The Energy Learning Curve™

Coming from different starting points, the public sees similar solutions

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Coming from different starting points, the public sees similar solutions

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± Introduction

Perhaps no challenge facing the United States today is more dependent on personal conduct and public support than energy. The simple act of pulling out of the driveway every morning has policy implications. Yet perhaps on no other issue is there so much work yet to be done.

In Public Agenda's Energy Learning Curve™ report, conducted in association with *Planet Forward*, we attempt to examine the public's attitudes, values and concerns about the tangle of policy challenges, business choices and personal habits that come under the catch-all heading of "energy." The blandness of the word "energy" hardly does justice to the challenge. Energy policy represents a "triple threat" of challenges, each daunting in its own right:

Economics

While the oil price spike of 2008 faded in the global financial crisis of 2009, most analysts say prices will keep going up over the long run. World energy demand is projected to jump nearly 45 percent over the next 20 years, as countries like China and India require more fuel for their booming economies. The United States will face increasing competition for this vital resource.[1]

Oil Dependence

The United States imports about 60 percent of the oil it needs. While most of this comes from close allies like Canada and Mexico, significant amounts come from more problematic nations. Many experts worry this leaves us vulnerable to supply disruptions and yoked to unstable or even hostile regimes.[2]

Climate Change

Groups like the Intergovernmental Panel on Climate Change warn that it is no longer a question of whether world temperatures increase as a result of global warming; it's a matter of how much. Changing how we use fossil fuels is fundamental to controlling greenhouse gas emissions.[3]

[1] International Energy Agency, "World Energy Outlook 2008," Nov. 12, 2008, *http://www.worldenergyoutlook.org/docs/weo2008/WEO2008_es_english.pdf.*

[2] U.S. Energy Information Administration, "Energy in Brief: How Dependent Are We on Foreign Oil?" Aug. 22, 2008, *http://tonto.eia.doe.gov/energy_in_brief/foreign_oil_dependence.cfm*

[3] Intergovernmental Panel on Climate Change, "Climate Change 2007: Summary for Policymakers," November 2007, *http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf*

± Introduction (Cont.)

Part of the challenge is the fact that they are all interconnected. While it may be possible to ease dependence on imported oil by increasing domestic drilling and utilizing more coal mined in the United States, that may exacerbate the problem of climate change. And while crafting policy to limit carbon emissions may help control climate change, it may adversely affect the economy.

There are some problems, even public policy decisions, that can safely be left to the professionals — experts who spend their lives examining a problem. Energy isn't one of them. It's too interwoven into our daily lives. Not only does it touch almost every part of our lives and economy, but the decisions we make now have implications for years to come. Unless policymakers can build public support for long-term change, it probably isn't going to happen.

Yet if we have to start making decisions now, as experts say we should, that just magnifies the problem. The public usually needs time to get up to speed and make up its mind about a problem. Generally speaking, the public passes through a "learning curve" of several stages, from initial consciousness of what the problem is, to "working through" the tradeoffs in different options and then, to "resolution" about solutions. Sometimes that happens quickly; sometimes it can take years or decades. The more complicated the problem, the longer it takes the public to reach resolution. And, as we've just noted, the energy problem is particularly complex.

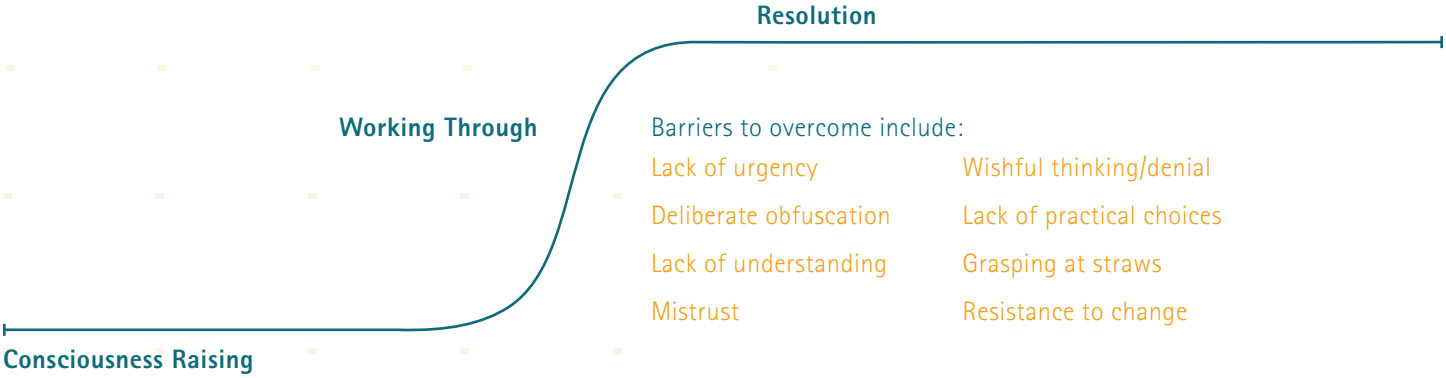
But given what's at stake, it's essential that progress up this learning curve accelerate as quickly as possible.

This is a unique challenge to policymakers: the combination of a fast-moving, complex problem and a comparatively slow-moving public trying to come to grips with solutions.

To help cope with this, we're offering our Energy Learning Curve™, a new way of interpreting opinion data to establish how best to move public opinion forward. Based on the Learning Curve model developed by Public Agenda chairman and social scientist Daniel Yankelovich, the goal is to give policymakers new tools to identify where the public stands in terms of grappling with a problem. We try to identify both the common ground and the major barriers to building public involvement and moving the public up the learning curve to resolution.

The Energy Learning Curve™

A new way of interpreting opinion data to establish how best to move public opinion forward on public policy issues. Public opinion moves through several stages when grappling with a complex problem.



See Yankelovich, "The New Pragmatism," 2009, *http://www.publicagenda.org/files/NewPrag7.pdf.*

± Introduction (Cont.)

Our goal with the Energy Learning Curve™ is to track this progression over time. We will measure the public's evolving views on specific proposals, of course. We will also try to determine how the public is progressing along the learning curve, and how well Americans are coping with the choices and tradeoffs inherent in this challenge.

There's a real chance to build consensus

The good news for leaders is that there is significant consensus on solutions that are worth pursuing and also clear direction on strategies that just won't fly, at least not now. And this consensus stems from segments of the population that come from different starting points on the issue, who emphasize different aspects of the "triple threat."

Strong majorities of the public support developing alternative energy and say they're willing to pay more to do so. They strongly believe in the economic potential of "green jobs." Also, there's backing for the use of financial incentives to encourage conservation and efficiency. Many are willing to change their behavior to use energy more wisely.

Significant barriers must be overcome

Based on our research, however, there are also several significant barriers to change. First, the public doesn't want to be pushed. Proposals to force people to change their driving habits with gas taxes, congestion pricing or setting a mandatory floor under fuel prices are all firmly rejected by large majorities.

Perhaps an even larger obstacle is that the public generally doesn't understand the "triple threat" nature of the problem. They tend to grab onto one or two aspects, such as price or climate change, and deemphasize the rest. But a sound energy policy requires addressing all three parts, and undoubtedly making tradeoffs between them. Right now, relatively few members of the public are ready for that. Indeed, leaders who focus on one aspect of the threat may inadvertently push away potential supporters, instead of building real coalitions.

Another major obstacle to advancing public involvement is the knowledge gap between experts and the public on this issue.

