2007
Iowa Residential
Energy Survey

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For
Iowa Utilities Board

Sponsored by
Iowa Energy Center

December 2007

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This report is available online at http://www.csbs.uni.edu/dept/csbr/findings.html

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EXECUTIVE SUMMARY

- The majority of Iowa energy consumers view global climate change/global warming as a serious issue and believe strong action is important to combat the changes.
- The large majority of respondents view their family energy conservation efforts as good or excellent.
- Energy efficiency, energy conservation, and ENERGY STAR are terms associated primarily with appliance; energy efficiency is mainly associated with appliances using less energy, conservation is associated primarily with turning off appliances, and ENERGY STAR is associated with efficient appliances.
- When asked about specific strategies for saving energy, turning off lights and appliances was mentioned most frequently along with raising/lowering the thermostat in hot and cold weather, respectively.
- Almost a quarter of respondents reported that they had completed a home energy audit. Home insulation and switching to compact fluorescent lights (CFLs) were the most frequently reported changes made as a result of an audit. Home insulation was offered most frequently as the change that was recommended but not made and cost was most frequently mentioned as the reason that audit recommendations were not followed.
- Respondents reported most frequently that installing insulation, installing a new furnace or energy efficient windows and switching to CFLs were the steps they had taken in the last 2 years to conserve energy or lower energy costs.
- Turning off lights and televisions and using compact fluorescent lights were cited by a large majority of respondents as specific products or behaviors that they have adopted to reduce energy use. In the cases of turning off lights and using water flow restrictors, the majority of respondents not endorsing these items reported that they did not do this or use the item because they had not thought about it.
- Almost three-quarters of the respondents indicated that they used CFLs. Users reported that over half of the household bulbs were CFLs. The majority of users reported that they were very satisfied with the bulbs and less than one in ten users expressed any dissatisfaction with the lights.
- Just over half of the respondents indicated that they owned ENERGY STAR appliances and six in ten reported awareness of rebates for energy efficient appliances and about a third reported that they had participated in such a rebate program in the past 2 years.
- Television, print and radio sources were viewed as the most effective for communicating information about energy efficiency and conservation. Top mentions for actual sources of energy efficiency and conservation were television news, newspapers and brochures.
- Utility providers and consumer groups were viewed as the most credible sources of information on energy efficiency and conservation. Elected officials were viewed as the least credible.
- Both energy attitudes and self-perceptions of household energy conservation efforts are positively associated with actual use of energy conserving products and conservation behaviors.
- Controlling simultaneously for several variables, regression analyses show that: 1) being male is negatively associated with both positive energy attitudes and energy conservation behaviors; 2) having a college education or graduate degree is associated with more positive energy attitudes; 3) being older, having minor children at home, having positive energy attitudes, and having higher income are all associated with engaging in more energy conserving behaviors.

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INTRODUCTION

This report summarizes the findings of a statewide survey designed to assess: 1) consumer knowledge of energy use and efficiency and, 2) methods to increase such knowledge. This project was funded by the Iowa Energy Center to support the activities of the Iowa Utilities Board. The following sections outline the methods and main findings of this survey. The questionnaire and frequencies are included in the Appendix B. Crosstab and mean tables for those items with significant differences within groups are included in Appendix C.

METHODS

In collaboration with the Iowa Utilities Board staff, the Iowa Energy Center, and suggestions from a cross-section of stakeholders, the questionnaire was developed to ascertain the desired information while attempting to minimize any bias or cueing of the respondents. Utilizing a computer-assisted telephone interviewing (CATI) system at the University of Northern Iowa Center for Social and Behavioral Research, the survey design utilized random-digit dialing (RDD) techniques to provide a representative sample of households in Iowa. Within the households, interviewers asked to speak with the person most likely to make decisions regarding household utilities.

The data collection began on September 10, 2007, and was completed on October 24, 2007. The interview averaged 25.1 minutes in length. The margin of sampling error (at a 95% confidence level) is ± 2.8%.

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RESULTS

Sample Characteristics

As shown in Table 1, the sample provided a broad representation of the Iowa adult population. The samples are compared with the 2006 Census figures for Iowa. It should be noted that the design did not attempt to represent the population, but instead requested participation of the adult household member most likely to make decisions regarding utilities. Therefore, the sample is not expected to mirror the population. Except Race/Ethnicity in Table 1, all percentages in the report are rounded to the nearest whole percentage. This rounding may result in a total slightly above or below 100%. Additionally, unless "Don't know" or "Refused" responses are listed, percentages are of those responding explicitly. Geographic distribution of respondents across counties is shown in Appendix A.

Table 1: Residential sample and Iowa population

	Sample	**2006 Iowa ACS Census Estimates**
Gender		
Male	37%	49%
Female	63%	51%
Age		
18-30	5%	18%
31-50	34%	27%
51-70	40%	21%
71+	20%	10%
Race/Ethnicity		
White	96.5%	93.0%
Black	0.8%	2.3%
Asian	0.8%	1.5%
American Indian	0.7%	0.3%
Hispanic	1.4%	3.8%
Other	0.6%	1.6%
Education		
< High School	4%	13%
High School	30%	36%
Some College/AA	32%	29%
Bachelor's	23%	15%
Grad/Prof degree	10%	7%

General Environmental Attitudes

The overwhelming majority of the respondents (73%) indicated that they believe that global warming or global climate change is occurring and requires action of some sort. Approximately one third viewed immediate action as necessary. Figure 1 represents the percentages endorsing each attitude statement.

