								
For	38.61%	35.62%	45.55%	36.62%	48.96%	46.82%	51.37%	45.14%
Total N	*136*	*87*	*145*	*55*	*177*	*151*	*191*	*942*

Table 5. Predictors of Total Number of Votes in Favor of the Six Policies

Predictor	Regression Coefficient (Standard Error)
Geographically adjusted vehicle fuel spending increase	−.0001** (.0000)
Geographically adjusted electricity spending increase	−.0007* (.0003)
Political party identification	.0509*** (.0122)
Environmentalist	.4147*** (.0782)
Believed global warming probably has been happening	.5686*** (.0984)
Income (in thousands of dollars)	.0011* (.0005)
Age	−.0028+ (.0017)
Parent or guardian of children or teens in the household	.1404* (.0556)
Region = West	.1151* (.0573)
Intercept	.1881 (.1436)

$+ p < .10; * p < .05; ** p < .01; *** p < .001; N = 1353$

Table 6: Predicted Probability of Voting in Favor of A Specific Number of Policies Among Those Who Did and Did Not Identify Themselves as Environmentalists

	Definitely environmentalist	Not environmentalist	Difference (env. – not env.)
Pr(Vote 'yes' for 0 policies)	.09	.18	-.09
Pr(Vote 'yes' for 1 policies)	.18	.27	-.09
Pr(Vote 'yes' for 2 policies)	.20	.23	-.03
Pr(Vote 'yes' for 3 policies)	.18	.15	.03
Pr(Vote 'yes' for 4 policies)	.13	.09	.05
Pr(Vote 'yes' for 5 policies)	.09	.04	.05
Pr(Vote 'yes' for 6 policies)	.06	.02	.04
Predicted total 'yes' votes:	2.99	1.97	1.01

Note: This table shows that those who are definitely environmentalists are 9 percentage points less likely to vote against all policies, 9 percentage points less likely to vote for one policy, 3 points less likely to vote for two policies, and more likely to vote for more than two policies. Overall those who say they are definitely environmentalists vote for 1.01 policies more than those who say they are not or refuse the question.

[DISPLAY]

Nonmedical Human Participants
Consent Form

STUDY TITLE: Survey

Protocol Director: Professor Jon Krosnick.

DESCRIPTION: You are invited to participate in **a research study** on the opinions of the American public. You will be asked to answer questions about your opinion on various issues facing the nation through an online questionnaire.

RISKS AND BENEFITS: There are no known risks associated with this study. We cannot and do not guarantee or promise that you will receive any benefits from this study.

TIME INVOLVEMENT: Your participation in this experiment will take approximately 15 minutes.

PAYMENTS: You will receive payment as per your agreement with Knowledge Networks as payment for your participation.

[DISPLAY]

SUBJECT'S RIGHTS: If you have read this form and have decided to participate in this project, please understand your participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled. You have the right to refuse to answer particular questions. Your individual privacy will be maintained in all published and written data resulting from the study.

CONTACT INFORMATION:

Questions, Concerns, or Complaints: If you have any questions, concerns or complaints about this **research study**, its procedures, risks and benefits, you should ask the Protocol Director, Professor Jon Krosnick, (650)725-3031.

Independent Contact: If you are not satisfied with how this study is being conducted, or if you have any concerns, complaints, or general questions about the research or your rights as a participant, please contact the Stanford Institutional Review Board (IRB) to speak to someone independent of the research team at (650)-723-2480 or toll free at 1-866-680-2906. You can also write to the Stanford IRB, Stanford University, Stanford, CA 94305-5401.

Please print this page if you want to have an extra copy of this consent form for your documentation.

By clicking "Next" you indicate that you have read the consent form and agreed to it. The questionnaire will start immediately.