This isn't uncommon. On many issues, the professionals frame the problem and the solutions in ways that simply don't resonate with the public. After all, an expert by definition spends his or her life thinking about a problem; only the most committed citizens can say the same.

On energy, however, this problem is particularly acute. In many cases, the public lacks some basic information needed to assess how serious the problems are, and how realistic the solutions. Nearly 4 in 10 can't name a fossil fuel, and even more can't correctly name a renewable energy source. Even in areas where majorities of the public know the basic facts, there are disturbingly high levels of "don't know" responses.

We emphatically reject the idea that citizens have to become experts in order to play a full role in making decisions. You may need to be an expert to craft policy, but you don't need to be an expert in order to weigh competing values or to set priorities. But this knowledge gap reinforces the simple and natural tendency for experts and the public to talk past each other. Without at least a few key facts — such as how much oil the United States really has, what energy sources actually cause global warming and how long it takes to implement alternative energy plans — the public can't make sound judgments on what should be done.

The public, of course, is not one solid mass, all at the same point at the same time. Different people grapple with issues at different paces. In this analysis, we identify four groups with distinct starting points, values and frameworks for examining this issue. While none of them truly see the issue as whole, all have distinct approaches to the problem — and there's a surprising amount of common ground between them, which leaders can use to build coalitions and advance constructive policy.

± Introduction (Cont.)

While the challenges are significant and the hurdles extensive, there's nothing in our research to suggest that they're insurmountable. The American public has grappled with other complex challenges. Given committed leadership and the right conditions, the public can come to firm, sound conclusions. Energy is the next big challenge, and given the right circumstances, can be the next success.

This report is based on interviews with a national random sample of 1,001 adults over the age of 18 conducted between January 15 and January 30, 2009. Over 90 survey questions were included, covering each facet of the "triple threat." The margin of error for the overall sample is plus or minus four percentage points. Full survey results can be found at the end of this report or at *www.publicagenda.org/reports/energy* and *www.planetforward.org/energy-index*.

About Planet Forward

Planet Forward is an innovative, viewer-driven program that debuts on the web first and then moves to television, in a primetime PBS special on April 15 (check local listings for exact show times) and then moves back to the web. Hosted by Emmy Award-winning CNN veteran Frank Sesno, *Planet Forward* is driven by the power of ideas, as citizens make their case for what they think about the nation's energy future.

The first *Planet Forward* program will explore the feasibility of moving rapidly away from fossil fuels. Dispensing with the old top-down model of public affairs programming, in which experts expound to voiceless viewers, *Planet Forward's* emphasis is bottom-up, with citizens leading and driving the conversation.

Planet Forward is a co-production of the **Public Affairs Project at The George Washington University** and **Nebraska Educational Telecommunications** in collaboration with **Public Agenda** and **Sunburst Creative Productions.**

± Finding 1: Right now, a majority of the public sees the price of energy and dependence on foreign oil as troubling problems. Significantly, they also believe the problem won't go away when the price of energy falls. Climate change, however, is less of a concern.

Almost everyone in the energy field assumes that public concern rises and falls with gas prices, and there is strong historical evidence for that. The Energy Learning Curve™ survey suggests, however, that this pattern could change.

Even though energy prices have fallen since the oil price spike of 2008, public concern over cost remains both strong and intense. An overwhelming 9 in 10 Americans (89 percent) say they worry about the cost of gas and fuel. Even more important is the intensity of that concern, with 57 percent saying they worry "a lot." Eight in ten (83 percent) worry that the U.S. economy is too dependent on oil, with 47 percent saying they worry "a lot."

Nearly three quarters of the public (73 percent) disagrees with the statement that "if we get gas prices to drop and stay low, we don't need to be worried about finding alternative sources of energy." Fully 53 percent of the public strongly disagrees with that statement, showing this is a firmly held belief.

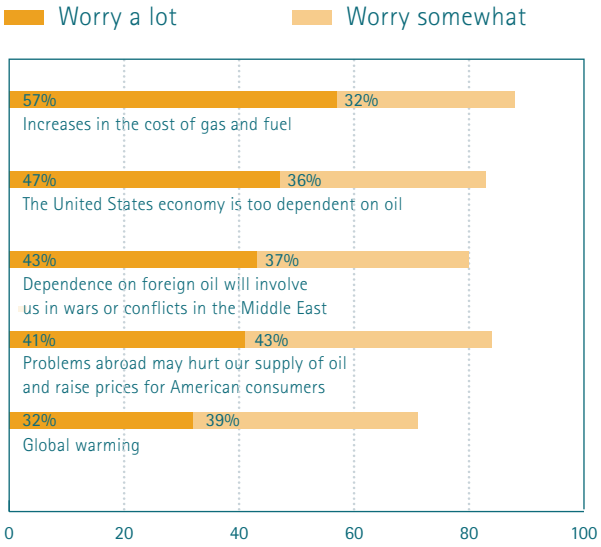
This may be because the public believes there's a long-term trend at work here. Seven in ten say that "over the long run, the price of oil will go up" because "supplies are decreasing and demand continues to rise." Despite the high number, the public still has some contradictory views on this trend. Nearly as many (68 percent) also blame "speculators who drive up the price of oil" for cost increases.

Concern about dependence on foreign oil isn't as high as concern about price, but it's not far behind. Eight in ten (80 percent) say they worry dependence on foreign oil will involve us in wars and conflicts in the Middle East, with 43 percent worrying "a lot."

Climate change, however, is significantly less of a concern. Seven in ten (71 percent) say they worry about global warming, but only 32 percent say they worry "a lot" about it — that's 25 points behind price. The issue of global warming simply doesn't have the same urgency yet for the public, possibly because it's further off, but the high price of gas remains fresh in their minds.

Americans worry most about the price of gas and dependence on foreign oil. Significantly fewer worry about global warming†

Percent who say they worry about:

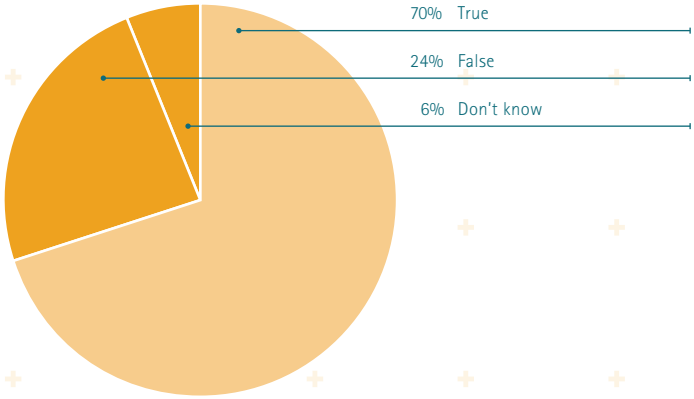


(†) Question wording may be slightly edited for space and clarity.
Percentages may not equal 100 percent due to rounding or the omission of some answer categories.

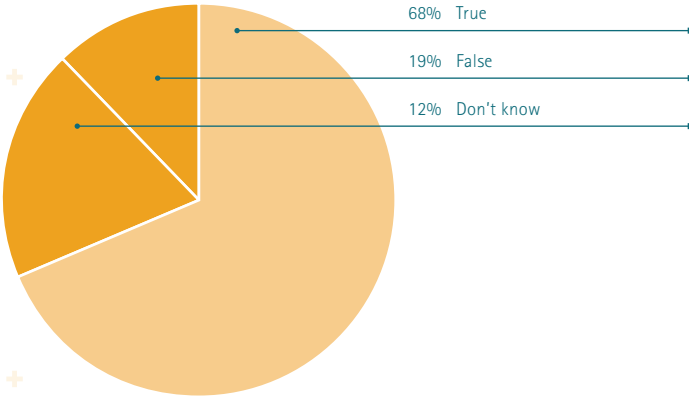
± Finding 1 (Cont.)