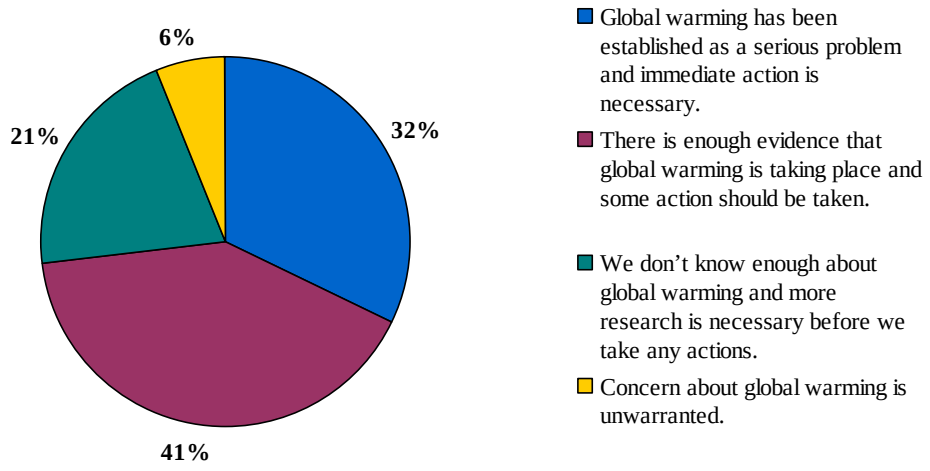

Figure 1: Global warming attitudes

Approximately half of the respondents indicated that drastic measures (beyond driving less, recycling, and turning down the thermostat) would be needed to control the effects of global warming.

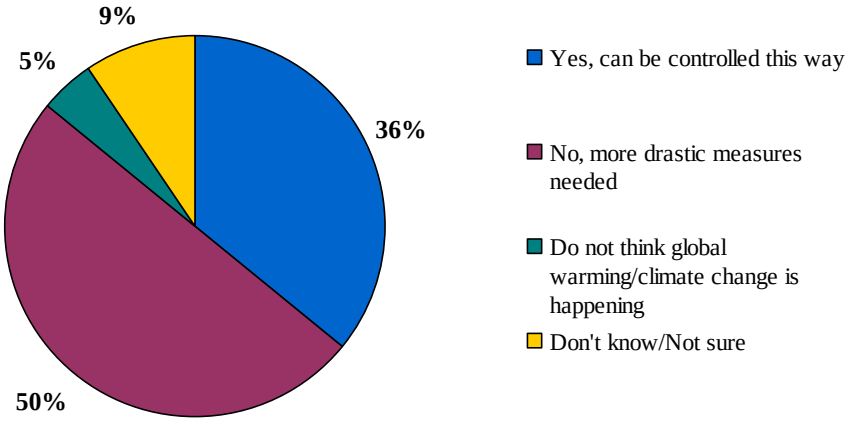

Figure 2: Measures needed to control effects of global warming

The respondents were split regarding the overall quality of the environment in the country today with about half (49%) saying the quality was good or excellent and about half (51%) saying the quality was fair or poor.

Subgroup Analyses: Responses to these items varied signifianctly within several subgroups. See Appendix C for specific values.

Sex: Women were significantly more likely than men to say that global warming is a serious problem needing drastic action, but men were more likely than women to endorse drastic measures to address the problem. Women were also more likely than men to rate the overall quality of the environment as fair or poor.

Income: Respondents with household incomes less than $25,000 were more likely than those in higher income groups to say that global warming is a serious problem needing drastic action. Households with lower incomes were more likely than those in higher income groups to rate the overall environmental quality as fair or poor and those in the highest income group were least likely to rate the environment as fair or poor.

Age: The youngest respondents (<30 years of age) were less likely to rate the overall quality of the environment as excellent or good compared to those who were older.

Importance of Service Dimensions

When asked about the importance of several dimensions of energy service, respondents rated all as important (1=Not at all important to 5 = Very important) with reliability of service as the most important (see Table 2).

Table 2: Mean attitude ratings of importance of utility service dimensions

Dimensions	Mean
Cost	4.41
Reliability of service	4.59
Customer service	4.25
Energy saving tips and other education information	3.95
Use of environmentally sound practices	4.26
The source of electricity, for example, coal vs. nuclear power	3.92

Subgroup Analyses: Responses to these items varied significantly within several subgroups. However, these differences were not large – typically in the range of less than a half of a rating point. See Appendix C for specific values.

Sex: Women were more likely than men to rate costs, customer service, energy saving tips, use of environmentally sound practices, and source of electricity as important.

Income: Respondents with household incomes less than $25,000 were more likely than other income groups to rate cost as important. The highest income group was more likely than others to rate reliability of service as important and more likely to rate customer services, energy saving tips, environmental sound practices and source of electricity as very important.

Age: Older respondents were more likely than younger ones to view reliability of service, energy saving tips, and source of energy as important. Use of environmentally sound practices was rated as more important by those in the 51-70 age group.

Urban/Rural: Reliability of service was rated as more important by those reporting an urban location than a rural location.