[INSERT BUTTON: "CONTINUE"]

[THE QUESTIONS ON THE FOLLOWING 4 SCREENS (Q'S 1 – 4) SHOULD BE RANDOMIZED AS FOLLOWS:
ONE QUARTER OF THE SAMPLE DO NOT SEE THESE QUESTIONS;
ONE QUARTER OF THE SAMPLE SEES ALL OF THESE QUESTIONS;
ONE QUARTER OF THE SAMPLE SEES Q1 ONLY;
ONE QUARTER OF THE SAMPLE SEES Q'S 2 – 4 ONLY.]
CREATE DATA VARIABLE:
SAMPLE
1 = DO NOT SEE Q1-4
2 = SEES ALL Q1-4
3 = SEES Q1 ONLY
4 = SEES Q2-4 ONLY

[SP]
[SAMPLE = 2 OR 3]
Q1. How much of the time do you think you can trust the federal government in Washington to do what is best for the country?

Always	1
Most of the time	2
About half the time	3
Once in a while	4
Never	5

[SP]
[SAMPLE = 2 OR 4]
Q2. Thinking about the economy in the country as a whole, would you say that over the past year, the nation's economy has gotten better, stayed about the same, or gotten worse?

Gotten better	1
Stayed about the same	2
Gotten worse	3

[SP]
[Q2=1 AND SAMPLE = 2 OR 4]
Q3. Much better or somewhat better?

Much better	1
Somewhat better	2

[SP]
[Q2=3 AND SAMPLE = 2 OR 4]
Q4. Much worse or somewhat worse?

Much worse	1
Somewhat worse	2

[SP]
Q5. You may have heard about the idea that the world's temperature may have been going up slowly over the past 100 years. What is your personal opinion on this – do you think this has probably been happening, or do you think it probably hasn't been happening?

Has been happening 1
Hasn't been happening.......................................2

[SP]
[Q5=1]
Q6. How sure are you that the world's temperature has been going up – extremely sure, very sure, somewhat sure, slightly sure, or not sure at all?

Extremely sure...1
Very sure 2
Somewhat sure...3
Slightly sure 4
Not sure at all 5

[SP]
[Q5=2]
Q7. How sure are you that the world's temperature hasn't been going up – extremely sure, very sure, somewhat sure, slightly sure, or not sure at all?

Extremely sure...1
Very sure 2
Somewhat sure...3
Slightly sure 4
Not sure at all 5

[SP]
Q8. If nothing is done to reduce global warming in the future, how serious of a problem do you think it will be for the world – extremely serious, very serious, somewhat serious, slightly serious, or not serious at all?

Extremely serious 1
Very serious...2
Somewhat serious 3
Slightly serious 4
Not serious at all...5

[DISPLAY]
In recent decades, people have been putting large amounts of "greenhouse gases" such as carbon dioxide into the air, mostly by burning gasoline, coal, and natural gas.

Most scientists who study the Earth's climate believe that these greenhouse gases trap heat from the Sun on Earth.

So these scientists believe that by adding carbon dioxide to the air in recent years, people have been making the Earth warmer.

These scientists also say that the Earth will continue to get warmer in the future.

If the Earth keeps getting warmer, this could hurt people and nature: scientists say, for example, that there are likely to be more droughts, flooding of coastal areas where people live, more severe storms, and many plants and animals will become extinct.

The scientists who study the Earth's climate say that the warming and its effects can be reduced if people put less carbon dioxide into the air in the future.

[DISPLAY]
For this reason, some people in the U.S. federal government are thinking about ways to reduce the amount of carbon dioxide that Americans put into the air.

In this survey, we would like to ask for your opinion about six possible ways to do this.

You might think they are all good ideas. You might think they are all bad ideas. Or you might think some are good and others are bad.

We want to know what you think, so that we can inform policy-makers in Washington about which, if any, of these policies the American public would favor and which they would oppose.

[THE STATEMENTS ON THE FOLLOWING TWO SCREENS SHOULD BE RANDOMIZED AS FOLLOWS: RANDOMLY ASSIGN EACH RESPONDENT TO ONE OF TWELVE GROUPS.
ON THE FOLLOWING TWO SCREENS, PRESENT THE TEXT BLOCKS G1, G2, G3, E1, E2, AND E3 IN THE ORDER FOR EACH RESPECTIVE GROUP AS LISTED BELOW.