While majorities say that diminishing supplies are what drive gas prices up, just as many say that speculators are to blame for high gas prices

True or False: Over the long run, the price of oil will go up because supplies are diminishing and demand is increasing



True or False: The main cause for increases in gas prices is speculators who drive up the price of oil



± Finding 2: There is substantial consensus on the proposals that the nation should pursue, particularly alternative energy, conservation and incentives to become more efficient. These seem promising to the public, but they may not have realistic assumptions about how quickly and easily these alternatives can be achieved.

Majorities of the public see alternative energy as a good solution for our energy problems and possibly for our economic problems as well. They're willing to try it, and they say they're willing to pay for it as well.

In the context of the global financial crisis, nearly every issue is arguably an economic one. In fact, the public frames this as a matter of economics even more than environmentalism. For example, more than three-quarters (77 percent) say that investing in alternative energy is a better way to move the economy forward than drilling for fossil fuels. Some 86 percent agree that investing in alternative energy will create many new jobs (45 percent believe this strongly).

Many say they're willing to pay for alternative energy as well: 6 in 10 say they would pay more for electricity generated by renewable sources and half are willing to pay higher taxes to fund development of alternative energy sources. And while there's an overall reluctance to support proposals that directly raise driving costs, 77 percent agree that electric companies should be required to use more alternative sources of energy even if that increases the cost in the short run.

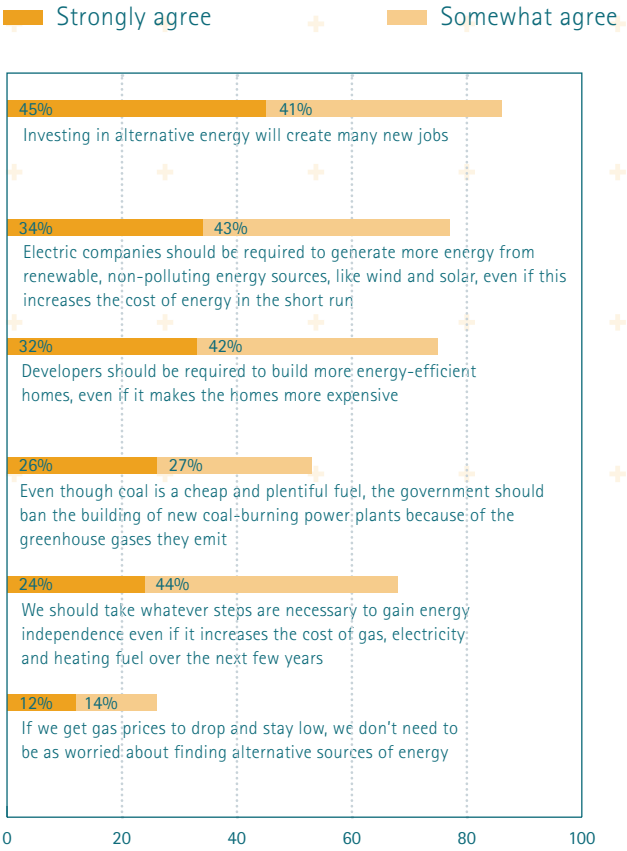
There are a number of other proposals that command substantial support in the survey:

- Investing in more railways for high-speed shipping (84 percent)
- Tax rebates to individuals who reduce energy consumption (81 percent) and tax rebates to businesses (79 percent)
- Requiring higher gas mileage for cars and trucks (78 percent)
- Setting higher emissions standards for businesses (78 percent)
- Requiring developers to build more energy-efficient homes (74 percent)
- Providing tax credits to people who buy hybrid cars (73 percent)
- Rewarding businesses that reduce carbon emissions and penalizing those that don't (72 percent)
- Spending more tax money on public transportation (71 percent)
- Taking steps to gain energy independence even if it increases the cost of gas, electricity and heating fuel (68 percent)

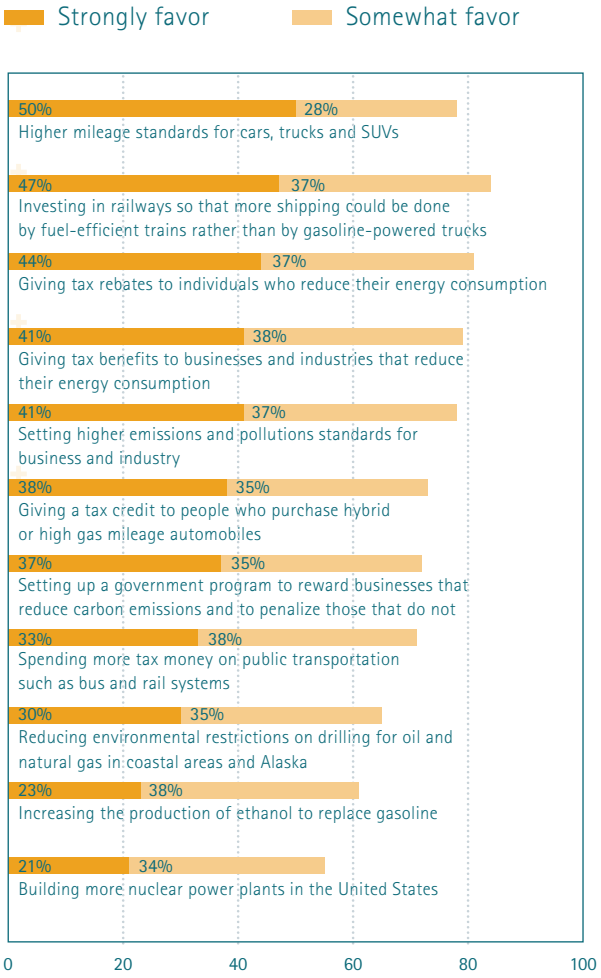
± Finding 2 (Cont.)

Many proposals receive high support, including ones that involve investing in alternative energy sources

Percent who say they agree with the following statements:



Do you favor or oppose the following energy-related proposals:



± Finding 2 (Cont.)

But do they understand what it means?

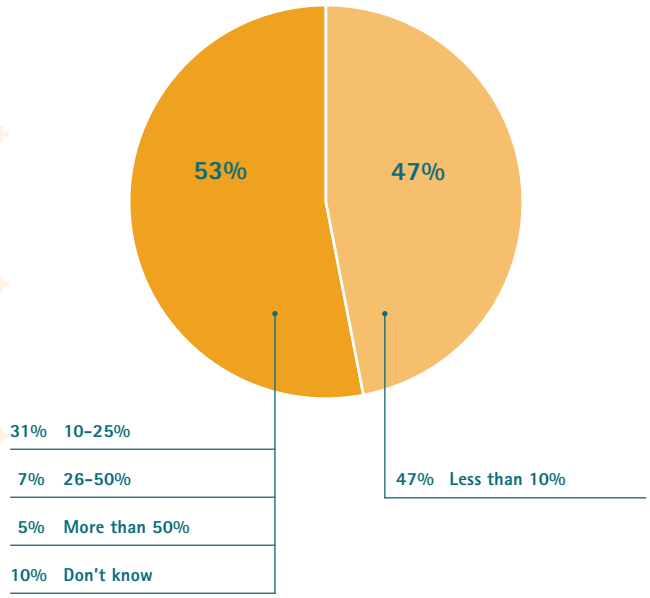
That said, the public may not fully grasp what alternative or renewable energy is, nor what it would take to get it into operation.