Presence of Children: Those with minor children living at home were more likely than others to rate reliability of service as important.

Household Energy Profile

The overwhelming majority of the respondents (98%) indicated that they received an energy bill each month and 98% of respondents indicated that they were reponsible for paying that bill each month. Ninety percent of respondents indicated that they owned their home and 83% described the dwelling as a single family detached structure.

Mid-American and Alliant were named most frequently as the provider of electricity and gas for respondents' homes (see Figures 3 & 4).

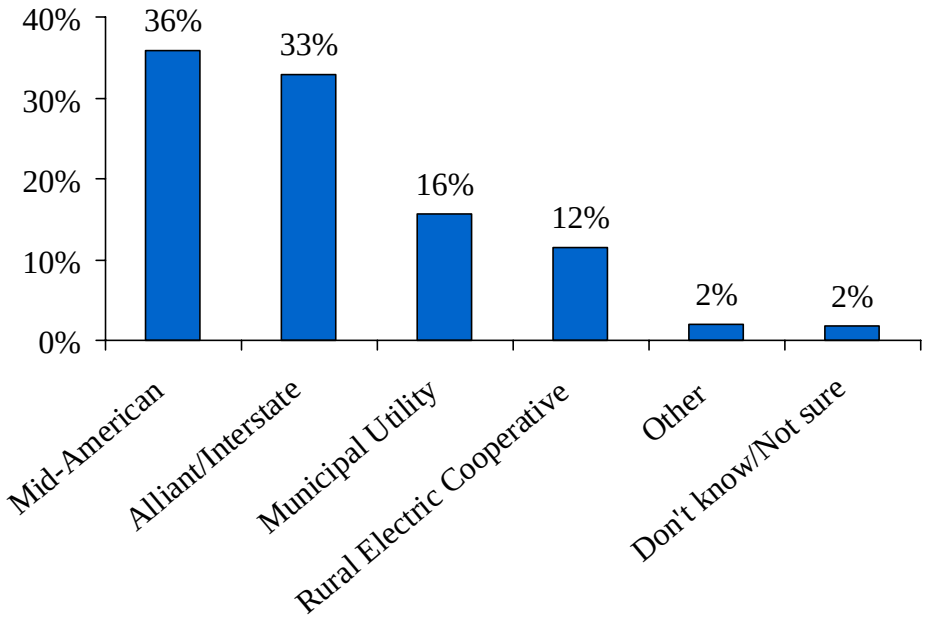

Figure 3: Company providing electricity to home

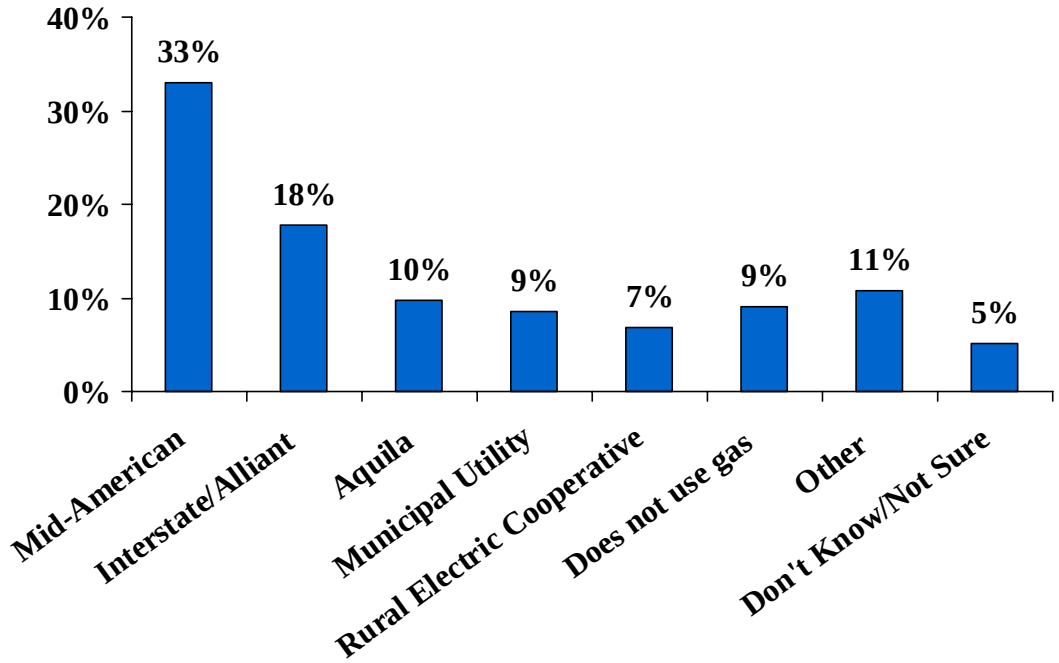

Figure 4: Company providing gas to home

Energy decisions are spread across household members with 37% reporting that the female head of household makes the decisions, 33% reporting the male head of household makes the decisions and 29% indicating that energy decisions are made jointly. If respondents were married, joint decision-making increased to 42%.

The estimate for the average energy bill was $141 during the summer and about $180 during the winter months. At least 90% of respondents provided an estimate for these figures. Less than one in ten respondents (8%) was able to estimate the rate paid per kilowatt hour (kwh) of electricity. Of those providing a response, the average estimate was $.20 per kwh with a range of $.0145 to $6.00.