EACH SCREEN SHOULD DISPLAY THREE STATEMENTS.
CREATE DATA VARIABLE:
GROUP:
1)   G1, G2, G3;   E1, E2, E3
2)   G1, G3, G2;   E1, E3, E2
3)   G2, G1, G3;   E2, E1, E3
4)   G2, G3, G1;   E2, E3, E1
5)   G3, G1, G2;   E3, E1, E2
6)   G3, G2, G1;   E3, E2, E1
7)   E1, E2, E3;   G1, G2, G3
8)   E1, E3, E2;   G1, G3, G2
9)   E2, E1, E3;   G2, G1, G3
10)   E2, E3, E1;   G2, G3, G1
11)   E3, E1, E2;   G3, G1, G2
12)   E3, E2, E1;   G3, G2, G1

THIS ORDER ALSO DETERMINES THE ORDER OF PRESENTATION OF STATEMENTS IN QUESTIONS 9, 12, 15, 19, 21, AND 24.]

[DISPLAY]
Before we tell you about each idea in detail, here is a quick list of them:
[G1:]

1) Require oil companies to change the way they make fuel for cars and trucks. This will reduce the amount of greenhouse gases put out by vehicles, increase the price of fuel, and cause people to use less of it.
[G2:]
2) Require oil companies to pay a tax on the greenhouse gases that come from the fuel they sell. This will increase fuel prices and cause people to use less fuel. It will also cause oil companies to change the way they make fuel for cars and trucks so that the fuel puts out less greenhouse gases than gasoline.
[G3:]
3) Require oil companies to limit the amount of greenhouse gases that come from the fuel they sell. This will increase fuel prices and cause people to use less fuel. It will also cause oil companies to change the way they make fuel for cars and trucks so that the fuel puts out less greenhouse gases than gasoline.

[DISPLAY]
[E1:]
4) Require companies that sell electricity to make more electricity in ways that do not produce greenhouse gases. This will reduce the amount of greenhouse gases put out making electricity, increase the price of electricity, and cause people to use less of it.
[E2:]
5) Require companies that put out greenhouse gases when making electricity to pay a tax on the greenhouse gases. This will increase the price of electricity and cause people to use less of it. It will also cause power companies to make more electricity in ways that don't put out greenhouse gases.
[E3:]
6) Require companies that sell electricity to limit the amount of greenhouse gases they put out. This will increase the price of electricity and will cause people to use less of it. It will also cause power companies to make more electricity in ways that don't put out greenhouse gases.

[DISPLAY]
Next, we will describe each of these ideas in more detail and ask for your opinions about each one.

[TEXT IN THE QUESTIONS THAT FOLLOW SHOULD BE FILLED BASED ON THE PREVIOUSLY ASSIGNED GROUP, AS SHOWN IN THE TABLE. THE SCREENS THAT FOLLOW SHOW THE FILLS FOR GROUP 1. THE FILL TEXT IS LABELED.]

GROUP #	ORDER OF PRESENTATION OF STATEMENTS IN RELEVANT QUESTION:					
	Q9.	Q12.	Q15.	Q18.	Q21.	Q24.
1	G1	G2	G3	E1	E2	E3
2	G1	G3	G2	E1	E3	E2
3	G2	G1	G3	E2	E1	E3
4	G2	G3	G1	E2	E3	E1
5	G3	G1	G2	E3	E1	E2
6	G3	G2	G1	E3	E2	E1
7	E1	E2	E3	G1	G2	G3
8	E1	E3	E2	G1	G3	G2
9	E2	E1	E3	G2	G1	G3
10	E2	E3	E1	G2	G3	G1
11	E3	E1	E2	G3	G1	G2
12	E3	E2	E1	G3	G2	G1

[ALSO, INDEPENDENT OF THE 12 GROUPS ABOVE, RANDOMLY ASSIGN EACH CASE TO ONE OF THREE FILL CONDITIONS FOR QUESTIONS G1, G2, AND G3. ONE CONDITION DISPLAYS 10 CENTS AND $4 FOR ALL THREE QUESTIONS (G1, G2, G3), ONE DISPLAYS 30 CENTS AND $7, AND ONE DISPLAYS 80 CENTS AND $15.]
DATA VARIABLES:
GFILL1 AND GFILL2

