

NMR

Nexus Market Research, Inc.

Comparative Assessment of Consumer Awareness for Clean Energy in Connecticut and the United States

**Final Report
May 18, 2005**

**Submitted to:
The Connecticut Clean Energy Fund**

**Submitted by:
Nexus Market Research, Inc.**

Table of Contents

1. Introduction.....	1
2. Executive Summary	2
3. Awareness and Attitudes toward Global Warming.....	8
4. Awareness of Clean Energy.....	10
5. Awareness of Household-level Clean Energy	13
6. Likelihood to Purchase Clean Energy	16
7. Past Experience with Clean Energy	19
8. Clean Energy Organizations	21
9. Clean Energy Communications.....	27
10. Personal Actions related to Clean Energy	30
11. Attitudinal Segments	32
12. Demographics	38
Appendix A: Connecticut Survey Form.....	44
Appendix B: National Survey Questions	58

1. Introduction

In order to conduct an assessment of public awareness regarding clean energy in Connecticut, NMR fielded two separate surveys: a survey of Connecticut residents and a survey of residents from across the contiguous United States. The national survey contained a subset of key questions selected from the more in-depth survey fielded in Connecticut, and was conducted as part of a national “omnibus” survey dealing with other topics.

The Connecticut and national surveys share questions on the following topics:

- Awareness of clean/renewable energy
- Knowledge about clean/renewable energy
- Importance of various reasons for choosing clean/renewable energy
- Demographics

In addition, the Connecticut survey included additional questions on the following topics:

- Unaided and aided awareness of the Connecticut Clean Energy Fund and its programs
- Knowledge about and perceptions of Connecticut Clean Energy Fund
- Recall of advertising/promotions about clean/renewable energy
- Knowledge about how and where to purchase clean/renewable energy
- Perceptions of costs and benefits of clean/renewable energy
- Likelihood to purchase clean/renewable energy at various price levels
- Actions taken with respect to clean/renewable energy
- Usage of public radio and television

National Survey Research Plan. The national survey was a series of add-on questions to the ongoing CARAVAN[®] survey administered by Opinion Research Corporation. The survey was conducted with residents of the 48 contiguous U.S. states between February 25 and March 1, 2005. A total of 943 interviews were completed with respondents who are responsible for paying their own electric bills. In order to represent the total population accurately, the survey results were weighted using a composite factor that compensates for differences between the population and the sample with respect to age, sex, geographic region, and race. In addition, for comparison purposes, the tables in the body of this report segment the national results into two groups: respondents located in states that are members of the Clean Energy States Alliance and those that are not. These designations were developed using the list of member states from the CESA website (<http://www.cleanenergystates.org>). Note that Connecticut was excluded from the “Other CESA States” group.

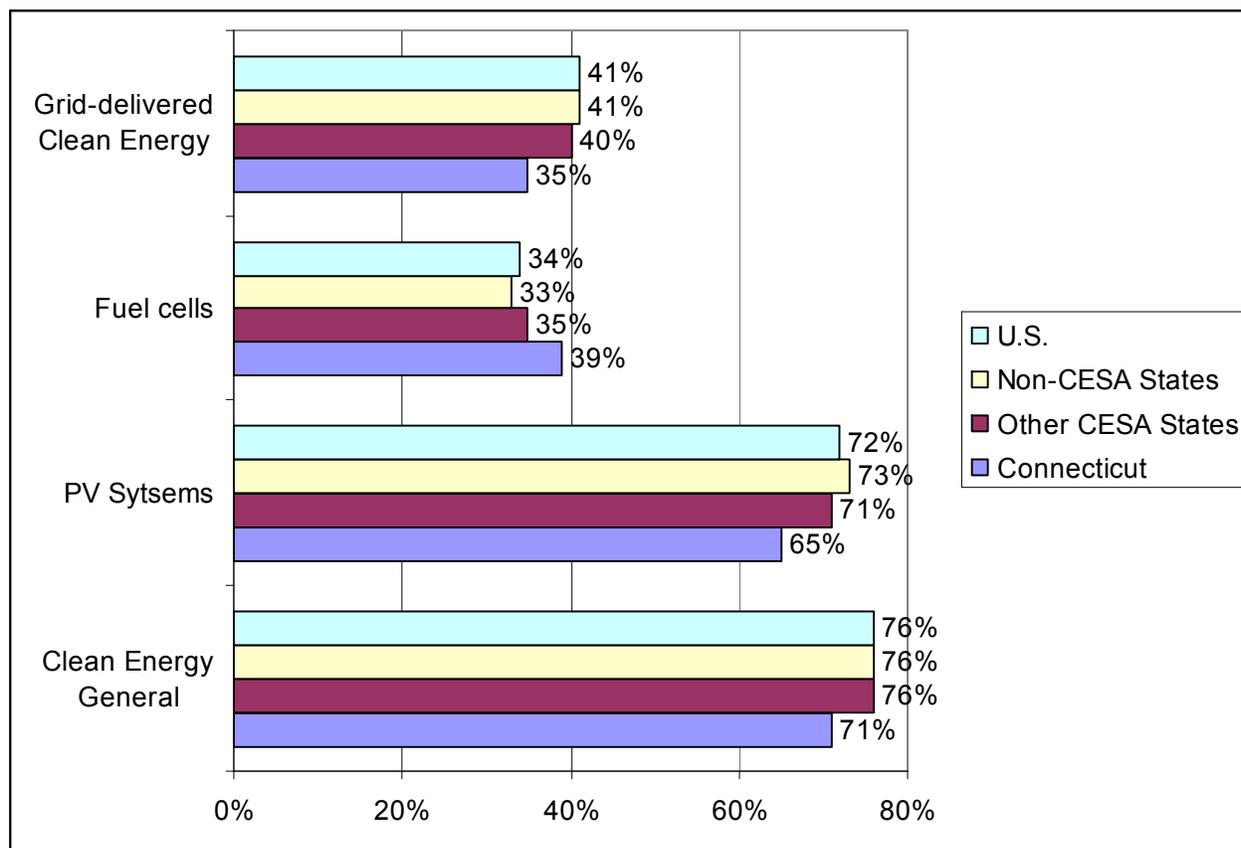
Connecticut Survey Research Plan. Research America conducted a total of 600 interviews between February 22 and March 14, 2005, with Connecticut residents who are responsible for paying their own electric bills. This survey included a question to screen out those respondents who are under 18 years of age and who pay their electric bill with their rent. In addition, one-half of the surveys were done with men and one-half with women. No weighting factor was necessary in the analysis of the Connecticut survey data.

2. Executive Summary

The Connecticut Clean Energy Fund (CCEF) is about to embark on a public awareness campaign to inform Connecticut citizens about their ability to purchase clean energy delivered over regular power lines. This research, conducted before the campaign begins, provides a baseline of public awareness of and attitudes toward clean energy among Connecticut residents, and—for a few key questions—among residents of the U.S. as a whole, including those living in states belonging to the Clean Energy States Alliance (CESA) and those in non-CESA states. The results of this study are summarized below; **key findings are displayed in bold**.

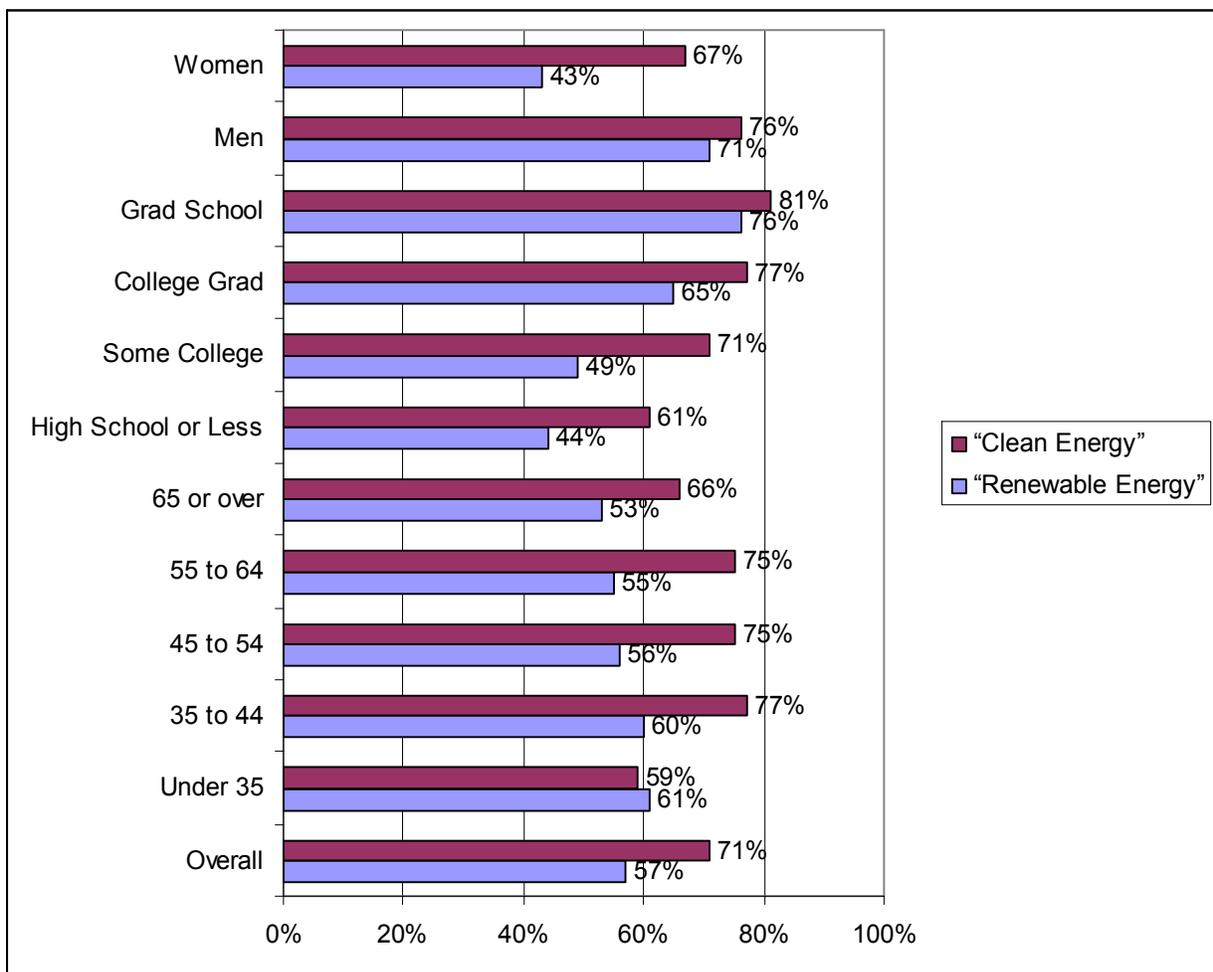
One of the key findings of this research is that, at this point, before the campaign begins, Connecticut residents are in general no more likely to be aware of clean energy than people living elsewhere in the country. Specifically, they are slightly less likely to be aware of grid-delivered clean energy, PV systems, and clean energy in general, and slightly more likely to be aware of fuel cells. (Figure 2.1) As the campaign progresses, a key indicator of success will be *relative* increases in awareness in Connecticut compared to other areas, especially non-CESA states.