As shown in Table 3, in an uncued question, respondents reportedly read few aspects of the monthly billing. Almost four in ten (37%) indicated that they read no specific part of the billing other than the amount. The most frequently cited category of information read was monthly usage (mentioned by 26% of respondents).

Table 3: Parts of bill read regularly

Information	Percent Mentioning
Unit costs or rates such as price per kwh	11%
Monthly usage	26%
Daily usage	13%
Usage compared to a year ago	18%
Average temperatures compared to a year ago	6%
Minimum charge	2%
Cost breakdown (e.g., base charge versus taxes)	8%
Educational information, including inserts	10%
Tax and franchise information	3%
Refund & rebates	2%
Read no other information (offered by R)	37%
Read all information (offered by R)	1%
Other	8%
Don’t know / Refused	3%

Almost two thirds of the respondents (63%) reported that their energy bill had increased over the past 5 years, about 15% reported a decrease and 22% reported no change over the period. The majority (57%) viewed increased energy costs as the reason for increases and purchasing a new furnace or air conditioner (22%) or changing homes (17%) as the most common reasons for decreases.

When asked to rate their family energy conservation, almost six in ten (57%) rated their conservation as good and 18% rated their conservation as excellent.

Respondents were asked for their "top of mind" associations to "energy efficiency," "energy conservation," and "ENERGY STAR." The top 4 mentions for each are listed in Tables 4-6. The term "energy efficiency" evoked associations primarily related to appliances using less energy. Almost half of the respondents mentioned this association. Less than one in ten (8%) were unsure or stated that they did not know what the term meant. "Energy conservation" was associated most with turning off appliances, and "ENERGY STAR" was associated most with efficient appliances. More respondents were unsure (14%) of what "energy conservation" meant and half of the respondents (50%) were unsure or did not offer any association for "ENERGY STAR."

Table 4: Top 4 reactions to "Energy Efficiency"

Responses	Percent
Appliances that use less energy to run	47%
Saving energy, conservation	8%
Saving money	7%
Adding insulation	7%

Table 5: Top 4 reactions to "Energy Conservation"

Responses	Percent
Turning off appliances when not using them	27%
Saving energy, conserving	24%
Turning up/down the thermostat	17%
Appliances using less energy to run	7%
Adding insulation, caulking, weatherstripping	5%

Table 6: Top 4 reactions to "ENERGY STAR"

Responses	Percent
Efficient appliances	36%
Saves money	4%
Ratings	2%
Conserving energy	2%

Half of the respondents reported that they had seen or heard of the ENERGY STAR designation. In an open-ended, uncued question, just over half of the respondents mentioned that "ENERGY STAR" was designated to communicate energy savings and lower energy use.

However, 41% were unsure what it meant. As shown in Table 7, of those reporting familiarity, 76% mentioned that the designation means energy savings and less energy use.

Table 7: Reactions to "ENERGY STAR" meaning

Responses	All	Those Familiar
Saves energy, uses less energy	52%	76%
Saves money, costs less	4%	8%
Government standard	4%	7%
Don't know / not sure	41%	13%

Labels on appliances or products were mentioned most frequently as the source of information regarding ENERGY STAR. The majority of respondents mentioned the labels as a source of information. TV commercials, utility mailings or bill inserts and store displays were also mentioned but at a much lower frequency (see Table 8).

Table 8: Top 4 sources of "ENERGY STAR" information

Responses	All	Those Familiar
Labels on appliances/equipment	52%	60%
TV commercial	7%	13%
Utility mailing / bill insert	6%	11%
Displays in stores	6%	11%

Respondents were also asked what came to mind when they heard "time of use rates" and "peak demand." Almost four in ten (38%) were unsure of what "time of use rates" meant. Of those responding, the majority (42% of all and 68% of those who offered an association) indicated that this referred to "off/on peak hours." Ten percent mentioned reduced cost for off-peak usage and 5% mentioned "time-of-use" meters.

"Peak demand" elicited mentions of high electrical demand from almost three quarters (72%) of respondents followed by extreme hot/cold weather (8%). About 7% said they were unsure what the term meant.

Subgroup Analyses: Responses to several of the items varied significantly within subgroups. See Appendix C for specific values.

Sex: Women were more likely than men to rate their family energy conservation efforts as good or excellent. Males were more likely than females to report that they had seen information about ENERGY STAR on product labels.

Income: Income was directly related to knowledge of ENERGY STAR. The highest income group was most likely be familiar with the designation and those with the lowest incomes were least likely to be familiar. In addition, those with higher incomes were most likely to mention saving energy or using less energy as a description of ENERGY STAR and to report that they had seen the designation on labels.

Age: Older respondents were more likely than younger ones to view their energy conservation efforts as good or excellent. Younger respondents were much more likely than older ones to be familiar with the ENERGY STAR designation. Respondents in the 31-50 age group were most likely to say that the ENERGY STAR designation means using less energy and the group was also most likely to report seeing the ENERGY STAR on product labels.

Urban/Rural: Urban respondents were more likely than rural respondents to report seeing ENERGY STAR labels on appliances and electronics.

Presence of Children: Those with children living at home were less likely than those without children to report that their energy conservation efforts were good or excellent. Those with children at home were more likely to be familiar with the ENERGY STAR designation, to mention energy savings as the association and to report learning about ENERGY STAR from product labels.