[ALSO, INDEPENDENT OF THE 12 GROUPS ABOVE AND THE FILLS FOR QUESTIONS G1-G3, RANDOMLY ASSIGN EACH CASE TO ONE OF THREE FILL CONDITIONS FOR QUESTIONS E1, E2, AND E3. ONE CONDITION DISPLAYS $87 AND $2 FOR ALL THREE QUESTIONS (E1, E2, E3), ONE CONDITION DISPLAYS $95 AND $10, AND ONE CONDITION DISPLAYS $155 AND $70.]
DATA VARIABLES:
EFILL1 AND EFILL2

We noticed that you did not answer the question below. We would be very grateful if you would be willing to provide your best answer, even if you're not completely sure. But if you'd prefer to skip this question, you can click "Next."

Q9. About 20% of greenhouse gases put out by the United States come from cars, pickup trucks, and SUVs.

One way to reduce the greenhouse gases that come from cars and trucks is this:

[BEGINNING OF G1 TEXT]
The government could require each oil company to change the way they make fuel.

By 2020, 30% of the fuel each company sells would have to be a type that produces less greenhouse gases than gasoline. Oil companies can do this by mixing gasoline with ethanol, which is a kind of alcohol usually made from plants.

This requirement would cause fuel prices to go up, because oil companies would pass on to their customers the cost of the ethanol, and the cost of setting up their factories to mix the new fuel.

The increased price of fuel would also cause people to drive less and/or to buy cars that use less fuel.

Compared to current gasoline prices the price of fuel will go up about **[GFILL1]** cents per gallon each year until it reaches about **[GFILL2]** per gallon in 2020.

This will reduce the amount of greenhouse gases put out by the U.S. in 2020 by 5%.
[END OF G1]

If an election were being held today, would you vote in favor of this policy or would you vote against it?

For	1
Against	2

[SP]
[Q9=1]
Q10. Do you favor that policy extremely strongly, moderately strongly, or only slightly?

Extremely strongly	1
Moderately strongly	2
Slightly	3

[SP]
[Q9=2]
Q11. Are you against that policy extremely strongly, moderately strongly, or only slightly?

Extremely strongly	1
Moderately strongly	2
Slightly	3

[SP]
[PROMPT IF SKIPPED]
Q12. A second way to reduce the greenhouse gases that come from cars and trucks is this:

The government could require oil companies to pay a new tax for every ton of greenhouse gases that comes from the fuel they sell.

The more greenhouse gases are put out when burning the fuel, the higher the tax would be. For example, gasoline puts out more greenhouse gases when burned than a new fuel made by mixing gasoline with ethanol, a kind of alcohol usually made from plants. The tax paid by oil companies would be higher on gasoline than it would on this new fuel.

This tax would cause oil companies to mix more ethanol with gasoline so they could reduce the taxes they would have to pay.

The tax would cause fuel prices to go up, because the oil companies would pass on to their customers the cost of the tax, ethanol, and setting up their factories to mix the new fuel.

The increased price of fuel would also cause people to drive less and/or to buy cars that use less fuel.

Compared to current gasoline prices the price of fuel will go up about **[GFILL1]** cents per gallon each year until it reaches about **[GFILL2]** per gallon in 2020.

This will reduce the amount of greenhouse gases put out by the U.S. in 2020 by 5%.
[END OF G2]

If an election were being held today, would you vote in favor of this policy or would you vote against it?

For	1
Against	2

[SP]
[Q12=1]
Q13. Do you favor that policy extremely strongly, moderately strongly, or only slightly?

Extremely strongly	1
Moderately strongly	2
Slightly	3

[SP]
[Q12=2]
Q14. Are you against that policy extremely strongly, moderately strongly, or only slightly?

Extremely strongly	1
Moderately strongly	2
Slightly	3

Q15. A third way to reduce the greenhouse gases that come from cars and trucks is this:

[BEGINNING OF G3 TEXT]
The government can limit the amount of greenhouse gases put out by cars and trucks each year.

To make this happen, the government can give permits to each oil company, allowing them to make fuel that will put out up to a specific amount of greenhouse gases.