**Figure 2.1
Awareness of Clean Energy**



Another key finding is confirmatory: that CCEF is right to focus on “clean energy” rather than “renewable energy.” We asked half the sample if they were aware of each of the two terms. Seventy-one percent of Connecticut respondents are aware of “clean energy,” compared to only 57% who are aware of “renewable energy.” The choice of terms makes a big difference among demographic groups. For example, people under the age of 35 are equally likely to be aware of clean energy and renewable energy, while people over 35 are much more likely to be aware of clean energy. People who have attended graduate school are only somewhat more likely to be aware of clean energy than renewable energy, while the difference is much greater among people with less education. Men, too, are only somewhat more likely to be aware of clean energy than renewable energy, while women are much more likely to be aware of clean energy. (Figure 2.2)

Figure 2.2
Awareness of Clean Energy vs. Renewable Energy (CT only)

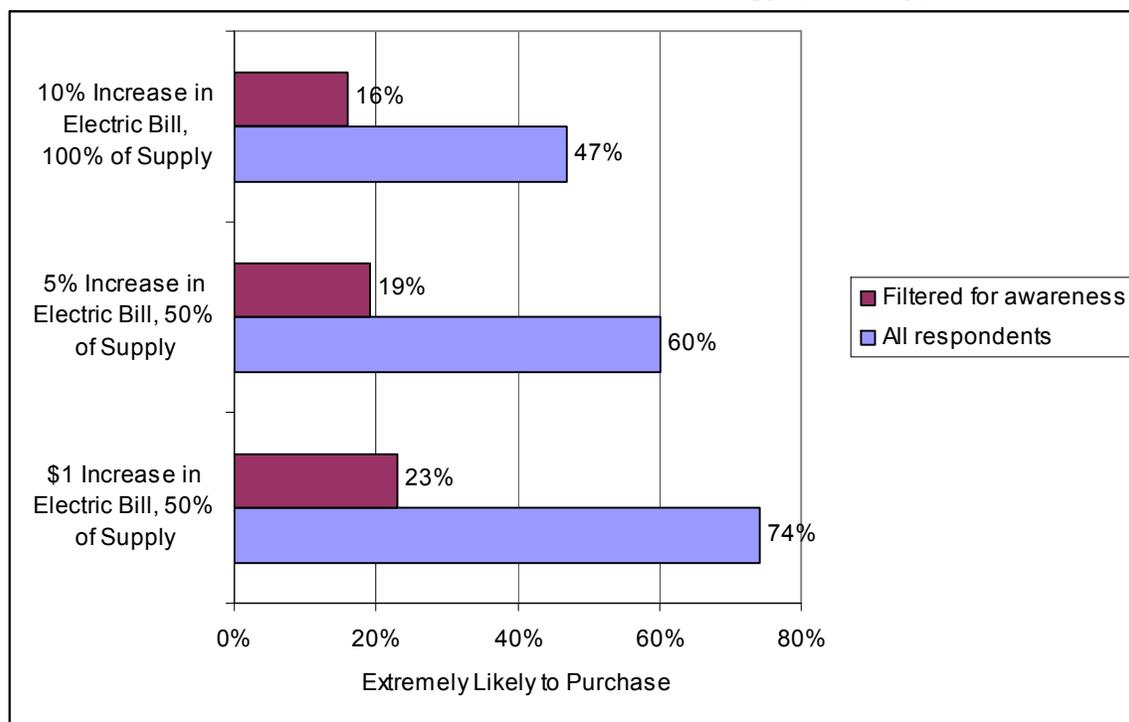


Moreover, the two terms have significantly different connotations. When asked what the terms mean, those asked about renewable energy tend to say “reusable/recyclable/won’t deplete”(35%) while those asked about clean energy tend to say “less polluting/cleaner air” (34%). Given that a plurality of people (45%) say that the best reason to purchase clean or renewable energy is

“cleaner air and improved health for our children,” it appears that CCEF is right to emphasize “clean” over “renewable.” However, the second most important reason for purchasing clean or renewable energy is “reducing our need for foreign oil” (25%), which is more associated with the word “renewable.” Hence there appears to be value in maintaining a connection between clean and renewable energy, especially if reliance on foreign oil becomes more of a concern. Even so, the connection may be more emotional than real, in that 26% of respondents in the U.S. as a whole also say that “reducing our need for foreign oil” is the most important reason to purchase clean electricity, even though only a small portion of electricity in the U.S. (and not much more in Connecticut) is generated by oil¹.

Consumer awareness of clean or renewable energy and its benefits, and the availability of purchasing it over the grid, appear to be greater limiting factors on market potential than the incremental cost. At first glance, the market for clean energy in Connecticut appears to be relatively large, in that forty-seven percent of Connecticut respondents say they are willing to purchase all their electricity from clean sources for an extra 10% on their electric bill, and sixty percent are willing to purchase one-half their electricity for an extra 5%. Of course, only people who are aware of clean energy are truly likely to buy it. After taking into account whether people are aware of clean or renewable energy and are aware of the availability of clean energy delivered over the electric grid, only 16% are willing to pay 10% more for 100% clean electricity. (Figure 2.3)

**Figure 2.3
Likelihood to Purchase Clean Energy (CT only)**



¹ Energy Information Administration (2002). Electricity generated in MWh (CT/US): Coal: 10.3%/50.1%; petroleum: 7.5%/2.5%; natural gas: 28.3%/17.9%; other gas: 0.0%/0.3%; nuclear: 47.6%/20.2%; hydro: 1.0%/6.6%; other renewables: 5.2%/2.3%; other: 0.0%/0.1%.

Connecticut residents are relatively more aware of the benefits of clean energy than their ability to achieve these benefits. We performed a cluster analysis to identify segments of Connecticut residents based on their attitudes toward clean energy, which can be used to help guide messaging in the public awareness campaign. The five segments we identified, as depicted in Figure 2.4, are as follows:

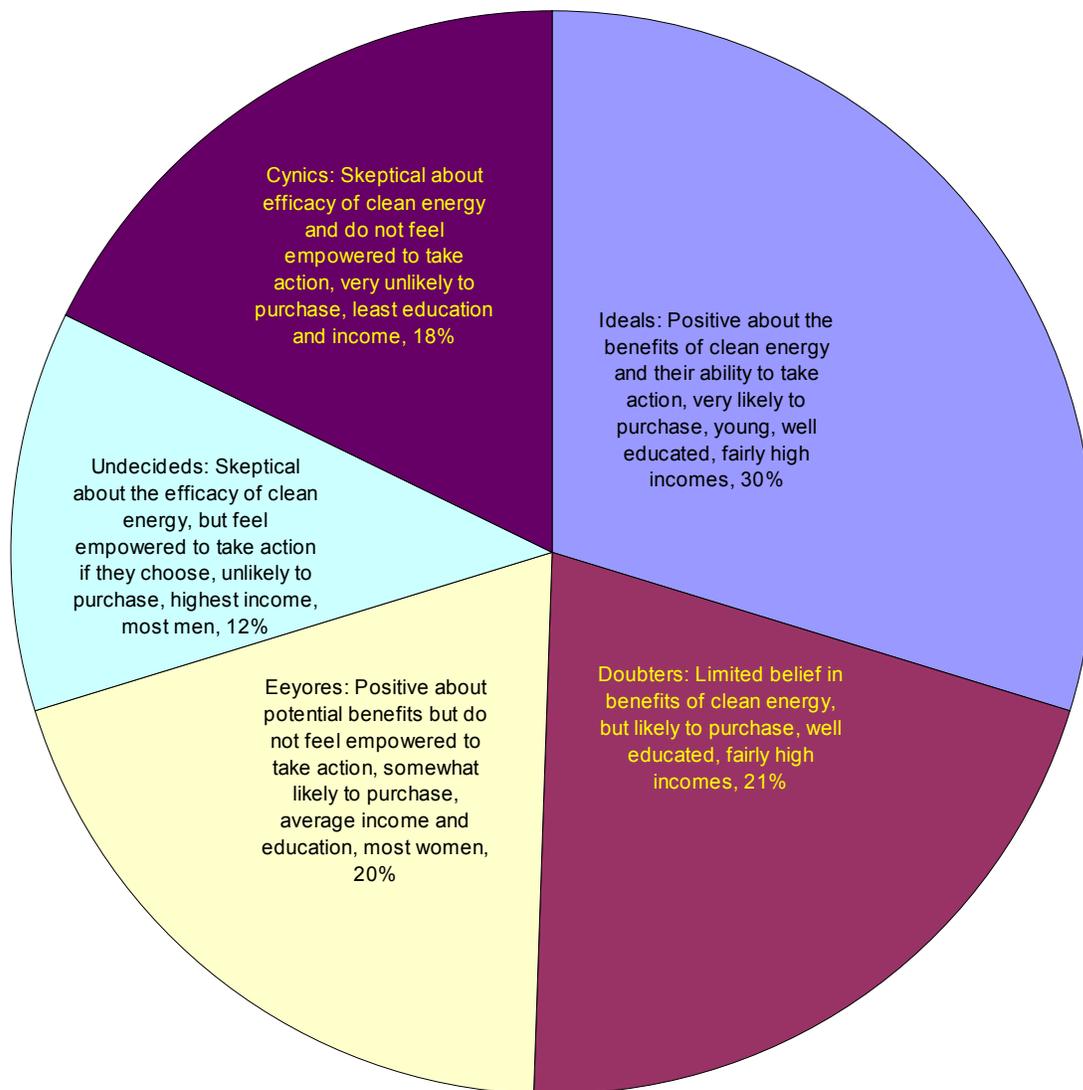
- *Ideals*: The Ideals are the prime target market for clean energy in Connecticut because they are the most positive about the benefits of clean energy and feel most empowered to achieve them. In addition, at 30% of the customer base, they are the largest cluster. They are more educated than other respondents, somewhat younger, and have relatively high incomes. They are more likely to be aware of clean energy, have recently heard something about it, and to have talked to others about it. They are also more likely to be aware of the availability of clean electricity supply and more likely to pay extra for it. After filtering for awareness of clean/renewable energy and awareness of grid-delivered clean energy, they express the greatest willingness to purchase clean energy (23%). It should be noted, though, that the relatively modest “filtered” willingness to pay among this, the most positive group, is relatively modest, indicating that expectations for penetration in the first few years should not be unrealistically high.
- *Doubters*. Doubters, making up 21% of the population, are the secondary target group. While they are less enthusiastic than other clusters in their belief in the benefits in clean energy, they are still positive on this factor. They feel relatively empowered to take action, and are second to Ideals in the proportion who would pay 10% more for clean energy after taking awareness of clean energy and awareness of grid-delivered clean energy into account (20%). They are also relatively affluent and well educated.
- *Eeyores*. Eeyores, making up 20% of the population, are positive about potential benefits but do not feel empowered to take action. They are close to average on many demographic characteristics, except that a high proportion are women. After taking awareness of clean energy and grid-delivered clean energy into account, 15% would pay 10% more for clean energy.
- *Undecideds*. Undecideds make up 12% of the population. They are skeptical about the efficacy of clean energy, but feel empowered to take action if they choose. They are the most affluent group, and have the highest proportion of males. However, after taking awareness of clean energy and grid-delivered clean energy into account, only 12% would pay 10% more for clean energy.
- *Cynics*: Cynics, making up 18% of the population, are skeptical about the efficacy of clean energy and do not feel empowered to take action. They have the lowest incomes and least education of any segment. After taking awareness of clean energy and grid-delivered clean energy into account, only 7% would pay 10% more for clean energy.

Ideals are the “ideal” target market for CCEF, being the largest segment with the most positive attitudes. However, all five clusters have positive scores on belief in clean energy benefits. Some score higher than others—notably Ideals—but even Doubters, the cluster with the lowest score on this factor, show that they essentially believe in the benefits of clean energy. Hence CCEF does not need to emphasize benefits in marketing clean energy to Connecticut citizens. Empowerment or agency is a key differentiator among clusters, and—along with increasing

awareness—is what CCEF should emphasize in communications. In other words, CCEF needs to *inform* people that it is possible to purchase clean energy, *convince* them that such a purchase would achieve what is intended (i.e., increase the use of clean energy, and that this is provable), and *tell them how* to make the switch.

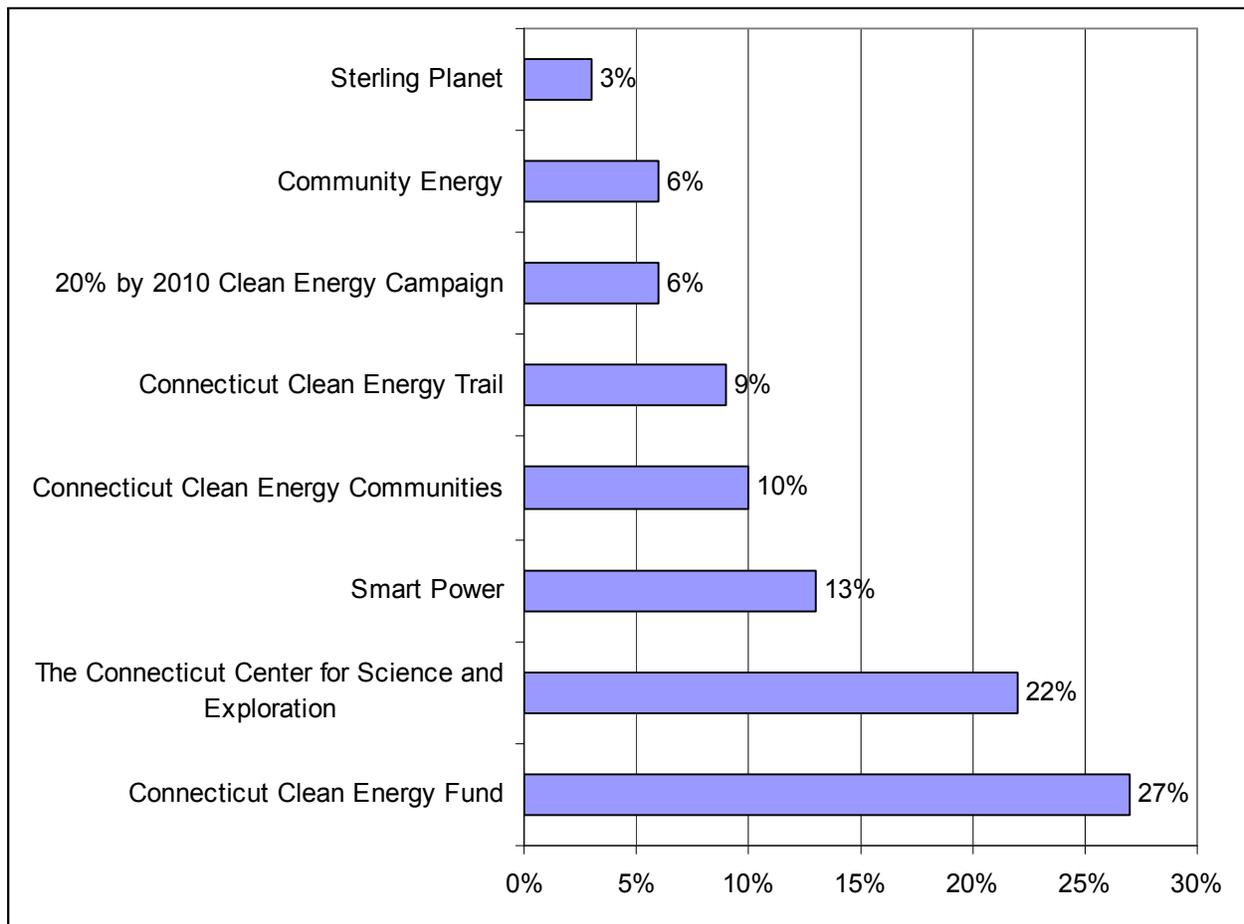
Once there are some customers signing up for clean energy who may be surveyed, these attitudinal segments may be linked to geodemographic segments, which group households and identify them for targeted marketing based on census data, drivers license registrations, magazine subscriptions etc. Feedback between the two segmentation systems may then be used to refine messaging and target it toward the most responsive audience.