Energy Attitudes

Specific attitudes about energy were assessed along with ways to reduce energy in the home. Respondents used a scale from 1 to 5, where 1 reflected strong disagreement and 5 reflected strong agreement. Mean attitude ratings are shown in Table 9.

Table 9: Mean attitude ratings of energy issues

Attitude Statements	Mean
My life is too busy to worry about making energy related improvements to my home.	2.1
Scarce energy supplies will be a major problem in the future.	3.9
Instead of utilities building new power plants, customers should use less electricity.	3.2
It is possible to save energy without sacrificing comfort by being energy efficient.	4.1
It is worth it to me for my household to use less energy in order to help preserve the environment.	4.1

Respondents were also asked about the three most important ways to reduce energy use at home. Items receiving the top 4 mentions are listed in Table 10. Turning off lights and appliances was mentioned most frequently along with raising/lowering the thermostat in hot and cold weather, respectively. Adding or improving home insulation and reducing window/door air leaks were mentioned by almost a third of respondents.

Table 10: Top 4 most important ways to reduce energy use at home

Responses	Percent
Turning off lights, TVs, appliances, etc. when not in use	54%
Raising/lowering thermostat in summer/winter, respectively	53%
Home insulation and sealing air leaks	30%
Buying energy efficient appliances	16%

Subgroup Analyses: Responses to several of the attitude items varied significantly within subgroups. See Appendix C for specific values.

Sex: Women were more likely than men to disagree with the statement suggesting that their lives were too busy to worry about making energy related improvement. Women were also more likely than males to agree that customers should use less electricity and that lower household energy use was worth the sacrifice for the environment. Women were less likely than men to mention home insulation and weather stripping, natural gas heating, and insulating water heaters as important ways to conserve energy at home.

Age: Respondents aged 51-70 were most likely to disagree with the statement suggesting that their lives were too busy to worry about making energy related improvement. Those over 70 were less likely to disagree with the statement.

Household Heating/Cooling Profile

Almost two thirds (64%) of respondents reported that they had natural gas central forced air furnaces for heating. Temperature control for heating was split between programmable thermostats (47%) and regular thermostats (44%). The mean temperature reported for heat during waking hours when at home was 69 degrees. The average temperature overnight was 67 degrees and when no one was home, 65 degrees.

Almost eight in ten respondents (78%) reported that they had a central air conditioner for cooling. Temperature control for cooling was split between programmable thermostats (45%) and regular thermostats (37%). Almost 40% of respondents indicated that their cooling system was typically left at a constant temperature at all times. Another 31% reported that they changed the temperature based on time of day.

Energy Audits

Almost one quarter of respondents (23%) reported that they had completed an energy audit. Of those, about two-thirds (64%) reported that they learned about audits independently and about one-third (31%) reported that the audit had been recommended. The utility provider was mentioned most frequently (65%) as the source of the recommendation. Written materials, brochures and pamphlets were mentioned most frequently (35%) as the source of information on energy audits followed by information from the energy/utility company (22%) and conversations with friends, relatives or colleagues (11%).

Home insulation and switching to compact fluorescent lights (CFLs) were the most frequently reported changes made as a result of an energy audit. Other changes are shown in Figure 5.

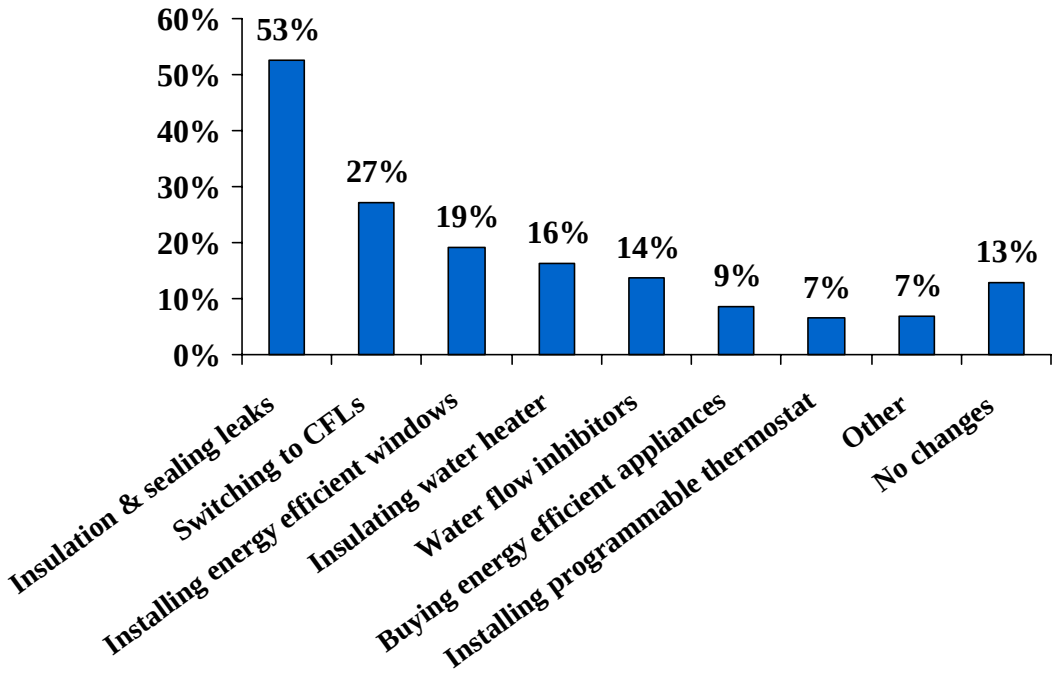

Figure 5: Changes made as a result of an energy audit

Home insulation was offered most frequently as the change that was recommended but not made (14%) and cost was most frequently mentioned (37%) as the reason that audit recommendations were not followed.