Fully half the public (51 percent) cannot accurately name a renewable energy source, with 21 percent giving a wrong answer and 30 percent admitting they don't know. Although most of the public is aware that it will take a while to develop alternative energy to where it will be a major part of our energy mix — 77 percent say it will take more than five years — people significantly overestimate how much renewable energy the United States uses now. Some 53 percent don't know that less than 10 percent of the United States' energy comes from renewable sources. In fact, the U.S. Energy Information Administration says only 7 percent of energy use comes from renewables.[4]

This raises the question of how firm the public's support for alternative energy is, and whether it's based on realistic expectations. If the public becomes frustrated with the pace, the practical difficulties or the cost of alternative energy, support could fall. It will be crucial for leaders and the media to guide expectations. On this front, there's much to be done to move the public up the Energy Learning Curve™.

More than half don't know that less than 10 percent of the United States' energy comes from renewable sources

Percent who say the percentage of the energy that the United States now uses comes from renewable sources is:



[4] U.S. Energy Information Administration, "Energy In Brief: How Much Renewable Energy Do We Use?" *http://tonto.eia.doe.gov/energy_in_brief/renewable_energy.cfm*

± Finding 3: Just as there's widespread support on promising ideas, there also seems to be broad agreement on what's off the table. Anything that increases the cost of driving is soundly rejected by the public. People are willing to change their behavior in many ways, but they don't want to be forced into it.

Many experts and policymakers believe that the only way to really change energy use in the United States is to make driving more expensive. Unless the cost of gas is high, these experts argue, people won't conserve and there will be no incentive to develop alternatives (which are usually more expensive than oil). But right now this is the only strategy that is firmly rejected by the public, no matter how it's garbed.

It's not that the public is unwilling to change how they drive; in fact most Americans say they already have. Two-thirds (66 percent) say they cut back significantly on how much they drove in the previous six months. Majorities say they are willing to cut back on leisure driving (78 percent), accept the return of the 55-miles an hour speed limit on highway driving (64 percent) or carpool to work or school more than half the time (55 percent). Fully one-third say they've looked into getting a hybrid or a more fuel-efficient car.

But they're not ready to have changes imposed upon them. For example, congestion pricing (where drivers are charged a higher toll on certain roads at peak times of day) is opposed by 61 percent of the public, with 41 percent strongly opposed.

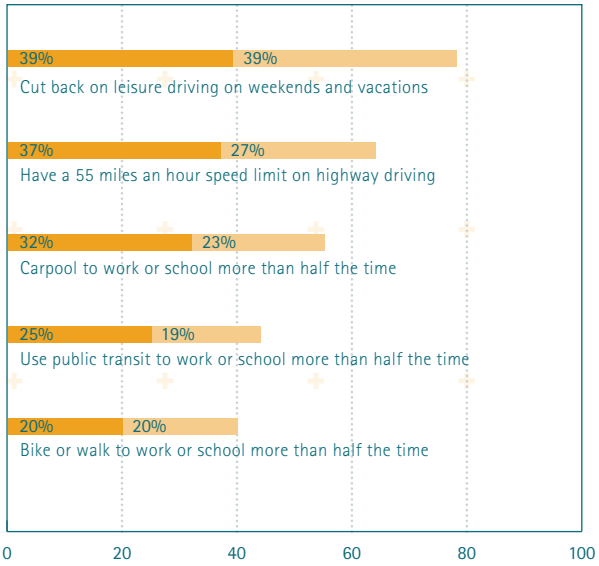
Raising gas taxes, another frequently suggested strategy for reducing energy use, is just as unpopular. A 40 cent per gallon increase is rejected by majorities no matter what the rationale is, whether to improve roads and bridges (61 percent), to help achieve energy independence (57 percent) or to support development of clean, renewable energy (53 percent).

One of the few ideas less popular than a gas tax is the idea of the government setting a "floor" on energy prices, an idea supported by some experts who argue that the government should ensure that alternative energy is competitive with fossil fuels. Fully 71 percent reject the idea of the government passing a law to ensure gas is no cheaper than $4 per gallon to encourage alternative fuels. Nearly 6 in 10 (58 percent) strongly oppose the idea.

± Finding 3 (Cont.)

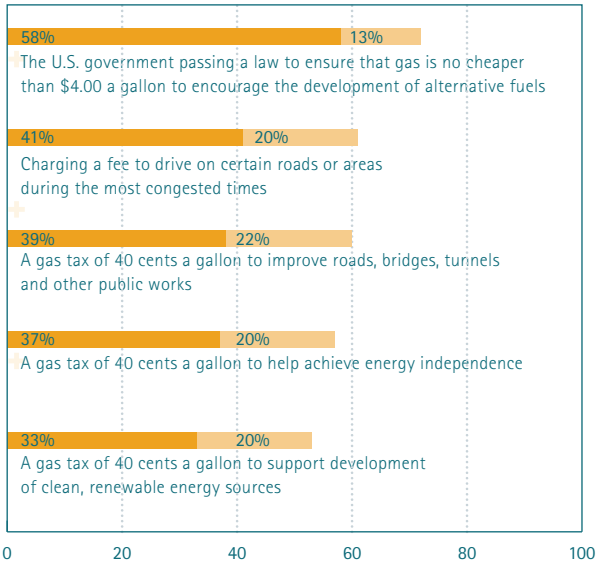
Majorities say they are willing to change their driving habits...

Percent who say they're personally willing to do the following to improve the country's energy situation:



...but they don't want to be forced to do so

Percent who oppose these energy-related proposals:



± Finding 4: The public's knowledge level is low on energy, with significant numbers who do not know some basic facts about how energy is produced. This calls into question how firm the consensus is and how well it will hold up under pressure.

The public does not need to become experts on an issue in order to fully participate in decision making. That's not possible, and it's not necessary either. Americans don't need to be economists in order to set priorities for health care reform or hold a doctorate in education to realize what's needed in their local schools. But the public does need enough information so it can understand the basic elements of the problem and wrestle with the implications of different choices.

On energy, however, the knowledge gap is broad enough to pose a serious barrier to decision making. This cuts across all three parts of the energy "triple threat," but is particularly significant on climate change.

For example, about half (52 percent) say that by reducing smog the United States has gone "a long way" in reducing global warming; another 12 percent were unsure if this was true or false. This is understandable and even logical; after all, if the air seems cleaner then we must be making progress. The fact that emissions controls designed to reduce ozone and remove the sooty "particulates" that cause smog don't also remove the invisible greenhouse gas carbon dioxide might escape even well-informed people. Yet it implies that the public may be measuring this problem by yardsticks that do not even occur to experts.

There are other significant gaps in knowledge. Nearly 4 in 10 Americans (39 percent) cannot name a fossil fuel. Even more can't name a renewable energy source. More than half of the public (56 percent) says incorrectly that nuclear energy contributes to global warming. About one-third of the public (31 percent) says that solar energy contributes to global warming.

Even when a majority of the public knows the facts, there are significant numbers of "don't knows." For example, majorities of Americans know that we do not use the same amount of energy as Europeans, that people in Europe and Japan pay more for gasoline and that their cars get more miles to the gallon. On each question, however, between one-fifth and one-quarter say they don't know how to respond. If anything, people are reluctant to admit they can't answer a survey question, so when many won't even venture a guess, it should be taken as a significant "red flag" to the media and political leaders.