Figure 2.4
Attitudinal Segments (CT only)



One additional key finding is that recognition of CCEF and affiliated organizations is relatively low. (See Figure 2.5) This, and the proliferation of names associated with clean energy, underscores the importance of messaging—similar to branding—and suggests that the phrase “Connecticut Clean Energy” should be included in all program names—for example, not only “Connecticut Clean Energy Communities” and “Connecticut Clean Energy Trail,” but also “Connecticut Clean Energy Project 100.” Also, given that recognition of CCEF is fairly strong, since very few respondents recognize Sterling Planet and Community Energy, it is important for these organizations to feature “Connecticut Clean Energy” prominently in all of their communications with potential customers.

**Figure 2.5
Recognition of Clean Energy Organizations (CT only)**



3. Awareness and Attitudes toward Global Warming

As shown in Table 3.1, Connecticut respondents cite air pollution as the single most important environmental issue (26%), followed by global warming (20%). A total of 26% of respondents mentioned either global warming, the greenhouse effect, or climate change.

Table 3.1
Single Most Important Environmental Issue
(All Respondents)

Issue	Percent
Air pollution in general	26%
<i>Global warming</i>	20
Water pollution in general	9
<i>Greenhouse effect</i>	5
Destruction of wildlife habitats or rainforest	5
Depletion of ozone layer	4
Oil/gas	3
Urban/suburban sprawl	3
Nuclear proliferation; spread of nuclear weapons	2
Nuclear waste	1
Mercury in water	1
Waste/recycling	1
<i>Climate change</i>	1
Oil/energy prices	1
Energy	1
Resources	1
Biological weapons	1
WMD; spread of weapons of mass destruction	1
Other	1
Don't Know/NA	16
Total Respondents	600

Ninety-five percent of Connecticut respondents had heard of global warming, climate change, or the greenhouse effect (Table 3.2). Similar figures occur in the comparison groups, ranging from 91% in Other CESA states to 96% in Non-CESA states. The asterisk (*) in the table indicates that the Other CESA States category was statistically significantly different from Connecticut at the 90% confidence level.

Table 3.2
Awareness of Global Warming
(All Respondents)

	Yes	No	Don't Know	Total Respondents
Connecticut	95%	5	0	600
Other CESA States	91%*	9*	0	358
Non-CESA States	96%	4	0	585
U.S.	94%	6	0	943

*Significantly different from the Connecticut sample at the 90% confidence level.

Twenty-two percent of Connecticut respondents think global warming is “much more important than other issues,” compared to 16% to 17% of respondents from comparison groups. Forty-four percent of Connecticut respondents think global warming is much more or somewhat more important, compared to 34% to 38% among comparison groups; these differences are statistically significant (Table 3.3). Hence the issue of global warming appears to be relatively salient in Connecticut.

Table 3.3
Importance of Global Warming
 (All Respondents)

Importance	Connecticut	Other CESA States	Non-CESA States	U.S.
Much more important than other issues	22%	16%*	17%*	17%*
Somewhat more important	22	18	21	20
About as important	25	28	25	25
Somewhat less important	11	17*	18*	18*
Much less important than other issues	11	13	14	14*
Don't Know/Not asked	9	8	5*	6*
Total Respondents	600	358	585	943

*Significantly different from the Connecticut sample at the 90% confidence level.

4. Awareness of Clean Energy

One-half of the respondents to the Connecticut survey were asked if they were aware of “renewable energy” and one-half about “clean energy.” In contrast, all respondents to the national survey were asked one single question regarding their awareness of either “clean energy or renewable energy.” Fifty-seven percent and 71% of Connecticut respondents were aware of renewable energy and clean energy, respectively (Table 4.1). The combined awareness in Connecticut was 64%; this compares to awareness levels of 76% from all three comparison groups. As might be expected, awareness would be higher for respondents given the option of either “clean energy or renewable energy” rather than asked only one or the other.

Table 4.1
Awareness of Clean and Renewable Energy²
(All Respondents)

Region	Energy Type	Yes	No	Don't Know	Total Respondents
Connecticut	“Renewable Energy”	57%	40	3	300
	“Clean Energy”	71%	27	2	300
	“Clean Energy” combined with “Renewable Energy”	64%	34	2	600
Other CESA States	“Clean energy or Renewable Energy”	76%*	24*	0*	358
Non-CESA States	“Clean energy or Renewable Energy”	76%*	24*	0*	585
U.S.	“Clean energy or Renewable Energy”	76%*	24*	0*	943

*Significantly different from the Connecticut sample at the 90% confidence level.

Demographic analysis shows that sixty-seven percent of homeowners in Connecticut compared to 53% of renters are aware of either clean or renewable energy. In addition, awareness is 53% among those with only a high school degree, compared to 60% among those with some college, 71% of those with a four-year college degree, and 78% of those with post-graduate experience. Lastly, 73% of men are aware of either clean or renewable energy compared to 56% of women. However, the choice of terms makes a big difference among demographic groups: for example, people under the age of 35 are equally likely to be aware of clean energy (59%) and renewable energy (61%), while people over 35 are much more likely to be aware of clean energy. People who have attended graduate school are only somewhat more likely to be aware of clean energy (81%) than renewable energy (76%), while the difference is much greater among people with less education. Men, too, are only somewhat more likely to be aware of clean energy (76%) than

² Note that Table 4.1 presents tests on statistical significance despite the fact that the questions were asked differently.

renewable energy (71%), while women are much more likely to be aware of clean energy (67% compared to 43%).

Connecticut respondents who are aware of clean or renewable energy were asked the meaning of those terms. These terms generally elicited different responses, with 35% citing “reusable/recyclable/won’t deplete” for renewable energy while 34% cited “less polluting/cleaner air” for clean energy (Table 4.2). Hence the two terms—“renewable energy” and “clean energy”—have significantly different connotations. Solar energy and wind power were also mentioned by respondents.

Table 4.2
Meaning of Clean or Renewable Energy
 (Those Aware of Clean or Renewable Energy, Multiple Response)

Meaning	Renewable Energy	Clean Energy
Reusable/recyclable/won't deplete	35%	2%
Less polluting/cleaner air	6	34
Solar energy; energy from the sun; photovoltaics, PV; active solar; passive solar	17	9
Wind power; windmills; wind farms	10	6
Better for environment	3	9
Less fossil fuel/oil	2	8
Renewable/clean energy	5	3
Water power; hydroelectric; use of dams	4	1
Recycling	4	1
Energy efficiency	2	1
From natural resources	2	1
Biomass; burning organic matter	2	0
Costs more/less	2	0
Hybrid/electric cars	1	3
Hydrogen	1	2
Geothermal	1	0
Ethanol/Corn	1	0
Less waste	0	3
Clean fossil fuels	0	2
Less climate change/global warming	0	1
Tidal or wave power; using the tides or waves	0	1
Nuclear/nuclear energy/nuclear power/nuclear plants	0	1
Natural gas	0	1
Less climate change/global warming	0	1
Less CO2	0	1
Ozone layer	0	1
Other	4	10
Don't know	20	17
Total Respondents	171	214

When asked to provide specific examples of clean energy or renewable energy, roughly one-half of Connecticut respondents cite some form of solar energy (Table 4.3). Another 36% mention wind power and 25% mention hydropower. These figures are similar to those found in the Other CESA States, the Non-CESA States, and the U.S.; again, note that the Connecticut results for clean energy and renewable energy are combined afterward, whereas the national surveys asked about both together.

Table 4.3
Examples of Clean & Renewable Energy
 (Those Aware of Clean or Renewable Energy, Multiple Response)

Examples	Connecticut			Other CESA States	Non-CESA States	U.S.
	Renewable Energy	Clean Energy	Clean Energy + Renewable Energy	Clean Energy or Renewable Energy		
Solar energy; energy from the sun; photovoltaics, PV; active solar; passive solar	51%	44%	47%	41%	42%	41%*
Wind power; windmills; wind farms	41	33	36	34	30*	31*
Water power; hydroelectric; use of dams	29	22	25	14*	19*	17*
Solar water heating	12	12	12	5*	5*	5*
Wood; wood stoves	12	1	5	3	2*	2*
Biomass; burning organic matter	5	1	2	4	4*	4*
Geothermal	5	3	4	2	3	2*
Nuclear/nuclear energy/nuclear power/nuclear plants	5	7	6	5	6	6
Ethanol/Corn	4	1	3	5	7*	6*
Fuel cells	4	9	7	3*	5	4*
Tidal or wave power; using the tides or waves	2	2	2	2	2	2
Landfill gas	2	2	2	1	2	1
Natural gas	1	7	4	8*	12*	11*
Don't know	16	15	15	20*	18	19*
Total Respondents	171	214	386	279	444	723

*Significantly different from the Connecticut sample at the 90% confidence level.

5. Awareness of Household-level Clean Energy

Sixty-five percent of Connecticut respondents are aware of rooftop solar photovoltaic systems, compared to roughly 72% of respondents from the Other CESA States, Non-CESA States, and the U.S. (Table 5.1).

Table 5.1
Awareness of Solar PV Systems
(All Respondents)

	Yes	Total Respondents
Connecticut	65%	600
Other CESA States	71%*	358
Non-CESA States	73%*	585
U.S.	72%*	943

*Significantly different from the Connecticut sample at the 90% confidence level.

Owners are likelier than renters to be aware of PV, as are better-educated people more than less-educated people, people in the 45-to-64 year age group more than younger and older people, higher income earners more than those who earn less money, and men more than women. In addition, people who think global warming is an important issue are likelier to have heard of PV than those who think it is less important, indicating that educating consumers on the global warming problem may be an effective tactic at raising awareness of PV technologies.

Thirty-nine percent of Connecticut respondents are aware of fuels cells compared to roughly 33% to 35% of respondents from the comparison groups (Table 5.2).

Table 5.2
Awareness of Fuel Cells
(All Respondents)

	Yes	Total Respondents
Connecticut	39%	600
Other CESA States	35%	358
Non-CESA States	33%*	585
U.S.	34%*	943

*Significantly different from the Connecticut sample at the 90% confidence level.

Within Connecticut, 41% of homeowners versus 29% of renters are aware of fuel cells. In addition, education is correlated with recognition: 53% of those having attended graduate school are aware, compared to 41% of those with four-year college degrees, 34% of those with some college, and 30% of those with high school degrees. Forty-nine percent of men are aware compared to 29% of women. Also, people who think global warming is an important issue are likelier to have heard of fuel cells than those who think it is less important. As in the case of PV,

educating consumers on global warming might be an effective tactic at raising awareness of fuel cell technologies.

Thirty-five percent of Connecticut respondents are aware of grid-delivered clean electricity, compared to roughly 40% of respondents from the comparison groups (Table 5.3).