Energy Conservation Behaviors

Consistent with responses for important energy saving behaviors, respondents reported that installing insulation, installing a new furnace or energy efficient windows and switching to CFLs were steps they had taken in the last 2 years to conserve energy or lower energy costs (see Figure 6).

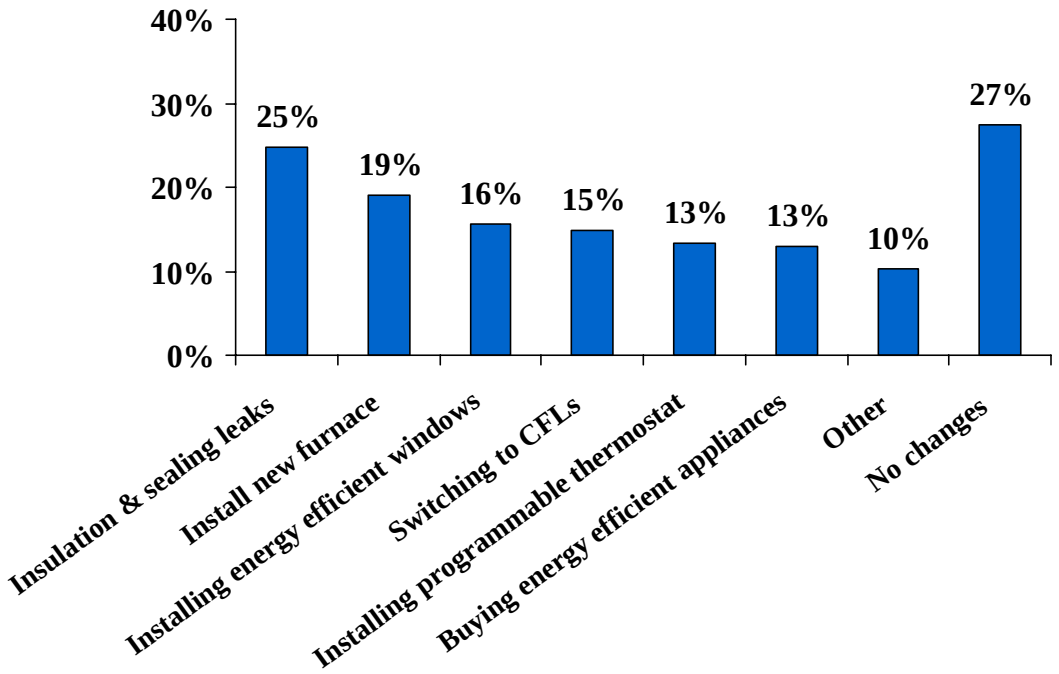

Figure 6: Top changes made in past 2 years to conserve energy or lower energy costs

Respondents were asked about a series of specific products or behaviors geared toward saving energy. If not used or practiced, respondents were asked about the reasons. The responses to this series are shown in Table 11.

Table 11: Use of energy efficient products and reported energy conservation behaviors

Product/Behavior	Use/Practice?	Why not?	
	Yes	Haven't thought about it/Not habit	Prefer not to
CFLs	74%	45%	55%
Solar panels	1%	41%	59%
Ceiling fans	87%	10%	90%
Turning off lights	96%	52%	48%
Turning off TV	77%	38%	62%
Water flow restrictors	47%	52%	48%
Adding/changing insulation in walls/attic	48%	12%	88%

Turning off lights and televisions and using compact fluorescent lights were cited by large majorities of respondents as products or behaviors that they have adopted to reduce energy use. In the cases of turning off lights and using water flow restrictors, the majority of respondents (52% in

each case) reported that the reason that they did not do this or use the item was because they had not thought about it. Using ceiling fans (90%) and adding/changing insulation (88%) yielded large majorities of nonusers indicating that they preferred not to use the product.

The most frequently cited obstacles to the respondent adopting energy conservation measures were expense (47%), lack of information or knowledge (17%) and disruption/inconvenience (16%).

Compact Fluorescent Lights

In a series of items targeted toward assessing CFLs, almost three quarters of the respondents (74%) indicated that they used CFLs. The average proportion of household bulbs that are CFLs was 52%. The majority of users (53%) reported that they were very satisfied with the bulbs and only 10% of users expressed any dissatisfaction with the lights. The large majority of those not reporting use of CFLs (83%) indicated that they were familiar with the bulbs. The main reasons cited for not using them were expense (24%) and a dislike of the aesthetics of the bulbs (e.g., amount or color of the light cast) (12%). Thirteen percent of nonusers indicated that they were planning to use the bulbs but had not yet done so.

Appliances & Rebates

When asked about the appliances in their homes, respondents indicated that they had an average of 1.4 refrigerators with the majority (51%) indicating that the (primary) refrigerator was less than 7 years old. The average number of stand alone freezers was .8 and 39% were less than 7 years old.