Some of these knowledge gaps also affect questions of dependence on foreign oil and the likelihood of finding more domestic supply. Nearly two-thirds (65 percent)say most of the United States' imported oil comes from the Middle East (10 percent say they don't know). In fact, the percentage of oil imported from the Persian Gulf is closer to 16 percent. Almost all of the respondents say the United States has more than 5 percent of the world's oil; in fact, the figure is more like 2.5 percent.[5]

This knowledge gap impacts the public's divided view on whether drilling offshore and in Alaska would mean we wouldn't need to import oil (44 percent say yes, 43 percent say no). While many energy experts support more domestic drilling, very few think increased production alone would replace the oil imported by the United States, which adds up to 60 percent of total consumption.[6]

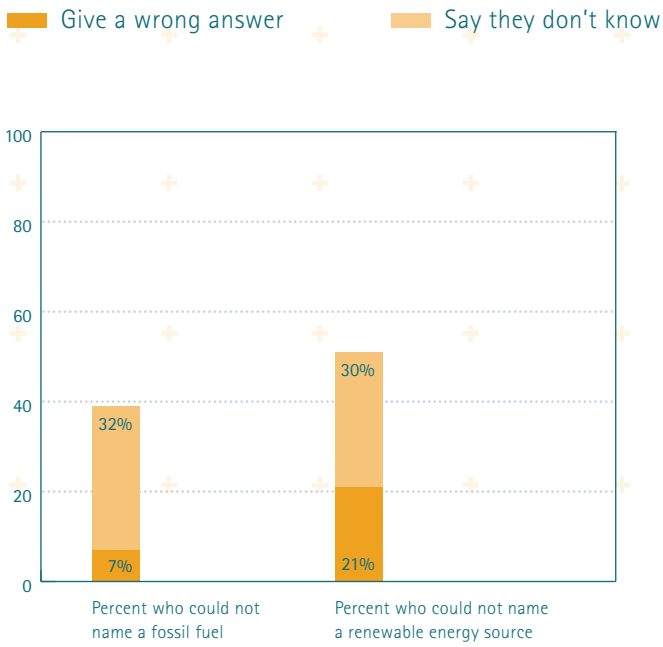
All this suggests that one of the challenges in moving the public along the Energy Learning Curve™ is basic knowledge. Without certain facts, the public can't judge what's realistic and what's not, and that's bound to hamper constructive decision making.

[5] BP Statistical Review of World Energy 2008, *http://www.bp.com/productlanding.do?categoryId=6929&contentId=7044622*

[6] U.S. Energy Information Administration, "Energy in Brief: How Dependent Are We on Foreign Oil?" Aug. 22, 2008, *http://tonto.eia.doe.gov/energy_in_brief/foreign_oil_dependence.cfm*

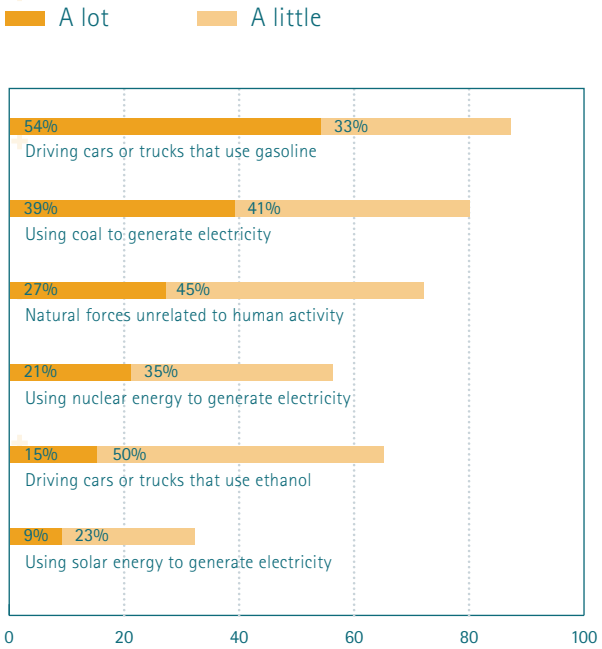
± Finding 4 (Cont.)

Significant numbers of Americans cannot name a fossil fuel; an even greater number cannot name a renewable energy source



Many are unsure what causes global warming and what doesn't

Percent who say the following contributes to global warming a lot or a little:



± Finding 5: Four unique groups emerged during the analysis based on their knowledge and beliefs. Yet there is an opportunity to build consensus on the energy problem.

Obviously, the public is not one homogeneous group, clumped together at the same place at the same time on the learning curve. People come to this issue with different levels of concern and knowledge. Some people have spent more time thinking about these issues than others, while others resist dealing with it at all. When it comes to moving public debate forward, however, it's critical to know what motivates different segments of the public. In particular, it's important to know what the values are that motivate people.

For the Energy Learning Curve™, we conducted a "cluster analysis," examining the data in terms of how people grouped naturally based on knowledge and beliefs. We believe this is even more significant than the traditional separations by education, race or income, although the segments often coalesced along demographic lines.

On energy, we found the public divided into four groups: the Disengaged (19 percent), the Climate Change Doubters (17 percent), the Anxious (40 percent) and the Greens (24 percent)

Each of the four groups has a distinctive set of values, beliefs or concerns that shape how they approach the energy problem. The key point here is that if leaders are trying to build public support for an energy policy, understanding the public's motivations is critical. In addition, what motivates one group might leave another cold or even repel them. The environmental arguments that resonate with the Greens, for example, would turn off the Doubters. But concerns about price and oil dependence resonate with both.

Different prisms, same conclusion

One of the most intriguing findings in the research, in fact, is that so many people come to the same conclusions from different starting points and unique prisms. Both the Anxious and the Greens support alternative energy, but for entirely different reasons. As you'll see below, no one group represents a majority in this analysis. Change requires knitting people with different concerns together, and for that, it's fundamental to understand how people can see a problem through different lenses but still end up at the same place. There's clearly an opportunity to build consensus here, which is critical when working towards solutions to our energy problems.

± Finding 5 (Cont.)

The Disengaged (19 percent of the public)

This group isn't connected to the energy issue at all. They don't know very much about the problem, but then again they're not that worried about it either. Not only do they rate poorly on the knowledge questions in the survey, but they have higher "don't know" responses. In fact, their "don't knows" are usually in the double digits, in some cases reaching as high as over 4 in 10. Twenty-two percent, for example, have no view about the existence or causes of global warming. Even so, majorities in this group express the prevalent views on many items—for instance, nearly two-thirds (65 percent) think that oil prices will go up because of decreasing supply. However, since the number of those answering "don't know" is as high as 19 percent, the firmness of this group's views is suspect. Compared with the other groups, the Disengaged are second only to the Climate Change Doubters in their lack of worry about all aspects of the energy issue.

Majorities of this group tend to favor the same proposals as the rest of the public, although generally with less enthusiasm. They are less willing than other groups to pay higher taxes for the development of alternative energy sources or to consider making sacrifices to reduce the effects of global warming, perhaps because of their low level of knowledge on this subject

The Disengaged

Defining characteristics:

- 19 percent of the public
- Only 14 percent worry "a lot" about global warming
- Only 18 percent worry "a lot" that the U.S. economy is too dependent on foreign oil
- Zero percent of this group knows how much of the world's oil is in the United States
- 40 percent don't know what share of U.S. energy use comes from renewables

Demographics:

- More than one-quarter is over the age of 65
- Mostly women
- Nearly evenly split in party affiliation: 24 percent Republican, 34 percent Democrat and 30 percent Independent/other party
- Mostly lower income

± Finding 5 (Cont.)