Table 5.3
Awareness of Grid-Delivered Clean Energy
 (All Respondents)

	Yes	Total Respondents
Connecticut	35%	600
Other CESA States	40%	358
Non-CESA States	41%*	585
U.S.	41%*	943

*Significantly different from the Connecticut sample at the 90% confidence level.

Within Connecticut, education is associated with recognition: 44% for those having attended graduate school, 39% for those with four-year college degrees, 33% for those with some college, and 26% for those with high school degrees. Lastly, 47% of men were aware compared to 23% of women. Again, people who think global warming is an important issue are likelier to have heard of grid-delivered clean energy than those who think global warming is less important, suggesting a possible tactic for raising awareness of grid-delivered clean energy is to educate consumers about global warming.

Just 6% of Connecticut respondents are aware of “tradable renewable certificates,” also known as “green tags” or “renewable energy certificates” (Table 5.4).

Table 5.4
Awareness of Tradable Renewable Certificates
(All Respondents)

	Yes	Total Respondents
Percent	6%	600

Of those respondents who say they are familiar with tradable renewable certificates, 38% do not know what it means (Table 5.5). Characteristics of Tradable Renewable Certificates that a few respondents are aware of (no more than 1% of all respondents for any one characteristic) include certifying type of clean energy, price, amount of electricity generated, ownership, and new vs. existing. No one mentions location or avoidance of double counting. Altogether, 4% of respondents are aware of at least one characteristic of Tradable Renewable Certificates, though not one person is able to name all eight.

Table 5.5
Understanding of Tradable Renewable Certificates
(Multiple Response)

Meaning	Percent of those aware of Tradable Renewable Certificates	Percent of all Respondents
Certifies TYPE of renewable/clean energy – e.g., wind, solar, biomass, small hydro	21%	1%
Certifies PRICE	15	1
Certifies TOTAL AMOUNT/kWh/kilowatt-hours of electricity generated by renewables	12	1
Certifies OWNERSHIP	12	1
Certifies percentage of renewables that are NEW rather than previously existing	6	<1
Certifies level of EMISSIONS	3	<1
Certifies LOCATION of renewable generation sources	0	0
Protects against DOUBLE COUNTING of renewable generation sources	0	0
DK/NA	38	4
Mention all eight characteristics	0%	0%
Mention at least one characteristic	62%	4%
Total Respondents	34	600

6. Likelihood to Purchase Clean Energy

We asked respondents a battery of “willingness-to-pay” questions to establish some basic market pricing segments for clean energy purchasing potential³. First we asked how likely they would be, on a scale of 0 to 10, to purchase all of their electricity from clean sources if it added an amount that equaled 10% of their monthly electric bill (or \$10 for those who did not know the size of their electric bill). Among those who responded a seven or below, we asked if they would be willing to purchase one-half their electricity from clean sources if it added an amount that equaled 5% of their monthly electric bill (or \$5 for those who did not know the size of their electric bill). Lastly, among those who again responded a seven or below, we then asked if they would be willing to purchase one-half their electricity from clean sources if it added \$1 to their monthly electric bill.

Table 6.1 displays the results of these questions, and reveals that 47% of respondents report willingness to purchase all their electricity from clean sources for 10% more on their electric bill. Sixty percent indicate willingness to purchase at least half their electricity for a 5% increase. Lastly, another 14% report a willingness to do so for an extra \$1, resulting in a cumulative proportion of 74%. This implies that 74% of respondents perceive some value in using clean energy over energy from conventional sources as expressed through a willingness to pay of at least one dollar a month. Twenty-six percent of respondents either do not know or do not value using clean energy over energy from conventional sources.

Table 6.1
Willingness to Pay for Clean Electricity Supply
(All Respondents)

Likelihood	10% increase	Cumulative 10% + 5% increase	Cumulative 10% + 5% + \$1 increase
0 (extremely unlikely) to 4	18%	15%	11%
5 to 7	29	20	11
8 to 10 (extremely likely)	47	60	74
Don't Know	6	6	4
Total respondents	600	600	600

However, people are not likely to pay for clean energy if they are not aware of it, so the actual potential market is even smaller. We therefore filtered out respondents who are not aware of “clean energy” or “renewable energy” and who are not aware of the ability to purchase clean electricity at home. This reveals the current potential market to be much smaller: only 16% of respondents who show awareness of clean energy say they would be willing to pay 10% more for an entirely clean electricity supply, 19% say they would be willing to purchase at least one-half

³ The format of the “Willingness To Pay” question series was neither intended to establish price elasticities nor could the response data be used for such purposes.

clean electricity for at least an additional 5% on their bill, and 23% say they would be willing to pay at least an extra \$1 for some clean energy.

Of those respondents who are not interested in purchasing clean electricity at any level, nearly one-half do not have any particular reason. Fourteen percent mention cost, 13% would like more information, and 6% mention the inconvenience of switching (Table 6.2).

Table 6.2
Reasons to Not Purchase Clean Electricity
(Those Not Willing to Purchase Clean Electricity, Multiple Response)

Reason	Percent
Cost	14%
Need more info	13
Inconvenience/time of switching	6
Nothing	4
Satisfied with current service	3
Reliability of clean power	3
Don't control my bill	1
Other	11
Don't Know	46
Total Respondents	153

We asked respondents who are interested in purchasing clean electricity what their reasons would be for doing so. One-half say they would do so to “improve the environment or the planet”, while 15% mention less pollution or cleaner air/water (Table 6.3).

Table 6.3
Reasons to Purchase Clean Electricity
(Those Willing to Purchase Clean Electricity, Multiple Response)

Reasons	Percent
Improve environment/Save planet/world	50%
Reduce pollution/cleaner air/water	15
Reduce oil dependency	9
Help global warming/climate change	7
Healthier	4
Save money/reduce costs	3
For the future, for my children	3
Right thing to do, conscience	2
Save energy	1
Other	10
Don't Know	14
Total respondents	447

We provided respondents a list of four reasons for purchasing clean electricity and asked which they think is the best (Table 6.4). Forty-five percent of Connecticut respondents cite “cleaner air and improved health for our children,” 25% cite the reduced dependency on foreign oil, 15% cite prevention of global warming, and 8% mention encouraging new technologies and creating new jobs; the last reason—encouraging new technologies and creating new jobs—is mentioned less often in Connecticut than in other areas.

Table 6.4
Best Reason to Purchase Clean Electricity
 (All Respondents)

Reason	Connecticut	Other CESA States	Non-CESA States	U.S.
It means cleaner air and improved health for our children	45%	42%	44%	43%
It reduces our need for foreign oil	25	26	26	26
It helps prevent global warming	15	15	14	14
It encourages new technologies and creates jobs for our community	8	14*	11*	12*
Don't Know	6	3*	5	5
Total Respondents	600	358	585	943

*Significantly different from the Connecticut sample at the 90% confidence level.

In general, the younger people are, the likelier they are to cite prevention of global warming and cleaner air and improved health for children as reasons to purchase clean energy, and the older people are likelier to cite reducing the need for foreign oil. All groups, however, are more likely to cite “cleaner air and improved health for our children” as the best reason to purchase clean electricity.

7. Past Experience with Clean Energy

Approximately 2% of all respondents believe they purchased clean electricity for their home before 2005 (Table 7.1).

Table 7.1
Past Purchase of Clean Electricity
(All Respondents)

	Yes	No	Don't Know	Unaware of Clean Electricity	Total Respondents
Percent of All Respondents	2%	59	4	36	600

Of the twelve respondents who reported purchasing clean electricity prior to 2005, 75% claim they are still doing so; this represents approximately 2% of all respondents (Table 7.2). The one respondent saying they stopped purchasing clean electricity did so because they moved to a new house.

Table 7.2
Current Purchase of Clean Electricity

	Yes	No	Don't Know	Haven't Purchased Clean Electricity	Total Respondents
Percent of All Respondents	2%	0	0	98	600
Percent of Those Who Purchased Clean Electricity	75%	8	17	0	12

Table 7.3 lists the names of the clean electricity suppliers that respondents say have provided them clean energy—primarily local electric utilities.

Table 7.3
Name of Clean Electricity Supplier
(Those Who Purchased Clean Electricity)

Company	Number of Responses
Connecticut Light & Power	2
United Illuminating	2
Wallingford Co.	1
Amerigas	1
The power company	1
Total Respondents	7

Table 7.4 displays the number of respondents who say they have purchased clean electricity and their likelihood to purchase it in the future. Five of the twelve respondents are more likely to purchase clean electricity because of their past experience, four are neutral, and two are less likely.

Table 7.4
Likelihood to Purchase Clean Electricity in the Future
(Those Who Purchased Clean Electricity)

Likelihood	Number of Responses
Yes, much less likely	2
Yes, somewhat more likely	1
Yes, much more likely	4
No, neither more likely nor less likely	4
DK/NA	1
Total Respondents	12

8. Clean Energy Organizations

We asked respondents what organizations or companies they would turn to for information regarding clean electricity. Thirty percent mention the two major investor-owned utilities in Connecticut (Connecticut Light & Power or United Illuminating). However, 50% say they do not know where they would look (Table 8.1).

Table 8.1
Sources of Information Regarding Clean Electricity
 (All Respondents, Multiple Response)

Organization	Percent
Utility: Connecticut Light & Power; United Illuminating	30%
Would look on Internet	7
Other	6
Connecticut Clean Energy Fund	4
City/town government	3
State government general	2
Federal government general	2
EPA, U.S. Environmental Protection Agency	2
Smart Power	1
Contractor	1
Would look in Yellow Pages	1
Connecticut Energy Cooperative	1
Connecticut Department of Public Utilities	1
Environmental Organizations	1
Green Mountain Energy	0
Clear Skies Initiative, President Bush	0
Don't Know	50
Total Respondents	600

Of the four respondents who mention the “Yellow Pages”, three say they would look up the terms “electricity” or “power” and two say they would look up “utilities” (Table 8.2).

Table 8.2
Clean Electricity Keywords to Search for in Yellow Pages
 (Those Who Would Use the Yellow Pages, Multiple response)

Likelihood	Number of Responses
Electricity, power	3
Utilities: Northeast UI	2
Total Respondents	4

Of the forty respondents who say they would search on the Internet, 75% say they would look up keywords such as “clean energy” or “renewable energy” (Table 8.3).

Table 8.3
Clean Electricity Keywords to Search for on the Internet
 (Those Who Would Use the Yellow Pages, Multiple response)

Keywords	Percent
Clean/renewable energy	75%
Electricity/power	8
Environment	8
Connecticut	8
Energy efficiency/savings	5
Global warming	3
Solar	3
Don't Know	13
Total Respondents	40

Ten percent of all respondents are aware that there are rebates or incentives available for rooftop solar photovoltaic systems (Table 8.4).

Table 8.4
Aware of Rebates or Incentives for Solar Photovoltaic Systems
 (All Respondents)

	Yes	No	Don't Know	Unaware of Solar PV Systems	Total Respondents
Percent of All Respondents	10%	44	11	36	600

Compared to others, people who have attended graduate school, people from 35 to 64 years of age, people making more than \$50,000 per year, and men are likelier to be aware of rebates for PV systems.

Twenty-nine percent of those who believe that there are rebates or incentives available think the federal government provides them (Table 8.5). Fourteen percent believe that the Connecticut utilities would be the sponsor.

Table 8.5
Organizations Providing Rebates for Solar Photovoltaic Systems
 (Those Who were Aware of Solar PV Systems, Multiple response)

Organizations	Percent
Federal government	29%
Utility; Connecticut Light & Power; United Illuminating	14
State government general	9
Connecticut Clean Energy Fund	7
Smart Power	2
Connecticut Department of Public Utilities	2
Manufacturers	2
Contractors	2
Don't Know	40
Total Respondents	58

Thirteen percent of all respondents have recently heard about programs or organizations that sponsor clean energy as a way of generating electricity (Table 8.6).

Table 8.6
Recently Heard About Clean Electricity Programs or Organizations
 (All Respondents)

	Yes	No	Don't Know	Total Respondents
Percent	13%	85	2	600

Three percent of respondents are able to recall the names of the clean energy programs or organizations; this represents 25% of those who had recently heard about clean electricity programs or organizations (Table 8.7). Of those who could actually recall a name, the most often-cited are the two major Connecticut IOUs followed by the CCEF, the federal government, and the Clear Skies Initiative (Table 8.8).