Companies could choose to mix gasoline with ethanol, a kind of alcohol usually made from plants. This new fuel would put out less greenhouse gases and therefore require fewer permits than regular gasoline. Companies could also choose to sell less fuel than their permits allow. The companies could then sell their extra permits to other companies that want to sell more fuel.

Companies that sell less fuel than their permits allow can make money selling their permits. And companies that sell more fuel have to buy more permits, which would increase their costs.

The limit would cause the price of fuel to go up, because oil companies will pass on to their customers the cost of permits, ethanol, and setting up their factories to mix the new fuel.

The increased price of fuel would also cause people to drive less and/or to buy cars that use less fuel.

Compared to current gasoline prices the price of fuel will go up about **[GFILL1]** cents per gallon each year until it reaches about **[GFILL2]** per gallon in 2020.

This will reduce the amount of greenhouse gases put out by the U.S in 2020 by 5%.
 [END OF G3]

If an election were being held today, would you vote in favor of this policy, or would you vote against it?

For 1
Against.. 2

Q16. Do you favor that policy extremely strongly, moderately strongly, or only slightly?

Extremely strongly 1
Moderately strongly 2
Slightly 3

Q17. Are you against that policy extremely strongly, moderately strongly, or only slightly?

Extremely strongly 1
Moderately strongly 2
Slightly 3

Q18. About 35% of greenhouse gases put out by the United States come from burning coal and natural gas to make electricity.

One way to reduce the greenhouse gases that come from making electricity is this:
[BEGINNING OF E1 TEXT]
The government could require power companies to build new plants that would make electricity in ways that don't put out greenhouse gases, such as from sunlight, wind, nuclear power, water flowing over dams, or heat deep under the surface of the Earth.

The amount of electricity made in the U.S. in these ways would be required to increase by 35% by 2020.

This requirement would cause the price of electricity to go up, because the power companies would pass on the cost of building new plants to their customers.

The increased price of electricity would also cause people to use less electricity and/or to buy appliances that use less electricity.

A typical household electricity bill will rise gradually from $85 per month now until it reaches **[EFILL1]** per month in 2020. So the typical household will pay **[EFILL2]** more per month for electricity in 2020.

This will reduce the amount of greenhouse gases put out by the U.S. in 2020 by 5%.
[END OF E1]

If an election were being held today, would you vote in favor of this policy or would you vote against it?

For 1
Against 2

Q19. Do you favor that policy extremely strongly, moderately strongly, or only slightly?

Extremely strongly 1
Moderately strongly 2
Slightly 3

Q20. Are you against that policy extremely strongly, moderately strongly, or only slightly?

Extremely strongly 1
Moderately strongly 2
Slightly 3

Q21. A second way to reduce the greenhouse gases that come from making electricity is this:

[BEGINNING OF E2 TEXT]
The government could require power companies to pay a new tax for every ton of greenhouse gases they put out when making electricity.

The more greenhouse gases they put out, the higher the tax would be.

This tax would cause power companies to find ways to reduce the amount of greenhouse gases by building new plants that make electricity without putting out greenhouse gases.

The tax would cause the price of electricity to go up, because the power companies would pass on the cost of the tax and building new plants to their customers.

The increased price of electricity would also cause people to use less electricity and/or to buy appliances that use less electricity.

A typical household electricity bill will rise gradually from $85 per month now until it reaches **[EFILL1]** per month in 2020. So the typical household will pay **[EFILL2]** more per month for electricity in 2020.

This will reduce the amount of greenhouse gases put out by the U.S. in 2020 by 5%.
[END OF E2]

If an election were being held today, would you vote in favor of this policy or would you vote against it?

> For 1
> Against...2

Q22. Do you favor that policy extremely strongly, moderately strongly, or only slightly?

> Extremely strongly 1
> Moderately strongly 2
> Slightly 3

Q23. Are you against that policy extremely strongly, moderately strongly, or only slightly?

> Extremely strongly 1
> Moderately strongly 2
> Slightly 3

Q24. A third way to reduce the greenhouse gases that come from making electricity is this:
[BEGINNING OF E3 TEXT]
The government can limit the amount of greenhouse gases that power companies can put out while making electricity each year.