Climate Change Doubters (17 percent of the public)

This group is equally or more knowledgeable about some energy issues than the other groups, but they reject the idea of global warming. That makes for a fundamental difference in attitudes and solutions.

Their energy approach favors drilling for oil and building more nuclear power plants. They're dramatically more likely to favor nuclear power, with 50 percent who "strongly favor" building more nuclear plants, more than double any other group. Eight out of ten would choose expanding exploration, mining and drilling over energy conservation and regulation. Nearly two-thirds (63 percent) say drilling offshore and in Alaska would eliminate the need to import oil.

This group is more conservative politically, and that comes through in their views on solutions. When asked to choose between protecting the environment and economic growth, the Doubters choose growth by an overwhelming 80 percent. They oppose any measure that might increase taxes or direct costs to the consumer.

The Doubters are more divided on whether to invest in more oil, coal and gas (48 percent) versus alternatives like solar and wind power (39 percent), but even that sets them apart — all the other groups favor the alternatives by three-quarters or more.

On some knowledge issues they are well- informed, but not others. They are more likely than other groups, except the Greens, to know that people in Japan and Europe pay a different amount for gas than people in the United States and that most of the oil imported to the United States does not come from the Middle East. But they are less likely than all the other groups to recognize that the price of oil will go up because of supply and demand and most likely to believe that 25 percent or more of the world's oil is in the United States.

When it comes to worrying "a lot," the Doubters tend to do so less, and, unsurprisingly, none are very concerned about global warming. With very few exceptions, they are both least likely to have modified their behavior in the direction of conservation and least willing to change their behavior in the future than others. For example, they're the least likely to say they've cut back significantly on their driving (49 percent) or bought a household appliance based on energy ratings (17 percent).

The Climate Change Doubters

Defining characteristics:

- 17 percent of the public
- 90 percent does not worry about global warming at all
- 90 percent believes either that global warming is just a theory, or that global warming is a fact but that it's mostly caused by natural changes; only 2 percent think global warming is caused by human activity
- 79 percent would accept a nuclear plant in their neighborhood
- 89 percent favor reducing restrictions on drilling for oil in Alaska and U.S. waters

Demographics:

- More likely to be male
- More likely to be conservative and Republican
- Greater percentage college educated than the general public

± Finding 5 (Cont.)

The Anxious (40 percent of the public)

This group may not have the highest knowledge levels in our survey, but they know enough to be worried. Almost all of this group worries "a lot" about the cost of energy (91 percent), and worry is a strong characteristic for them across the board. They report higher levels of worry than the other groups on scarcity and on increased worldwide demand for oil. Global warming is a lesser concern, but even here more say they worry "a lot" (54 percent) than even the Greens (31 percent). Overall, this group is less knowledgeable in most areas when compared with the Climate Change Doubters and the Greens, but they are more knowledgeable than the Disengaged.

Perhaps because of their concerns about price, they are more supportive of a range of energy proposals designed to stretch resources and develop alternative fuel sources. They're the most likely group to favor increased ethanol production (75 percent), and they "strongly" favor conservation and energy regulation over exploration and drilling. They're also the most likely group to believe the president can do "a lot" about the price of gas. Even though the price of energy is their number one worry, 54 percent are at least "somewhat" willing to pay more taxes to fund the development of alternative energy sources.

They are the most optimistic that alternative energy can be developed in the near future — 85 percent believe that with heavy investment, alternative energy could be a major part of our energy consumption in 10 years or less.

The Anxious

Defining characteristics:

- 40 percent of the public
- 91 percent worry "a lot" about increases in the cost of gas and fuel
- 74 percent believe oil prices will rise due to scarcity
- 69 percent believe that global warming is a proven fact and due to human activity

Demographics:

- Less likely to be employed
- More likely to be Democrat (but less likely to call themselves liberal)
- Less educated than the general public (21 percent did not complete high school)
- Lower income
- More likely to be under 35

± Finding 5 (Cont.)

The Greens (24 percent of the public)

This group is the most knowledgeable about energy and rarely gives "don't know" answers to survey questions. This is the only group in the survey that said that drilling off-shore in Alaska would not eliminate our need for foreign oil (79 percent, compared with 43 percent overall).

The Greens also worry about all the elements of the energy problem, although their worry is less strong than some of the other groups. For instance, next to the Anxious group, they are the most concerned about the United States' dependence on foreign oil and on global warming. They also engage in many energy-saving behaviors. They favor most energy proposals, except for coastal and Alaskan drilling, and while they're open to nuclear power, their support is much more lukewarm than the Doubters. Seven in ten Greens say they would favor building more nuclear plants, but only 19 percent say they "strongly" favor this idea. By contrast, 87 percent of the Doubters favor nuclear power, and 50 percent "strongly" favor it.

Just over 9 in 10 Greens, more than any other group, say that we still need to find alternative sources of energy even if gas prices stay low, and 77 percent believe this "strongly." They are the most willing (72 percent) to pay higher taxes to fund the development of alternative energy sources.

This group "strongly" favors energy conservation over exploration and believes that sacrifices will be required to solve the energy problem.

The Greens

Defining characteristics:

- 24 percent of the public
- 79 percent say that drilling offshore or in Alaska will not eliminate the need to import foreign oil
- 86 percent are willing to pay more for renewable energy
- 91 percent believe that we need to find alternative sources of energy even if gas prices fall
- 65 percent believe that global warming is a proven fact and due to human activity

Demographics:

- Average distribution by party, but are most likely to be moderate
- Nearly half (48 percent) make $75,000 or more
- More likely to be better educated (one-quarter have post-graduate degrees)

± Afterword:
A Note on the Learning Curve Concept as Applied to Energy

By Daniel Yankelovich

It is hardly surprising that the public lacks important facts about the energy problem. The problem is complicated and the public is far less attentive than experts and activists. But it would be a terrible mistake to assume that if and when the knowledge gap is filled, the public will then be ready to support sound policies. People can absorb factual information much faster than they can overcome wishful thinking and denial or accept far-reaching changes in habits and lifestyles. When people are given a few facts to take into account, it doesn't take any more time to absorb them than it does to impart them (e.g., AIG gave the employees of its Financial Products Division $168 million in bonuses). But it may take months (and even years) to accept the need for painful change. Factual information is a necessary but insufficient condition for accepting change.

That is why we have adopted the concept of the learning curve to describe the complex process whereby the public grapples with the need for change on difficult issues. The metaphor of a "learning curve" suggests that the process will take time and will not proceed in a straight line. This is, indeed, the case. Climbing the learning curve involves three distinct stages. Consciousness-raising to make the public aware of the threat is the first stage. The second — and longest and most arduous stage — involves the need for people to confront their own wishful thinking and denial as they wrestle with the need to make painful tradeoffs and sacrifices. The third and final stage is resolution and support for remedial action.

Our report suggests that the American public is fairly well advanced along the first stage of the learning curve — consciousness-raising — but is just beginning to work its way through the other two critical stages.

± Full Survey Results

This report was based on interviews with a national random sample of 1,001 adults over the age of 18 conducted between January 15 and January 30, 2009. Over 90 survey questions were asked, covering each facet of the "triple threat." The margin of error for the overall sample is plus or minus four percentage points.