Table 8.7
Recall of Names of Clean Electricity Programs or Organizations

	Yes	No	Don't Know	Unaware of Clean Elec. Prog./org.	Total Respondents
Percent of All Respondents	3%	9	1	88	600
Percent of Those Asked	25%	71	4	0	77

Table 8.8
Names of Clean Electricity Programs or Organizations
(Those Recalling Clean Electricity Programs or Organizations, Multiple Response)

Organizations/Programs	Number of Responses
Utility; Connecticut Light & Power; United Illuminating	3
Connecticut Clean Energy Fund	2
Federal government general	2
President Bush's Clear Skies Initiative	2
City/town government	1
State government general	1
Connecticut Clean Energy Trail	1
U.S. Environmental Protection Agency	1
Other	6
Don't Know	5
Total Respondents	19

We read the names of a variety of organizations that might promote clean energy and asked respondents if they had heard of them (Table 8.9). Eighty-three percent of Connecticut respondents are aware of the EPA, compared to 27% who are aware of CCEF, and 22% who are aware of the Connecticut Center for Science and Exploration. Fewer respondents are aware of CCEF programs and affiliations, such as Smart Power, Connecticut Clean Energy Communities, the Connecticut Clean Energy Trail, the 20% by 2010 Clean Energy Campaign, Community Energy, and Sterling Planet.

Table 8.9
Recognition of Selected Clean Energy Programs and Organizations
 (All Respondents; n=600)

Organizations/Programs	Yes	No	Don't Know
EPA	83%	16	1
Connecticut Clean Energy Fund	27%	71	3
President Bush's Clear Skies Initiative	25%	73	3
The Connecticut Center for Science and Exploration	22%	76	3
Smart Power	13%	86	2
Connecticut Clean Energy Communities	10%	88	2
Connecticut Clean Energy Trail	9%	90	2
20% by 2010 Clean Energy Campaign	6%	92	2
Community Energy	6%	93	2
Sterling Planet	3%	96	1

Among age groups, awareness of the CCEF is highest in the 35 to 54 age group (33%), followed by the 55-64 bracket (26%). Lowest awareness is in the youngest and oldest age groups with just 17% of those younger than 35 and 20% of those over 65 being aware.

We asked respondents who are aware of specific clean energy organizations what the organizations are and what they do. The majority of respondents could not come up with an answer; those who could tend to say simply that these organizations promote clean or renewable energy (Table 8.10).

Table 8.10
Understanding of Selected Clean Energy Programs and Organizations
 (Those Aware of Specific Clean Electricity Programs or Organizations, Multiple Response)

Function	CT Clean Energy Fund	Smart Power	Community Energy	Sterling Planet	CT Clean Energy Community
Promote clean/renewable energy	12%	3%	3%	0%	5%
Promote clean air/reduce pollution	4	1	0	0	3
Help environment	3	3	3	0	2
Solicits donations	3	0	0	0	0
Saves energy	1	1	3	0	0
Use taxes or funds	3	0	0	0	0
Use resources wisely	0	3	0	0	0
Wind, solar, water energy; fuel cells	0	2	0	0	2
Other	4	7	0	11	5
Don't Know	75	80	91	89	87
Total Respondents	161	75	35	18	60

Two percent of respondents believe that their town or city is a Connecticut Clean Energy Community; this represents one-fifth of the ten percent of respondents who are aware of Connecticut Clean Energy Communities (Table 8.11).

Table 8.11
Belief that Respondent's Town is a Connecticut Clean Energy Community

	Yes	No	Don't Know	Unaware of CCEC	Total Respondents
Percent of All Respondents	2%	4	4	90	600
Percent of Those Aware of CCEC	20%	37	43	0	60

9. Clean Energy Communications

Twenty-six percent of all respondents have seen or heard something about clean or renewable energy in the past few months (Table 9.1).

Table 9.1
Percent Seen or Heard about Clean/Renewable Energy in Past Few Months
 (All Respondents)

	Yes	No	Don't Know	Unaware of Clean Electricity	Total Respondents
Percent of All Respondents	26%	38	1	36	600

Forty-one percent of homeowners compared to 34% of renters have recently heard something about clean energy. Education is correlated as well: 52% of those who have attended graduate school, 40% of those with four-year college degrees, 37% of those with some college, and 28% of those with high school degrees have heard something recently about clean energy. Lastly, gender is correlated too: 46% of men compared to 32% of women have heard something recently.

Among those who have recently heard something about clean energy, a variety of topics are mentioned, including hybrid cars, fuel cells, wind, and solar (Table 9.2).

Table 9.2
What Seen or Heard About Clean or Renewable Energy
 (Those Who had Heard or Seen Something About Clean/Renewable Energy
 in Past Few Months, Multiple Response)

What Heard	Percent
Hybrid/hydrogen cars	14%
General clean/renewable energy	12
Hydrogen/fuel cells	8
Wind mills	7
Politics/legislation/standards	7
Solar power	3
Cost	3
Buying clean energy	3
Natural gas	1
Landfill gas	1
Hydro	1
Cleaner/better	1
Other	9
Don't Know	33
Total Respondents	154

Most of these respondents say they have seen or heard a news story about clean energy, primarily via newspapers and television (Table 9.3).

Table 9.3
Where Seen or Heard Something About Clean or Renewable Energy
 (Those who had Seen or Heard Something About Clean or Renewable Energy in Past Few Months, Multiple Response)

Where Heard	Percent
News stories-newspapers	31%
News stories-television	30
News stories-magazines	16
News stories-radio	11
Internet	10
Advertising-newspapers	7
Articles-scientific journals	6
Advertising-television	4
Conversations with friends, family, or	4
Advertising-magazines	3
Advertising-radio	2
Newsletter from organization	1
Builder/contractor	1
Materials/information that children brought home from school	1
Information from my town or city government	1
Bill inserts from my utility/electric	1
Other	2
Don't Know	8
Total Respondents	154

CCEF has been using the phrase “It’s real, it’s here, it’s working” in communications. We tested awareness of this phrase against two other phrases that are not in use. More than two-thirds of respondents are either somewhat or completely certain that they have not seen or heard any of the three slogans listed in Table 9.4. Claimed recognition is highest for the following fictitious slogan: “Clean energy: for Connecticut, for the Earth” slogan—with 20% being somewhat or completely certain they have seen or heard it. Fifteen percent are somewhat or completely certain they have heard the actual CCEF slogan “It’s real, it’s here, it’s working.” Eleven percent think they have seen or heard the phrase “Green up” which has been used by Massachusetts and Rhode Island in the past for its voluntary clean energy initiatives.

Table 9.4
Recall of Slogans
 (All Respondents)

Slogan	Completely certain you did see or hear it	Somewhat certain you did see or hear it	Not sure whether you saw or heard it	Somewhat certain you did not see or hear it	Completely certain you did not see or hear it	Total Respondents
“It’s real, it’s here, it’s working.”	8%	7	16	10	60	600
“Green up.”	7%	4	17	8	65	600
“Clean energy: for Connecticut, for the earth.”	11%	9	15	10	55	600

10. Personal Actions related to Clean Energy

Twenty-five percent of respondents report speaking with friends, relatives, neighbors, or co-workers about clean electricity over the past year (Table 10.1).

Table 10.1
Talked with Others About Clean Electricity
 (All Respondents)

	Yes	No	Don't Know	Total Respondents
Percent	25%	75	0	600

Overall, 8% brought up the topic of clean electricity themselves, 7% said someone else brought it up, and 8% said it was some combination (Table 10.2).

Table 10.2
Who Brought Up Clean Electricity
 (All Respondents)

	I brought it up	They brought it up	Both I/they brought it up	Don't Know	Not Talked to Others	Total Respondents
Percent	8%	7	8	2	75	600

Education is correlated with the degree of proactivity: 27% of those who have attended graduate school say they brought it up themselves, compared to 17% of those with four-year college degrees, 13% of those with some college, and just 8% of those with high school degrees. Gender is correlated, too, with 29% of men being proactive compared to 20% of women.

Over the past year, fewer than 10% of respondents have taken one of the actions listed in Table 10.3. Of those who took some action, they are most likely to have made a donation or visited a website.

Table 10.3
Actions Taken or Information Sought Regarding Clean Energy
(All Respondents)

In the past year or so, have you...	Yes	No	Don't Know	Total Respondents
...written letters to elected officials about clean energy?	3%	96	0	600
...written letters to newspapers or magazines about clean energy?	2%	98	0	600
...made a donation to a charitable organization because of its commitment to clean energy as a way of generating electricity?	8%	91	2	600
...joined or participated in an organization because of its commitment to clean energy as a way of generating electricity?	5%	95	1	600
...called an 800 number to find out about purchasing clean energy to supply your electricity?	2%	98	0	600
...visited a website dealing with clean energy as a way of generating electricity?	9%	91	0	600

Overall, 12% of respondents have taken some action regarding clean energy (including the first five actions listed above in Table 10.3), while 9% have sought information regarding clean energy, whether through an 800 number or a website (Table 10.4).

Table 10.4
Activities Taken Regarding Clean Energy
(All Respondents)

In the past year or so, have ...	Yes	No	Don't Know	Total Respondents
..taken some type of action regarding clean energy	12%	86	2	600
..sought some type of information regarding clean energy	9%	91	0	600

In terms of demographics, the only segment with a consistent trend regarding activity and information seeking is gender. Fourteen percent of men have taken some type of action regarding clean energy compared to 11% of women; in addition, 12% of men have sought information regarding clean energy compared to 6% of women.

11. Attitudinal Segments

In order to understand underlying attitudes toward clean energy, we read a series of eleven statements to respondents and asked them the extent to which they agree or disagree. Table 11.1 displays their responses. Seventy-nine percent of respondents somewhat or strongly agree that clean energy will reduce our dependency on foreign oil, the highest level of agreement for any of the statements. Sixty-six percent of respondents somewhat or strongly agree that clean energy is reliable and 62% would like to find out how they can do more to increase clean energy usage in their homes. In contrast, 57% somewhat or strongly disagree that clean energy does not help address global warming. In addition, 52% somewhat or strongly disagree that clean energy could NOT meet all of their household’s electricity needs and that their use of clean energy does little to improve the environment.

Table 11.1
Attitudes toward Clean Energy
 (All Respondents; n=600)

Statement	Agree			Disagree			Don't Know
	Strongly	Somewhat	Slightly	Slightly	Somewhat	Strongly	
Using clean energy to provide my electricity will help reduce our need for foreign oil	57%	22	7	1	3	4	6
The use of clean energy can provide a reliable source of electricity for my home	38%	28	11	2	5	5	13
I'd like to find out how I personally can do more to increase the actual use of clean energy sources to supply the electricity in my home	36%	26	9	3	8	9	10
I have no way of knowing if the electricity I purchase comes from clean sources like wind, solar, water power, and biomass, or from other sources like natural gas, oil, coal and nuclear	29%	20	6	3	12	18	13
If I weren't satisfied with using clean energy in my home, I could easily go back to what I was using before	27%	27	10	3	8	8	18
There is enough clean energy to provide electricity for thousands of homes and businesses in Connecticut	22%	17	8	4	11	11	27
It would be easy to use clean energy to supply the electricity in my home	22%	22	10	5	9	9	24
There's nothing much I can do to increase the use of clean energy sources in this area of the country	15%	16	7	5	20	23	14
Whether or not I use clean energy to supply my electricity makes little difference to the environment	10%	8	4	5	20	44	8
Clean energy could NOT meet all of my household's electricity needs	10%	12	6	5	15	25	27
I don't believe using clean energy sources to generate electricity does very much to reduce global warming.	9%	8	4	5	19	41	15

We then performed factor analysis on the responses to these statements. Factor analysis assumes that survey responses are imperfect measures of some deeper underlying attitudes, and provides a way to reduce variables to these underlying attitudes or factors. Three factors emerge from this analysis, as shown in Table 11.2 below.

Table 11.2
Factors Underlying Attitudes toward Clean Energy

Underlying Factor	Associated Statement
Belief in clean energy benefits	Using clean energy to provide my electricity will help reduce our need for foreign oil
	There is enough clean energy to provide electricity for thousands of homes and businesses in Connecticut
	It would be easy to use clean energy to supply the electricity in my home
	If I weren't satisfied with using clean energy in my home, I could easily go back to what I was using before
	I'd like to find out how I personally can do more to increase the actual use of clean energy sources to supply the electricity in my home
	The use of clean energy can provide a reliable source of electricity for my home
Skepticism about clean energy	Whether or not I use clean energy to supply my electricity makes little difference to the environment
	I don't believe using clean energy sources to generate electricity does very much to reduce global warming.
	Clean energy could NOT meet all of my household's electricity needs
Lack of empowerment or personal agency	I have no way of knowing if the electricity I purchase comes from clean sources like wind, solar, water power, and biomass, or from other sources like natural gas, oil, coal and nuclear
	There's nothing much I can do to increase the use of clean energy sources in this area of the country

Our next step was to perform a cluster analysis, which is a way of grouping respondents into segments on the basis of similar responses, or in this case factor scores. This analysis revealed five clusters or segments of respondents, which are described in Table 11.3 below.