To make this happen, the government can give permits to each power company, allowing them to put out up to a specific amount of greenhouse gases.

Companies could choose to put out less greenhouse gases than their permits allow by making less electricity, or by building new plants that make electricity without putting out greenhouse gases. The companies could then sell their extra permits to other companies that want to put out more greenhouse gases.

Companies that put out less greenhouse gases can make money selling their permits. And companies that put out more greenhouse gases have to buy more permits, which would increase their costs.

The limit would cause the price of electricity to go up, because power companies will pass on the cost of permits and building new plants to their customers.

The increased price of electricity would also cause people to use less electricity and/or to buy appliances that use less electricity.

A typical household electricity bill will rise gradually from $85 per month now until it reaches **[EFILL1]** per month in 2020. So the typical household will pay **[EFILL2]** more per month for electricity in 2020.

This will reduce the amount of greenhouse gases put out by the U.S. in 2020 by 5%.
 [END OF E3]

If an election were being held today, would you vote in favor of this policy, or would you vote against it?

For 1
Against.. 2

Q25. Do you favor that policy extremely strongly, moderately strongly, or only slightly?

Extremely strongly 1
Moderately strongly 2
Slightly 3

Q26. Are you against that policy extremely strongly, moderately strongly, or only slightly?

Extremely strongly 1
Moderately strongly 2
Slightly 3

VOTE FOR/AGAINST COLUMN DROP DOWN LIST:

Keep Current Vote
For
Against

FAVOR/AGAINST STRENGTH COLUMN DROP DOWN LIST:

Keep Current Vote
Extremely strongly
Moderately strongly
Slightly

Q27. Below are your votes on the ideas you just read about. Now that you've thought about all of them, would you like to change your vote on any of them?

To keep your vote on each idea the same, just click Next at the bottom of the page. To change any of your votes, click on your response below and then select your new answer from the list that appears. You can change your vote and strength separately.

Select answers from each row on the grid.

Summary of suggested policies	Vote for/against	Favor/against strength
[summary of g1]	[Q9. Response given] [Drop down list here]	[Q10 / Q11. Response given] [Drop down list here]
[summary of g2]	[Q12. Response given] [Drop down list here]	[Q13 / Q14. Response given] [Drop down list here]
[summary of g3]	[Q15. Response given] [Drop down list here]	[Q16 / Q17. Response given] [Drop down list here]
[summary of e1]	[Q18. Response given]] [Drop down list here]	[Q19 / Q20. Response given] [Drop down list here]
[summary of e2]	[Q21. Response given] [Drop down list here]	[Q22 / Q23. Response given] [Drop down list here]
[summary of e3]	[Q24. Response given] [Drop down list here]	[Q25 / Q26. Response given] [Drop down list here]

Q28A. Below are the six ideas one more time. If one of the plans had to be carried out, which one would you most like it to be?

[summary of g1]...1
[summary of g2]...2
[summary of g3]...3
[summary of e1]...4
[summary of e2]...5
[summary of e3]...6

[SP - RANKING]
[Q28A NOT SKIPPED]
[REMOVE RESPONSE IN Q28A]
Q28B. And if one of the remaining plans had to be carried out, which one would you most like it to be?

[REPEAT FOR Q28C,D,E,F (DO NOT DISPLAY F TO RESPONDENT - RECORD IN DATA VARIABLE]

[NUMBER – RANGE 0-1000]
USE FOLLOWING PROMPT IF OUT OF RANGE:
Please answer between 0 and 1,000 per month.
Q29. During the last month, what is the total amount of money your household spent on gasoline and diesel fuel?
(If none, enter 0. If only gasoline, enter the amount spent on gasoline. If only diesel, enter the amount spent on diesel.)

$ _____

[SP]
Q30. Does your household pay an electricity bill, or not?

Yes, pay an electricity bill 1
No 2

[NUMBER – RANGE 0-10,000]
[Q30=1]
USE FOLLOWING PROMPT IF OUT OF RANGE:
Please answer between 0 and 10,000 per year.

Q31. About how much money would you say your household paid for electricity during the last **12** months?

$ _____