Results of less than 0.5 are signified by an asterisk (*). Results of zero are signified by an en dash (–).

Responses may not always total 100 percent due to rounding. Combining answer categories may produce slight discrepancies between the numbers in these survey results and numbers in the report.

	Total
01. Held for later release.	
02. Held for later release.	
03. Held for later release.	

Question wording may be slightly edited for space and clarity.
Percentages may not equal 100 percent due to rounding or the omission of some answer categories.

± Full Survey Results

	Total
04. Held for later release.	
05. Held for later release.	

± Full Survey Results

	Total
06. Here is a list of things some people worry about and others do not. For each, please tell me if you worry a lot or worry somewhat about it, or if you do not worry about it at all.	
Increases in the cost of gas and fuel	
Worry a lot	57
Worry somewhat	31
Do not worry	11
Don't know	*
The United States economy is too dependent on oil	
Worry a lot	47
Worry somewhat	36
Do not worry	15
Don't know	1
Dependence on foreign oil will involve us in wars or conflicts in the Middle East	
Worry a lot	43
Worry somewhat	37
Do not worry	18
Don't know	1
Problems abroad may hurt our supply of oil and raise prices for American consumers	
Worry a lot	41
Worry somewhat	43
Do not worry	15
Don't know	1
Global warming	
Worry a lot	32
Worry somewhat	39
Do not worry	27
Don't know	1

± Full Survey Results

	Total
07. We hear a lot in the news these days about using fossil fuels. What energy sources do you think of when you think about fossil fuels?† [Open-end]	
Coal	37
Oil	36
Natural gas	19
Gasoline	18
Diesel	2
Ethanol	2
Wind power / Air	2
Wood	2
Nuclear power / Atomic power	1
Solar	1
Other	15
Don't know	32
08. We hear a lot in the news these days about using renewable energy. What energy sources do you think of when you think about renewable energy?† [Open-end]	
Wind power / Air	45
Solar	40
Hydro electric / Water	24
Nuclear power / Atomic power	8
Ethanol	6
Geothermal	4
Coal	3
Electric / Electricity	3
Natural gas	3
Biofuels	2
Gasoline	2
Oil	2
Wood/Trees	2
Biodiesel	1
Garbage	1
Other	15
Don't know	30

(†) Table may exceed 100% due to multiple responses.

± Full Survey Results

	Total
09. In the past seven days, have you done any of the following?	
Turned down the heat or air conditioning in your home to save energy	
Yes	75
No	23
Doesn't apply	2
Don't know	–
Bicycled or walked instead of driving	
Yes	36
No	60
Doesn't apply	4
Don't know	–
Carpooled	
Yes	26
No	69
Doesn't apply	4
Don't know	*
Taken public transit, such as a bus, train or subway	
Yes	14
No	76
Doesn't apply	9
Don't know	*

± Full Survey Results

	Total
10. In the past six months, have you done any of the following?	
Bought energy-efficient lightbulbs	
Yes	76
No	24
Doesn't apply	*
Don't know	*
Bought a household appliance or electronics, such as a TV or stereo, based on its energy rating	
Yes	74
No	26
Doesn't apply	0
Don't know	*
Cut back significantly on how much you drive	
Yes	66
No	28
Doesn't apply	5
Don't know	*
Insulated your attic, basement or windows in your home in order to use less energy	
Yes	37
No	59
Doesn't apply	4
Don't know	—
Researched or looked into getting a more fuel-efficient or hybrid car	
Yes	34
No	64
Doesn't apply	2
Don't know	*
Installed a solar panel or used any other alternative energy source	
Yes	8
No	91
Doesn't apply	1
Don't know	*
Moved to a new home or apartment to decrease driving	
Yes	7
No	92
Doesn't apply	1
Don't know	*

± Full Survey Results

	Total
11. People have different views about what they're willing to do to improve the country's energy situation. What about you personally? How willing would you be to:	
Cut back on leisure driving on weekends and vacations	
Very willing	39
Somewhat willing	39
Not too willing	5
Not willing at all	8
Doesn't apply	8
Don't know	*
Have a 55-miles-an-hour speed limit on highway driving	
Very willing	37
Somewhat willing	27
Not too willing	10
Not willing at all	22
Doesn't apply	2
Don't know	1
Carpool to work or school more than half the time	
Very willing	32
Somewhat willing	23
Not too willing	5
Not willing at all	12
Doesn't apply	27
Don't know	*
Use public transit to work or school more than half the time	
Very willing	25
Somewhat willing	19
Not too willing	5
Not willing at all	17
Doesn't apply	33
Don't know	*
Accept construction of a nuclear power plant near your area	
Held for later release.	

± Full Survey Results

	Total
Pay more for electricity generated by renewable sources, like solar or wind energy	
Very willing	21
Somewhat willing	39
Not too willing	12
Not willing at all	24
Doesn't apply	*
Don't know	2
Bike or walk to work or school more than half the time	
Very willing	20
Somewhat willing	20
Not too willing	7
Not willing at all	22
Doesn't apply	30
Don't know	1
Pay higher taxes to fund the development of alternative energy sources	
Very willing	14
Somewhat willing	36
Not too willing	15
Not willing at all	33
Doesn't apply	*
Don't know	2

± Full Survey Results

	Total
12. Please tell me if you think the following statements are true or false.	
Over the long run, the price of oil will go up because supplies are diminishing and demand is increasing.	
True	70
False	24
Don't know	6
The main cause for increases in gas prices are speculators who drive up the price of oil.	
True	68
False	19
Don't know	12
Most of the oil that the United States imports comes from the Middle East.	
True	65
False	24
Don't know	10
Using crops like corn to produce ethanol increases food prices.	
True	59
False	28
Don't know	13
Cars in Europe and Japan are required to get more miles per gallon than cars in the United States.	
True	56
False	18
Don't know	26
By reducing the level of smog in the United States, we've gone a long way to reducing global warming.	
True	52
False	36
Don't know	12
If we would just drill offshore and in Alaska, we wouldn't need to import foreign oil.	
True	44
False	43
Don't know	13
Americans use the same amount of energy per person as Europeans.	
True	8
False	73
Don't know	19
People in Japan and Europe pay about the same as we do for gasoline.	
True	5
False	76
Don't know	19

± Full Survey Results

	Total
13. How much of the world's oil do you think is located in the United States, either on land or offshore?	
Less than 5%	5
5-10%	17
11-25%	33
26-50%	21
More than 50%	11
Don't know	13
14. What percentage of the energy that the United States now uses comes from renewable sources?	
Less than 10%	47
10-25%	31
26-50%	7
More than 50%	5
Don't know	10
15. Which of the following statements comes closest to your view of global warming?	
Global warming is a proven fact and is mostly caused by emissions from cars and industrial facilities such as power plants and factories.	53
Global warming is a theory that has not yet been proven.	19
Global warming is a proven fact and is mostly caused by natural changes that have nothing to do with emissions from cars and industrial facilities.	18
Don't know	8
16. Tell me how much you think each of the following contributes to global warming.	
Driving cars or trucks that use gasoline	
A lot	54
A little	33
Not at all	9
Don't know	3
Using coal to generate electricity	
A lot	39
A little	41
Not at all	12
Don't know	6
Natural forces unrelated to human activity	
A lot	27
A little	45
Not at all	19
Don't know	8