Table 11.3
Clusters Descriptions
 (All Respondents)

Clusters	Percent	Description	Belief in Clean Energy Benefits	Skepticism about Clean Energy	Lack of Empowerment
Ideals	30%	Positive about the benefits of clean energy and their ability to take action	Very High	Very Low	Very Low
Doubters	21	Limited belief in benefits of clean energy	Medium-Low	Medium	Medium
Undecideds	12	Skeptical about the efficacy of clean energy, but feel empowered to take action if they choose	Medium-High	High	Low
Eeyores	20	Positive about potential benefits but do not feel empowered to take action	High	Low	Very high
Cynics	18	Skeptical about efficacy of clean energy and do not feel empowered to take action	High	Very high	Very high
Total categorized	559				
Uncategorizable	41				
Total	600				

Table 11.4 displays some of the key demographic characteristics of the clusters. One cluster that seems to stand out from the others is the Cynics, who have the lowest proportion of respondents earning \$75,000 or more (30%), have college degrees (39%), are aged 35 to 54 (31%), and are active PBS watchers (28%). In contrast, Undecideds have the highest proportion of respondents earning \$75,000 or more (52%), are aged 35 to 54 (51%), and are male (60%). Ideals have the highest proportion of respondents with college degrees (56%), and are also relatively young and high income.

Table 11.4
Cluster Demographics
(All Respondents)

Category	Ideals	Doubters	Undecideds	Eeyores	Cynics	Overall
Household income: \$75,000 or more	44%	47%	52%	40%	30%	42%
Household income: \$100,000 or more	26%	21%	36%	19%	13%	23%
Total Respondents	108	68	42	83	60	361
Home ownership	82%	86%	88%	82%	76%	82%
Education: four-year college degree or higher	56%	48%	46%	43%	31%	46%
Age: 34 or under	25%	20%	11%	15%	25%	20%
Age: 35 to 54	47%	46%	51%	46%	39%	46%
Age: 55 or over	9%	18%	23%	18%	20%	16%
Gender: Male	49%	56%	60%	44%	54%	52%
NPR: Listen more than 6 hours/week	19%	20%	20%	11%	14%	17%
PBS: Watch more than once/week	44%	40%	46%	31%	28%	38%
Total Respondents	162-165	116-119	66-67	106-109	95-99	545-559

Table 11.5 displays how the five clusters differ on key measures of awareness, understanding, and knowledge regarding clean energy. Compared to the other clusters, a higher proportion of Ideals are aware of clean energy, able to mention an example, have recently seen/heard something about it, and have talked with others. In addition, Ideals are more likely to be aware of the availability of clean electricity supply at home and are more likely to pay extra for it. Undecideds are more likely than respondents as a whole to be aware of clean energy, are better able to name examples, and have recently heard about it.

Table 11.5
Analysis of Key Questions by Cluster
(All Respondents)

Category	Ideals	Doubters	Undecideds	Eeyores	Cynics	Overall
Aware of Clean/Renewable Energy	73%	64%	69%	67%	55%	66%
Mention Clean/Renewable Energy Example	59%	51%	55%	48%	39%	51%
Recently Seen/Heard about Clean Energy	35%	23%	31%	24%	19%	27%
Talked with Others about Clean Energy	38%	29%	25%	17%	13%	26%
Aware of the Availability of Clean Energy Supply for Home	42%	40%	34%	26%	35%	36%
Willing to Pay extra 10% on bill for 100% Clean Energy Supply	46%	35%	33%	40%	26%	37%
Aware of CCEF	30%	28%	32%	23%	26%	28%
Aware of clean/renewable energy <i>and</i> aware of ability to purchase grid-delivered clean energy at home <i>and</i> willing to pay 10% more for clean energy	23%	20%	12%	15%	7%	17%
Total respondents	165	119	67	109	99	559

Implications

For message and promotion targeting, there is no substitute for analyzing data on actual purchasers. The attitudinal analysis, without actual purchasing data, is an attempt to understand potential program targets without actual market data on clean energy purchasers. To develop a stronger basis for program targeting would require a geodemographic analysis of the attitudinal segments and actual purchasers.

For messaging, CCEF should place relatively less emphasis on selling its citizens on clean energy's benefits than on empowering them to do something about it, along with increasing awareness. All five clusters have positive scores on Belief in Clean Energy Benefits. Some score higher than others—notably Ideals—but even Doubters, the cluster with the lowest score on this factor, show that they essentially believe in the benefits of clean energy.

The Ideals are the prime target audience for clean energy in Connecticut because they are the most positive about the benefits of clean energy and feel most empowered to achieve them. In addition, at 30% of the customer base, they are the largest cluster. They are more educated than

other respondents, somewhat younger, and have relatively high incomes. They are more likely to be aware of clean energy, have recently heard something about it, and to have talked to others about it. They are also more likely to be aware of the availability of clean electricity supply and more likely to pay extra for it. After filtering for awareness of clean/renewable energy and awareness of grid-delivered clean energy, they express the greatest willingness to purchase clean energy.

Doubters, making up an additional 21% of the population, are the secondary target group. While they are less enthusiastic than other clusters in their belief in the benefits in clean energy, they are still positive on this factor. They feel relatively empowered to take action, and are second to Ideals in the proportion who would pay 10% more for clean energy after taking awareness of clean energy and awareness of grid-delivered clean energy into account. They are also relatively affluent and well educated.

The attitudinal segments and demographic analysis suggest a general targeting strategy. The following basic targeting strategy should safely cover the Ideals, probably a large portion of the doubters, and some of the Undecideds. The suggested targeting parameters include:

- Household income of \$75,000 and higher
- Home ownership
- Education levels of at least four years of college/college degree
- Age of 35 and under

An alternative age segment of 54 and under will capture an additional number of Ideals and Doubters, but probably a relatively greater proportion of Undecideds. An analysis of actual purchasing data coupled with geodemographic analysis could show this more conclusively.

12. Demographics

Connecticut respondents have a higher homeownership rate than respondents from the comparison groups: 81% of Connecticut respondents own their own home, compared to 64% in Other CESA states, 74% in Non-CESA states, and 71% nationally (Table 12.1). According to Census 2000 data, home ownership rates in Connecticut are 67%; given that the survey excluded those households in which do not pay their own electric bill, it is to be expected that more renters would be screened out in the process. In addition, note that the survey is based on households whereas the Census data measures population. Lastly, note that the Census data is from the year 2000 (the most recent year in which complete data is available). Nonetheless, comparing the survey results to the Census data is valuable in order to ensure that the survey sample appears to reasonably reflect the Connecticut population.

Table 12.1
Home Ownership
(All Respondents)

Home Ownership	Connecticut	Other CESA States	Non-CESA States	U.S.
Own	81%	64%	74%	71%
Rent	18	32	23	26
Don't Know/Refused	1	4	3	3
Total Respondents	600	358	585	943

Connecticut survey respondents also are more educated than respondents from the comparison groups, with nearly one-half holding a four-year college degree or higher (46%) compared to 30%-35% for the other respondents (Table 12.2a). The Connecticut survey respondents are also more likely to have attained a higher education level than Connecticut residents as a whole, again likely due to the issues mentioned earlier.

Table 12.2a
Education Level of Respondents
 (All Respondents)

Level of Education	Connecticut	Connecticut (per Census 2000)	Other CESA States	Non-CESA States	U.S.
High School Graduate or below	30%	44%	43%	39%	40%
Some college or associates degree	25	25	24	25	26
Four-year college graduate	23	18	19	21	20
Graduate experience	23	13	13	13	13
Refused	1	0	1	2	2
Total Respondents	600	n/a	358	585	943

Table 12.2b displays the detailed education level of the Connecticut survey respondents.

Table 12.2b
Detailed Education Level of Respondents from Connecticut
 (All Respondents)

Level of Education	Connecticut
Less than High School	3%
High School Graduate	25
Technical or trade school graduate	2
Some college	15
Two-year college graduate	10
Four-year college graduate	23
Some graduate or professional school	6
Graduate or professional degree	17
Refused	1
Total Respondents	600

Table 12.3 displays the ages of the survey respondents. Connecticut survey respondents tend to be slightly older than respondents from the comparison groups. As expected, the Connecticut survey respondents are also older than Connecticut residents according to Census 2000 data; younger respondents are more likely to be renters or otherwise not in charge of their electric bills.

Table 12.3
Age Category of Respondents
 (All Respondents)

Age Category	Connecticut	Connecticut (per Census 2000)	Other CESA States	Non- CESA States	U.S.
18 to 34	19%	32%	31%	28%	29%
35 to 44	23	21	24	18	20
45 to 54	22	18	17	20	18
55 to 64	17	11	13	13	13
65 or over	17	18	14	17	16
Refused	2	0	2	3	4
Total Respondents	600	n/a	358	585	943

Table 12.4a displays the total 2004 pre-tax household income of respondents, excluding those who refused to provide an answer. As might be expected, Connecticut survey respondents tend to earn higher incomes than respondents from the comparison groups, with 43% earning at least \$75,000 compared to 26%-27% in Other CESA States, Non-CESA States, and the U.S. Note that the Connecticut survey respondents earn higher incomes than do Connecticut residents according Census 2000, though the differences seem reasonable given the issues discussed earlier.

Table 12.4a
Household Income Level of Respondents
(Excluding Those Respondents who Refused)

Income Category	Connecticut	Connecticut (per Census 2000)	Other CESA States	Non- CESA States	U.S.
\$24,999 or below	13%	27%	20%	23%	22%
\$25,000 to \$49,999	22	23	34	29	31
\$50,000 - \$74,999	24	19	19	21	20
\$75,000 - \$99,999	21	13	12	16	14
\$100,000 or more	22	18	15	11	12
Total Respondents	378	n/a	288	470	758

Table 12.4b displays the detailed income levels for Connecticut survey respondents, including those who refused to answer the question.

Table 12.4b
Detailed Household Income Level of Respondents from Connecticut
(All Respondents)

Income Category	Connecticut
Less than \$15,000	3%
\$15,000 - \$24,999	5
\$25,000 to \$34,999	7
\$35,000 - \$49,999	7
\$50,000 - \$74,999	15
\$75,000 - \$99,999	13
\$100,000 - \$149,999	9
\$150,000 or more	5
Refused	37
Total Respondents	600

Table 12.5 displays the gender of survey respondents, which are about evenly split for all segments. According to the Census 2000 data, 48% of Connecticut residents were male and 52% were female, similar to the 50-50 split achieved in the Connecticut survey.

Table 12.5
Gender of Respondents
(All Respondents)

	Female	Male	Total Respondents
Connecticut	50%	50	600
Other CESA States	53%	47	358
Non-CESA States	52%	48	585
U.S.	52%	48	943

Roughly one-half of Connecticut respondents spend at least a few hours listening to National Public Radio each week (Table 12.6).

Table 12.6
Weekly Listening to National Public Radio
(All Respondents)

Number of Hours	Percent
Zero	44%
One or two	24
Three to five	14
Six to Nine	6
Ten or more	10
Don't Know	3
Total Respondents	600

Three-quarters of respondents watch Public Television at least occasionally (Table 12.7).

Table 12.7
Frequency of Watching Public Television
(All Respondents)

Frequency	Percent
Almost never	23%
Once a month or less	18
About once a week	19
A few times a week	24
Almost every day	15
Don't Know	2
Total Respondents	600

The average monthly electric bill for respondents is \$105, with almost two-third of respondents having bills between \$50 and \$150 per month (Table 12.8).

Table 12.8
Monthly Electric Bills of Respondents

Monthly Electric Bill	Percent
Less than \$50	12%
\$50 to \$99	32
\$100 to \$149	24
\$150 or more	18
Don't Know	15
Mean	\$105
Total Respondents	600

Appendix A: Connecticut Survey Form

Hello, my name is _____. I'm calling on behalf of a non-profit organization. This is NOT a sales call or a call for donations. We are asking people around the state some questions about energy and the environment, and the information will be used to help develop energy programs and policies for Connecticut.

Your telephone number was generated at random by a computer and your responses will be kept strictly confidential. [IF ASKED: RESPONSES WILL BE COMBINED WITH OTHERS FOR STATISTICAL ANALYSIS—NO RESPONSES WILL BE EXAMINED INDIVIDUALLY.] This should take about fifteen minutes.

[QUOTA: 50% MALE, 50% FEMALE]

[IF RESPONDENT STOPS YOU OFFER TO SCHEDULE A CALLBACK]

0A. I want to verify that you are over 18 years old.

1. Yes [CONTINUE]
2. No [ASK TO SPEAK TO SOMEONE OVER 18 AND BEGIN AGAIN]

0B. Does your household pay your electric bill to the electric company or is it part of your rent?