Almost all respondents reported having a clothes washer (96%). The large majority of those washers are vertical axis/top-loading (82%). Respondents reported that they washed an average of 6.2 loads of laundry per week and 70% reported that the days and times they did laundry varied from week to week. Having a clothes dryer was reported by 95% of the respondents and 73% indicated that the dryer was electric.

Over half of the respondents (53%) reported that they owned ENERGY STAR appliances. The most frequently mentioned items were: refrigerators (50%), clothes washers (46%), clothes dryers (41%), water heaters (20%) and furnaces (19%).

Six in ten respondents (60%) reported that they were aware of rebates on energy efficient appliances. Appliances more frequently recalled as having rebates were: furnaces (9%), water

heaters (7%), washers/dryers (6%) and refrigerators (5%). Almost a third (31%) indicated that they had participated in a rebate during the past 2 years. The majority of respondents thought rebates have an impact on individuals considering the purchase of an appliance. Half indicated that they have a moderate impact (50%) and almost a third (31%) thought they had a major impact.

Energy Information Sources

Respondents were asked about a series of potential sources of information about energy efficiency and conservation. A large majority (85%) indicated that they received bill inserts from their energy provider. Just under four in ten (39%) reported that they read the inserts monthly, 27% reported that they read them a few times a year and 33% reported that they rarely or never read them. Less than a quarter of respondents (22%) reported that they visited internet sites to get information on energy efficiency or conservation in the past two years. A plurality (41%) could not recall what sites they visited. About a third (32%) reported that they visited the site of their local energy provider.

When asked to rate the efficacy of several channels of communication (1=Not at all effective to 5=Very effective), respondents viewed television (M=3.9), print (M=3.3) and radio (M=3.1) as more effective and town meetings and podcasts as less effective. Figure 7 shows the mean ratings for the various communication modes.

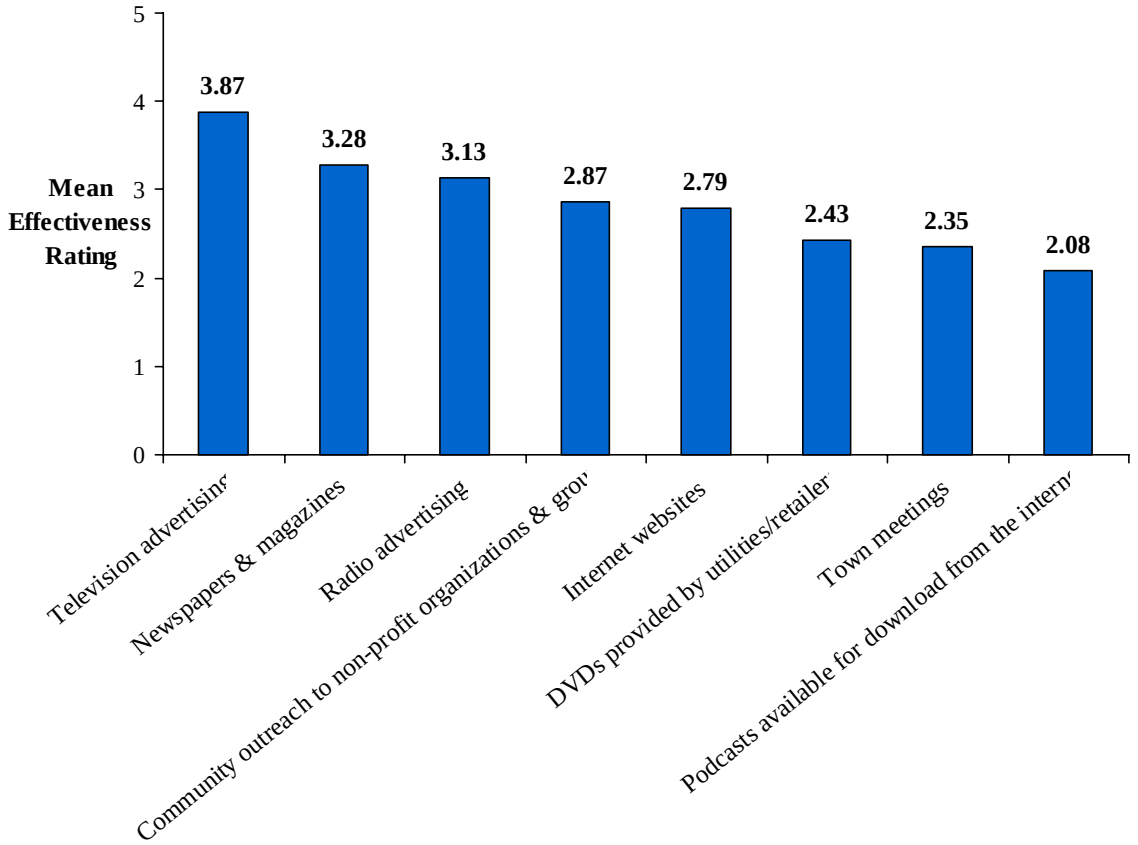

Figure 7: Mean ratings of communication channel efficacy

Within print media, bill inserts (M=3.6), direct mailings from energy providers (M=3.6) and newspapers (M=3.6) had the highest mean ratings for effectiveness.