± Full Survey Results

	Total
Using nuclear energy to generate electricity	
A lot	21
A little	35
Not at all	32
Don't know	11
Driving cars or trucks that use ethanol	
A lot	15
A little	50
Not at all	21
Don't know	13
Using solar energy to generate electricity	
A lot	9
A little	23
Not at all	64
Don't know	4
17. Is the price of gasoline something the president can do a lot about, or is that beyond the president's control?	
Something that the president can do a lot about	47
Beyond the president's control	47
Don't know	5

± Full Survey Results

	Total
18. Next, I'm going to read you a list of energy-related proposals. Please tell me if you favor or oppose each one.	
Giving tax rebates to individuals who reduce their energy consumption	
Strongly favor	44
Somewhat favor	37
Somewhat oppose	7
Strongly oppose	10
Don't know	2
Giving tax benefits to businesses and industries that reduce their energy consumption	
Strongly favor	41
Somewhat favor	38
Somewhat oppose	10
Strongly oppose	9
Don't know	3
Setting up a government program to reward businesses that reduce carbon emissions and to penalize those that do not	
Strongly favor	37
Somewhat favor	35
Somewhat oppose	13
Strongly oppose	11
Don't know	3
Reducing environmental restrictions on drilling for oil and natural gas in coastal areas and Alaska	
Strongly favor	30
Somewhat favor	35
Somewhat oppose	14
Strongly oppose	17
Don't know	3
Increasing the production of ethanol to replace gasoline	
Strongly favor	23
Somewhat favor	38
Somewhat oppose	13
Strongly oppose	17
Don't know	7

± Full Survey Results

	Total
Held for later release.	
A gas tax of 40 cents a gallon to support development of clean, renewable energy sources	
Strongly favor	17
Somewhat favor	28
Somewhat oppose	20
Strongly oppose	33
Don't know	2
A gas tax of 40 cents a gallon to help achieve energy independence	
Strongly favor	14
Somewhat favor	26
Somewhat oppose	20
Strongly oppose	37
Don't know	3
A gas tax of 40 cents a gallon to improve roads, bridges, tunnels and other public works	
Strongly favor	14
Somewhat favor	24
Somewhat oppose	22
Strongly oppose	38
Don't know	1
Requiring a surcharge on the utility bills of homes and businesses that exceed monthly limits on energy usage	
Strongly favor	12
Somewhat favor	29
Somewhat oppose	24
Strongly oppose	32
Don't know	2

± Full Survey Results

	Total
19. Please tell me if you strongly agree, somewhat agree, somewhat disagree or strongly disagree with each of the following statements.	
Investing in alternative energy will create many new jobs.	
Strongly agree	45
Somewhat agree	41
Somewhat disagree	7
Strongly disagree	4
Don't know	3
Electric companies should be required to generate more energy from renewable, non-polluting energy sources, like wind and solar, even if this increases the cost of energy in the short run.	
Strongly agree	34
Somewhat agree	43
Somewhat disagree	11
Strongly disagree	9
Don't know	3
Developers should be required to build more energy-efficient homes, even if it makes the homes more expensive.	
Strongly agree	33
Somewhat agree	42
Somewhat disagree	11
Strongly disagree	12
Don't know	2
Held for later release.	
We should take whatever steps are necessary to gain energy independence even if it increases the cost of gas, electricity and heating fuel over the next few years.	
Strongly agree	24
Somewhat agree	44
Somewhat disagree	17
Strongly disagree	13
Don't know	3

	Total
If we get gas prices to drop and stay low, we don't need to be as worried about finding alternative sources of energy.	
Strongly agree	12
Somewhat agree	14
Somewhat disagree	20
Strongly disagree	53
Don't know	1
20. Do you favor or oppose each of the following energy-related proposals?	
Higher mileage standards for cars, trucks and SUVs	
Strongly favor	50
Somewhat favor	28
Somewhat oppose	9
Strongly oppose	8
Don't know	4
Investing in railways so that more shipping could be done by fuel-efficient trains rather than by gasoline powered trucks	
Strongly favor	47
Somewhat favor	37
Somewhat oppose	7
Strongly oppose	6
Don't know	3
Setting higher emissions and pollutions standards for business and industry	
Strongly favor	41
Somewhat favor	37
Somewhat oppose	9
Strongly oppose	10
Don't know	3
Giving a tax-credit to people who purchase hybrid or high gas mileage automobiles	
Strongly favor	38
Somewhat favor	35
Somewhat oppose	9
Strongly oppose	14
Don't know	3

± Full Survey Results

	Total
Spending more tax money on public transportation, such as bus and rail systems	
Strongly favor	33
Somewhat favor	38
Somewhat oppose	13
Strongly oppose	13
Don't know	2
The U.S. government passing a law to ensure that gas is no cheaper than $4.00 a gallon to encourage the development of alternative fuels	
Strongly favor	12
Somewhat favor	13
Somewhat oppose	14
Strongly oppose	58
Don't know	3
Charging a fee to drive on certain roads or areas during the most congested times	
Strongly favor	11
Somewhat favor	25
Somewhat oppose	20
Strongly oppose	41
Don't know	3
21. Right now, which one of the following do you think should be the more important priority for U.S. energy policy?	
More energy conservation and regulation on energy use and prices	56
Expanding exploration, mining and drilling, and the construction of new power plants	37
Don't know	6
22. Held for later release.	

± Full Survey Results

	Total
23. What do you think is the best way to move our economy forward?	
Investing in creating ways to get energy from alternative sources, like solar and wind power	77
Investing in finding more sources of oil, coal and natural gas	16
Don't know	5
24. With which one of these statements about the environment and the economy do you most agree?	
Protection of the environment should be given priority, even at the risk of curbing economic growth	56
Economic growth should be given priority, even if the environment suffers to some extent	35
Don't know	7
25. How soon do you think alternative energies such as wind and solar power could become a major part of our energy consumption if there were a heavy investment in developing these alternatives?	
Less than 5 years	21
5-10 years	52
11-20 years	17
More than 20 years	7
Don't know	3

± Characteristics of the Sample

	Total
Gender	
Male	49
Female	51
Age	
18-29	20
30-49	37
50-64	25
65 or older	16
Relationship Status	
Married	55
Living as married	3
Divorced	10
Separated	3
Widowed	7
Never married/Single	21
Region	
Northeast	19
Midwest	23
South	36
West	22
Party	
Republican	27
Democrat	34
Independent	25
Something else	10

	Total
Education	
Less than high school	15
High school graduate [grade 12 or GED certificate]	30
Business, technical, or vocational school AFTER high school	5
Some college, no 4-year degree	23
College graduate [B.S., B.A., or other 4-year degree]	14
Post-graduate training or professional schooling after college [e.g., toward a master's degree or Ph.D.; law or medical school]	13
Employment	
Full-time	46
Part-time	11
Retired	21
Not employed	17
Homemaker	1
Student	1
Disabled	3
Commute [Based on those who are employed]	
Alone in your car	70
In your car with other people	13
Take a train, subway or bus	5
Walk	3
Bike	2
Work from home/Don't commute	7
Some other way	1

± Characteristics of the Sample

	Total
Political Ideology	
Liberal	20
Moderate	32
Conservative	39
Race	
White	69
Black/African-American	11
Hispanic	13
Other or mixed race	5

	Total
Income	
Under $15,000	10
$15,000 to under $25,000	10
$25,000 to under $35,000	12
$35,000 to under $50,000	15
$50,000 to under $75,000	15
$75,000 or more	29

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