1. Pay bill directly to electric company [CONTINUE]
2. Part of rent [TERMINATE]
3. Don't know/Refused [TERMINATE]

1. What do you consider to be the SINGLE most important environmental issue in the world today? [DO NOT READ RESPONSES]
 1. (Global warming)
 2. (Greenhouse effect)
 3. (Climate change)
 4. (Mercury in water)
 5. (Depletion of ozone layer)
 6. (Destruction of wildlife habitats; destruction of the rainforest)
 7. (Water pollution general)
 8. (Air pollution general)
 9. (Urban/suburban sprawl)
 10. (Nuclear proliferation; spread of nuclear weapons)
 11. (Storage/transportation/disposal of nuclear waste; leakage of nuclear materials; radiation)
 12. (Biological weapons)
 13. (WMD; spread of weapons of mass destruction)
 14. (Other [SPECIFY: _____])
 99. (Don't know)

2. Have you ever heard of global warming, sometimes called climate change or the greenhouse effect?
 1. Yes
 2. No
 3. (Don't know)

3. [IF "YES" TO Q.#2] In your judgment, how important is the issue of global warming compared to other major issues facing the world today? [READ RESPONSES; RANDOMIZE—HALF THE TIME READ 1-2-3-4-5, HALF THE TIME READ 5-4-3-2-1]
 1. Much less important than other issues
 2. Somewhat less important
 3. About as important
 4. Somewhat more important
 5. Much more important than other issues
 6. (Don't know)

[ASK Q.#4A, 5A, AND 6A AMONG ONE-HALF OF SAMPLE, AND Q.#4B, 5B, AND 6B AMONG THE OTHER HALF]

- 4A. Have you ever heard of renewable energy?
 1. Yes
 2. No
 3. (Don't know)

- 4B. Have you ever heard of clean energy?
 1. Yes
 2. No
 3. (Don't know)

- 5A. [IF "YES" TO Q.#4A] What does "renewable energy" mean to you? [DO NOT READ RESPONSES; MULTIPLE RESPONSE; PROBE]

- 5B. [IF "YES" TO Q.#4B] What does "clean energy" mean to you? [DO NOT READ RESPONSES; MULTIPLE RESPONSE; PROBE]

- 6A. [IF “YES” TO Q.#4A] Can you give me some examples of renewable energy? [DO NOT READ RESPONSES; MULTIPLE RESPONSE; PROBE]
- 6B. [IF “YES” TO Q.#4B] Can you give me some examples of clean energy? [DO NOT READ RESPONSES; MULTIPLE RESPONSE; PROBE]
1. (Solar energy; energy from the sun; photovoltaics, PV; active solar; passive solar)
 2. (Solar water heating)
 3. (Water power; hydroelectric; use of dams)
 4. (Wind power; windmills; wind farms)
 5. (Biomass; burning organic matter)
 6. (Wood; wood stoves)
 7. (Geothermal)
 8. (Tidal or wave power; using the tides or waves)
 9. (Ethanol/Corn)
 10. (Landfill gas)
 11. (Fuel cells)
 12. (Natural gas)
 13. (Nuclear/nuclear energy/nuclear power/nuclear plants)
 14. (Other [SPECIFY: _____])
 99. (Don't know)
7. [IF “YES” TO Q.#4A OR Q.#4B] Have you seen or heard anything about clean energy or renewable energy in the past few months?
1. Yes
 2. No
 3. (Don't know)
8. [IF “YES” TO Q.#7] What have you heard about clean energy or renewable energy in the past few months? [MULTIPLE RESPONSE; PROBE]

9. [IF “YES” TO Q.#7] Where have you seen or heard about clean energy or renewable energy in the past few months? [DO NOT READ RESPONSES; MULTIPLE RESPONSE; PROBE]
1. (News stories—newspapers)
 2. (News stories—radio)
 3. (News stories—television)
 4. (News stories—magazines)
 5. (Articles—scientific journals)
 6. (Advertising—newspapers)
 7. (Advertising—radio)
 8. (Advertising—television)
 9. (Advertising—magazines)
 10. (Advertising—billboards)
 11. (Newsletter from organization)
 12. (Internet)
 13. (Library)
 14. (Architect)
 15. (Builder/contractor)
 16. (Conversations with friends, family, or coworkers)
 17. (Materials/information that children brought home from school)
 18. (Science center or museum)
 19. (Information from my town or city government)
 20. (Information from the Connecticut state government)
 21. (Information from the federal government)
 22. (Bill inserts from my utility/electric company)
 23. (Other [SPECIFY: _____])
 99. (Don’t know)

As you may know, "clean energy" or “renewable energy” as a way of generating electricity refers to the use of energy from sources such as wind, the sun, water power, fuel cells, landfill gas, and biomass—instead of sources like natural gas, oil, coal, and nuclear. Now I’m going to read you some statements, and I’d like you to tell me if you agree or disagree with each one. [FOR EACH QUESTION, FIRST ASK IF THEY DISAGREE OR AGREE, AND THEN ASK “STRONGLY, SOMEWHAT, OR SLIGHTLY.” NOTE: IF RESPONDENT SAYS NUCLEAR ENERGY IS CLEAN ENERGY, SAY: “NUCLEAR PLANTS DON’T CAUSE POLLUTION OR GLOBAL WARMING WHEN THEY GENERATE POWER, BUT THE DIFFICULTY OF STORING RADIOACTIVE WASTE KEEPS NUCLEAR POWER OUT OF THE CLEAN ENERGY CATEGORY.”]

- SCALE: 1. DISagree strongly
2. DISagree somewhat
 3. DISagree slightly
 4. Agree slightly
 5. Agree somewhat
 6. Agree strongly
 7. (Don’t know)

[RANDOMIZE Q.#10-20]

10. Whether or not I use clean energy to supply my electricity makes little difference to the environment.
11. I don't believe using clean energy sources to generate electricity does very much to reduce global warming.
12. Using clean energy to provide my electricity will help reduce our need for foreign oil.
13. There is enough clean energy to provide electricity for thousands of homes and businesses in Connecticut.
14. It would be easy to use clean energy to supply the electricity in my home.
15. If I weren't satisfied with using clean energy in my home, I could easily go back to what I was using before.
16. I'd like to find out how I personally can do more to increase the actual use of clean energy sources to supply the electricity in my home.
17. There's nothing much I can do to increase the use of clean energy sources in this area of the country.
18. I have no way of knowing if the electricity I purchase comes from clean sources like wind, solar, water power, and biomass, or from other sources like natural gas, oil, coal and nuclear.
19. The use of clean energy can provide a reliable source of electricity for my home.
20. Clean energy could NOT meet all of my household's electricity needs.

Now I'd like to ask some other types of questions:

21. Have you ever heard of residential solar photovoltaic systems that can be put on rooftops and produce electricity for people's homes?
 1. Yes
 2. No
 3. (Don't know)
22. Have you ever heard of fuel cells—boxes about the size of refrigerators that can be placed at people's homes and produce electricity without any burning or combustion—like a large, continuously operating battery?
 1. Yes
 2. No
 3. (Don't know)

23. Some clean energy can be generated right at people's homes, from things like solar photovoltaic systems or fuel cells. But other clean energy sources can be used to generate large amounts of electricity at a central location—electricity that is then sent over regular power lines to individual homes like yours. Were you aware that it is possible to deliver clean energy to individual homes over regular power lines?
1. Yes, aware
 2. No, not aware
 3. (Don't know)
24. Approximately how much is your average monthly electric bill? [ASK FOR A GUESS IF THEY DON'T KNOW; RECORD EXACT AMOUNT; DON'T KNOW=999]
25. In fact, it is possible to purchase clean energy—solar, wind, water power, fuel cells, landfill gas, and biomass—delivered over regular power lines. Most of the electricity you buy now comes from coal, oil, natural gas, and nuclear. How likely would you be to purchase ALL of your electricity from clean energy sources, if it increased your monthly electric bill by \$[INSERT RESULT OF Q.#24 TIMES 10%, ROUNDED TO NEAREST DOLLAR; IF Q.#24=DON'T KNOW, SUBSTITUTE \$10]? Use a scale from 0 to 10, where "0" is "not at all likely" and "10" is "extremely likely" [11=DON'T KNOW; IF 8-10, SKIP TO Q.#29]
26. How likely would you be to purchase HALF of your electricity from clean energy sources, if it increased your monthly electric bill by \$[INSERT RESULT OF Q.#24 TIMES 5%, ROUNDED TO NEAREST DOLLAR; IF Q.#24=DON'T KNOW, SUBSTITUTE \$5]? Use the same 0 to 10 scale. [IF NECESSARY, READ: "0" is "not at all likely" and "10" is "extremely likely"; 11=DON'T KNOW; IF 8-10, SKIP TO Q.#29]
27. How likely would you be to purchase HALF of your electricity from clean energy sources, if it increased your monthly electric bill by \$1? Use the same 0 to 10 scale. [IF NECESSARY, READ: "0" is "not at all likely" and "10" is "extremely likely" [11=DON'T KNOW; IF 8-10, SKIP TO Q.#29]
28. [IF DK OR 0-7 TO Q.#27] What would keep you from purchasing half of your electricity from clean energy sources, if it cost one dollar more per month? [MULTIPLE RESPONSE; PROBE]
29. [IF 8-10 TO Q.#25, 8-10 TO Q.#26, OR 8-10 TO Q.#27] What would be your reasons for purchasing electricity from clean sources? [MULTIPLE RESPONSE; PROBE]
30. Which of the following do you think is the BEST reason to purchase electricity from clean energy sources? [READ AND RANDOMIZE 1-4]randomize
1. It helps prevent global warming
 2. It reduces our need for foreign oil
 3. It means cleaner air and improved health for our children
 4. It encourages new technologies and creates jobs for our community
 5. (Don't know)

31. [IF “YES” TO Q.#4A or 4B] Did you purchase clean energy to supply the electricity you used in your current home before 2005?
1. Yes
 2. No
 3. (Don’t know)
32. [IF “YES” TO Q.#31] Do you still purchase clean energy from this same source to supply the electricity you use in your home?
1. Yes
 2. No
 3. (Don’t know)
33. [IF “YES” TO Q.#31] What [IF “YES” TO Q.#32 READ “IS”; OTHERWISE READ “WAS”] the name of your clean energy supplier?
34. [IF “NO” TO Q.#32] Why do you no longer purchase clean energy to supply the electricity you use in your home? [DO NOT READ RESPONSES; MULTIPLE RESPONSE; PROBE]
1. (Company stopped selling it; can’t buy it any more)
 2. (Company went out of business; company went bankrupt)
 3. (Company left the state)
 4. (Too expensive; costly)
 5. (Other [SPECIFY: _____])
 99. (Don’t know)
35. [IF “YES” to Q.#31] Did your previous experience with clean energy make you more likely or less likely to purchase clean energy to supply your household’s electricity in the future?
1. Yes, much less likely [ASK Q.#36]
 2. Yes, somewhat less likely [ASK Q.#36]
 3. Yes, somewhat more likely [ASK Q.#36]
 4. Yes, much more likely [ASK Q.#36]
 5. No, neither more likely nor less likely
 6. (Don’t know)
36. [IF 1-4 TO Q.#35] Why did your previous experience with clean energy make you more/less likely to purchase clean energy to supply your household’s electricity in the future? [MULTIPLE RESPONSE; PROBE]

37. If you wanted to purchase clean energy delivered over regular power lines to supply the electricity you use in your home, what companies or organizations would you turn to for information? [DO NOT READ RESPONSES; MULTIPLE RESPONSE; PROBE]
1. (Connecticut Clean Energy Fund)
 2. (Smart Power)
 3. (Utility; Connecticut Light & Power; United Illuminating; any specific utility)
 4. (Contractor)
 5. (Would look in Yellow Pages)
 6. (Would look on Internet)
 7. (City/town government)
 8. (State government general)
 9. (Federal government general)
 10. (Green Mountain Energy)
 11. (Connecticut Energy Cooperative)
 12. (Community Energy)
 13. (Sterling Planet)
 14. (Connecticut Department of Public Utility Control)
 15. (Connecticut Clean Energy Trail)
 16. (20% by 2010 Clean Energy Campaign)
 17. (Connecticut Clean Energy Communities)
 18. (The Connecticut Center for Science and Exploration)
 19. (EPA, U.S. Environmental Protection Agency)
 20. (Clear Skies Initiative, President Bush's Clear Skies Initiative)
 21. (Other [SPECIFY: _____])
 99. (Don't know)
38. [IF "WOULD LOOK IN YELLOW PAGES" TO Q.#37] What would you look up in the Yellow Pages? [DO NOT READ RESPONSES; MULTIPLE RESPONSE; PROBE]
39. [IF "WOULD LOOK ON INTERNET" TO Q.#37] What keywords would use in a search engine, such as Google or Yahoo? [DO NOT READ RESPONSES; MULTIPLE RESPONSE; PROBE]
40. Have you ever heard of "Tradable Renewable Certificates," also called "green tags" or "renewable energy certificates"?
1. Yes
 2. No
 3. (Don't know)

41. [IF “YES” TO Q.#40] What are Tradable Renewable Certificates, green tags, or renewable energy certificates? [DO NOT READ RESPONSES; MULTIPLE RESPONSE; PROBE]
1. (Certifies TYPE of renewable/clean energy—e.g., wind, solar, biomass, small hydro)
 2. (Certifies TOTAL AMOUNT/kWh/kilowatthours of electricity generated by renewables vs. other sources)
 3. (Certifies percentage of renewables that are NEW rather than previously existing)
 4. (Certifies PRICE)
 5. (Certifies level of EMISSIONS)
 6. (Certifies LOCATION of renewable generation sources)
 7. (Protects against DOUBLE COUNTING of renewable generation sources)
 8. (Certifies OWNERSHIP)
 9. (Other [SPECIFY: _____])
 99. (Don’t know)
42. [IF “YES” TO Q.#21] As far as you know, are there any rebates or incentives available for people who want to purchase solar photovoltaic systems to put on their rooftops to supply electricity for their homes?
1. Yes
 2. No
 3. (Don’t know)
43. [IF “YES” TO Q.#42] What organizations provide rebates or incentives for people who want to purchase solar photovoltaic systems? [DO NOT READ RESPONSES; MULTIPLE RESPONSE; PROBE]
1. (Connecticut Clean Energy Fund)
 2. (Smart Power)
 3. (Utility; Connecticut Light & Power; United Illuminating; any specific utility)
 4. (State government general)
 5. (Connecticut Department of Public Utility Control; DPUC)
 6. (Federal government)
 7. (Banks)
 8. (Manufacturers)
 9. (Contractors)
 10. (Other [SPECIFY: _____])
 99. (Don’t know)
44. Have you recently heard about any programs or organizations that encourage clean energy or renewable energy as a way of generating electricity?
1. Yes
 2. No
 3. (Don’t know)

45. [IF “YES” TO Q.#44] Do you happen to recall the names of these programs or organizations?
1. Yes
 2. No
 3. (Don’t know)
46. [IF “YES” TO Q.#45] What are the names of these programs or organizations? [DO NOT READ RESPONSES; MULTIPLE RESPONSE; PROBE]
1. (Connecticut Clean Energy Fund)
 2. (Smart Power)
 3. (Utility; Connecticut Light & Power; United Illuminating; any specific utility)
 4. (City/town government)
 5. (State government general)
 6. (Federal government general)
 7. (Green Mountain Power)
 8. (Connecticut Energy Cooperative)
 9. (Community Energy)
 10. (Sterling Planet)
 11. (Connecticut Department of Public Utility Control)
 12. (Connecticut Clean Energy Trail)
 13. (20% by 2010 Clean Energy Campaign)
 14. (Connecticut Clean Energy Communities)
 15. (The Connecticut Center for Science and Exploration)
 16. (EPA, U.S. Environmental Protection Agency)
 17. (Clear Skies Initiative, President Bush’s Clear Skies Initiative)
 18. (Other [SPECIFY: _____])
 99. (Don’t know)

Now I’m going to read the names of some programs and organizations, and I’d like you to tell me if you have heard of each one. Have you heard of: [READ AND RANDOMIZE Q.#47-56; 1=YES, 2=NO, 3=DON’T KNOW]

47. [IF NOT MENTIONED IN Q.#46] The Connecticut Clean Energy Fund?
48. [IF NOT MENTIONED IN Q.# 46] Smart Power?
49. [IF NOT MENTIONED IN Q.# 46] Connecticut Clean Energy Trail?
50. The EPA, or U.S. Environmental Protection Agency
51. President Bush’s Clear Skies Initiative
52. [IF NOT MENTIONED IN Q.# 46] 20% by 2010 Clean Energy Campaign?
53. [IF NOT MENTIONED IN Q.# 46] Connecticut Clean Energy Communities?
54. [IF NOT MENTIONED IN Q.# 46] The Connecticut Center for Science and Exploration?
55. [IF NOT MENTIONED IN Q.# 46] Community Energy
56. [IF NOT MENTIONED IN Q.# 46] Sterling Planet

57. [IF “YES” TO Q.#47 OR IF MENTIONED IN Q.#46] As far as you know, what is the Connecticut Clean Energy Fund and what does it do? {MULTIPLE RESPONSE; PROBE]
58. [IF “YES” TO Q.#48 OR IF MENTIONED IN Q.#46] As far as you know, what is Smart Power and what does it do? {MULTIPLE RESPONSE; PROBE]
59. [IF “YES” TO Q.#55 OR IF MENTIONED IN Q.#46] As far as you know, what is Community Energy and what does it do? [MULTIPLE RESPONSE; PROBE]
60. [IF “YES” TO Q.#56 OR IF MENTIONED IN Q.#46] As far as you know, what is Sterling Planet and what does it do? [MULTIPLE RESPONSE; PROBE]
61. [IF “YES” TO Q.#53 OR IF MENTIONED IN Q.#46] What is a Connecticut Clean Energy Community? [MULTIPLE RESPONSE; PROBE]
62. [IF “YES” TO Q.#53 OR IF MENTIONED IN Q.#46] As far as you know, is your town or city a Connecticut Clean Energy Community?
1. Yes
 2. No
 3. (Don’t know)

Next, I’m going to read three slogans that may have been used in advertising or promotions in your area in the last few months. As I read each slogan, please tell me how certain you are whether you have seen or heard it.

[RANDOMIZE Q.#63-65]

63. The slogan, “It’s real, it’s here, it’s working.” Are you ...[READ RESPONSES]
1. Completely certain you did NOT see or hear it
 2. Somewhat certain you did NOT see or hear it
 3. Somewhat certain you DID see or hear it
 4. Completely certain you DID see or hear it
 5. Not sure whether you saw or heard it
64. The slogan, “Green up.” Are you ...[READ RESPONSES]
1. Completely certain you did NOT see or hear it
 2. Somewhat certain you did NOT see or hear it
 3. Somewhat certain you DID see or hear it
 4. Completely certain you DID see or hear it
 5. Not sure whether you saw or heard it

65. The slogan, “Clean energy: for Connecticut, for the earth.” Are you ...[READ RESPONSES]
1. Completely certain you did NOT see or hear it
 2. Somewhat certain you did NOT see or hear it
 3. Somewhat certain you DID see or hear it
 4. Completely certain you DID see or hear it
 5. Not sure whether you saw or heard it
66. In the past year or so, have you talked with friends, relatives, neighbors, or co-workers about clean energy as way of generating electricity?
1. Yes
 2. No
 3. (Don't know)
67. [IF “YES” TO Q.#66] Did you bring up the topic of clean energy as way of generating electricity, or did your friends, relatives, neighbors, or co-workers bring it up?
1. I brought it up
 2. They brought it up
 3. (Both)
 4. (Don't know)
68. In the past year or so, have you written letters to elected officials about clean energy?
1. Yes
 2. No
 3. (Don't know)
69. In the past year or so, have you written letters to newspapers or magazines about clean energy?
1. Yes
 2. No
 3. (Don't know)
70. In the past year or so, have you made a donation to a charitable organization because of its commitment to clean energy as a way of generating electricity?
1. Yes
 2. No
 3. (Don't know)
71. In the past year or so, have you joined or participated in an organization because of its commitment to clean energy as a way of generating electricity?
1. Yes
 2. No
 3. (Don't know)

72. In the past year or so, have you called an 800 number to find out about purchasing clean energy to supply your electricity?
1. Yes
 2. No
 3. (Don't know)
73. In the past year or so, have you visited a website dealing with clean energy as a way of generating electricity?
1. Yes
 2. No
 3. (Don't know)
74. Now I have a few last questions for statistical purposes only. Do you own or rent your home?
1. Own
 2. Rent
 3. (Refused)
75. How many hours per week would you say you listen to National Public Radio, or NPR?
[READ RESPONSES]
1. Zero hours (never listen to it)
 2. One or two hours
 3. Three to five hours
 4. Six to nine hours
 5. Ten hours or more
 6. (Don't know)
76. How often would you say you watch to public television, or PBS? [READ RESPONSES]
1. Almost never
 2. Once a month or less
 3. About once a week
 4. A few times a week
 5. Almost every day
 6. (Don't know)
77. What is the highest level of education you have completed? [READ CATEGORIES]
1. Less than high school
 2. High school graduate
 3. Technical or trade school graduate
 4. Some college
 5. Two-year college graduate
 6. Four-year college graduate
 7. Some graduate or professional school
 8. Graduate or professional degree
 9. (Refused)

78. Which of the following categories best describes your age?
1. 18 to 24
 2. 25 to 34
 3. 35 to 44
 4. 45 to 54
 5. 55 to 64
 6. 65 or over
 7. (Refused)
79. What category best describes your total household income in 2004, before taxes?
1. Less than \$15,000
 2. \$15,000 - \$24,999
 3. \$25,000 - \$34,999
 4. \$35,000 - \$49,999
 5. \$50,000 - \$74,999
 6. \$75,000 - \$99,999
 7. \$100,000 - \$149,999
 8. \$150,000 or more
 9. (Refused)
80. **[DO NOT READ]** Sex
1. Female
 2. Male
81. [IF "NO" TO Q.#32] You said that at one time you purchased clean energy to supply the electricity in your home but you no longer do. We are interested in people's experiences with clean energy. Would you be willing to have someone call you back to discuss this experience in more detail?
1. Yes [RECORD NAME: _____]
 2. NO [THANK AND TERMINATE]

Thank you very much!

Appendix B: National Survey Questions

1. Does your household pay your electric bill to the electric company or is it part of your rent?
 1. Pay bill directly to electric company
 2. Part of rent
 3. Don't know/Refused

2. Have you ever heard of global warming, sometimes called climate change or the greenhouse effect?
 1. Yes
 2. No
 3. (Don't know)

3. [IF "YES" TO Q.#2] In your judgment, how important is the issue of global warming compared to other major issues facing the world today? [READ RESPONSES; RANDOMIZE—HALF THE TIME READ 1-2-3-4-5, HALF THE TIME READ 5-4-3-2-1]
 1. Much less important than other issues
 2. Somewhat less important
 3. About as important
 4. Somewhat more important
 5. Much more important than other issues
 6. (Don't know)

- 4B. Have you ever heard of clean energy or renewable energy?
 1. Yes
 2. No
 3. (Don't know)

- 6B. [IF “YES” TO Q.#4B] Can you give me some examples of clean energy or renewable energy? [DO NOT READ RESPONSES; MULTIPLE RESPONSE; PROBE]
1. (Solar energy; energy from the sun; photovoltaics, PV; active solar; passive solar)
 2. (Solar water heating)
 2. (Water power; hydroelectric; use of dams)
 3. (Wind power; windmills; wind farms)
 4. (Biomass; burning organic matter)
 5. (Wood; wood stoves)
 6. (Geothermal)
 7. (Tidal or wave power; using the tides or waves)
 8. (Ethanol/Corn)
 9. (Landfill gas)
 10. (Fuel cells)
 11. (Natural gas)
 13. (Nuclear/nuclear energy/nuclear power/nuclear plants)
 14. (Other [SPECIFY: _____])
 99. (Don't know)
21. As you may know, "clean energy" or “renewable energy” as a way of generating electricity refers to the use of energy from sources such as wind, the sun, water power, fuel cells, landfill gas, and biomass—instead of sources like natural gas, oil, coal, and nuclear. Have you ever heard of residential solar photovoltaic systems that can be put on rooftops and produce electricity for people’s homes?
1. Yes
 2. No
 3. (Don't know)
22. Have you ever heard of fuel cells—boxes about the size of refrigerators that can be placed at people’s homes and produce electricity without any burning or combustion—like a large, continuously operating battery?
1. Yes
 2. No
 3. (Don't know)
23. Some clean energy or renewable energy can be generated right at people’s homes, from things like solar photovoltaic systems or fuel cells. But other clean energy sources can be used to generate large amounts of electricity at a central location—electricity that is then sent over regular power lines to individual homes like yours. Were you aware that it is possible to deliver clean energy or renewable energy to individual homes over regular power lines?
1. Yes, aware
 2. No, not aware
 3. (Don't know)

30. Which of the following do you think is the BEST reason to purchase electricity from clean energy sources or renewable energy sources? [READ AND RANDOMIZE 1-4]
1. It helps prevent global warming
 2. It reduces our need for foreign oil
 3. It means cleaner air and improved health for our children
 4. It encourages new technologies and creates jobs for our community
 5. (Don't know)