Subgroup Analyses: Responses to several of the information items varied significantly within subgroups. See Appendix C for specific values.

Sex: Women were more likely than men to rate television, radio, print, community outreach, and town meetings as more effective channels. Males were more likely than females to rate DVDs as a more effective communication mode for energy information. Print modes of newspapers, magazines, direct mailings from electric companies, direct mailings from state agencies, and bill inserts were all rated as more effective by females than by males. Males were more likely than females to report visiting a website in the last two years to learn about energy efficiency.

Income: Lower income repondents were more likely than higher income groups to report reading bill inserts monthly. Higher income respondents were more likely than lower income groups to report visiting a website in the last two years to learn about energy efficiency. Higher income respondents were more likely than lower income groups to view internet sites as effective channels of communication. Those in the middle income group were most likely to view community outreach as an effective channel for energy information. Those in the lowest income group had higher mean efficacy ratings of town meetings than those in other income groups. Print modes of newspapers, direct mailings from electric companies, direct mailings from state agencies, and bill inserts were all rated as more effective by lower income groups.

Age: Older respondents were more likely than younger ones to report reading bill inserts on a monthly basis. Younger respondents (under 50) were more likely than older ones to report visiting a website in the last two years to learn about energy efficiency. Younger respondents were more likely than older ones to rate television, radio, internet and podcasts as more effective communication modes for energy information. Print modes of direct mailings from electric companies and bill inserts were all rated as more effective by older than by younger respondents. Internet sites were viewed as more effective by younger than older respondents.

Urban/Rural: Rural respondents were more likely than urban respondents to report that they read bill inserts monthly. Rural residents were also more likely to view radio advertising and town meetings as effective communication modes for energy information. Within print modes, rural respondents were more likely to view direct mailings from energy providers and bill inserts as effective modes of communication.

Presence of Children: Those with children living at home were less likely than those without children to report that they read bill inserts monthly. Those with children at home were more likely to report visiting energy websites in the last 2 years. Respondents with minor children were more likely than those with no children at home to view television, radio, internet, community outreach, DVDs, and podcasts as relatively more effective means of communicating energy information. Those with no minor children in the home were more likely to give print media a higher rating for effectivness. Within print media, newspapers and bill inserts were given higher ratings by those without children and targeted brochures and internet were rated as more effective by those with children.

Primary Sources of Information and Ratings of Source Credibility

As shown in Figure 8, when asked about their primary sources of information about energy and conservation, television news was mentioned by over half of the respondents. Newspaper and publications or brochures were mentioned by just under half.

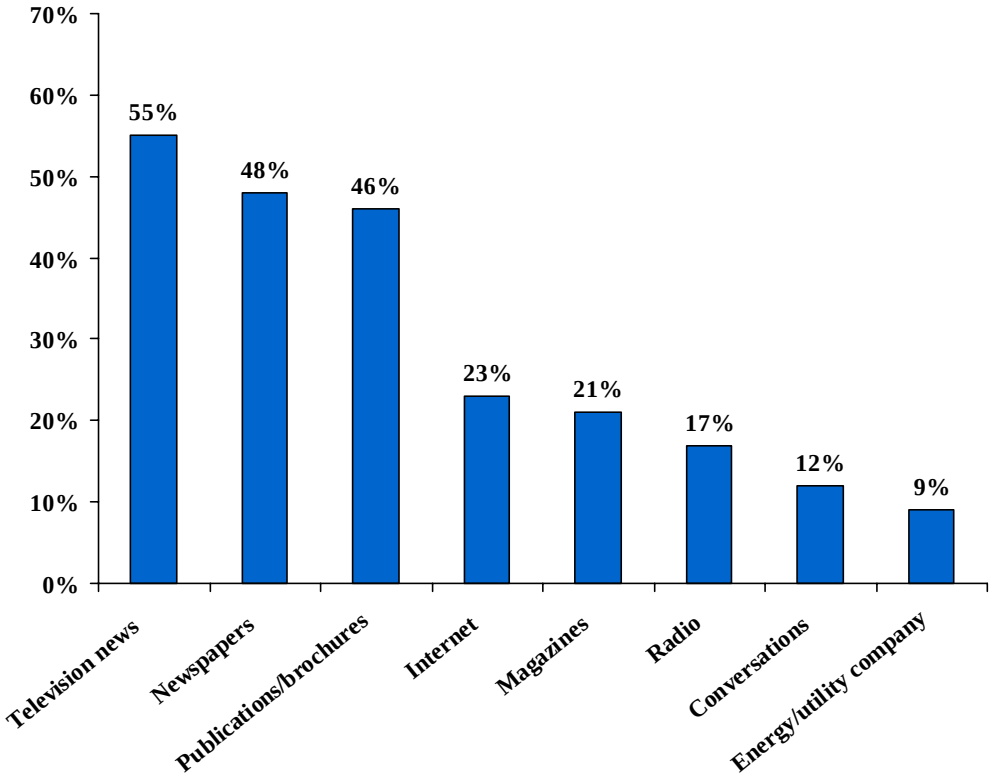

Figure 8: Top mentions for sources of energy efficiency and conservation information

When asked about which sources of information they would find most credible regarding energy information, utility providers and consumer groups were chosen more frequently than other groups (see Figure 9).

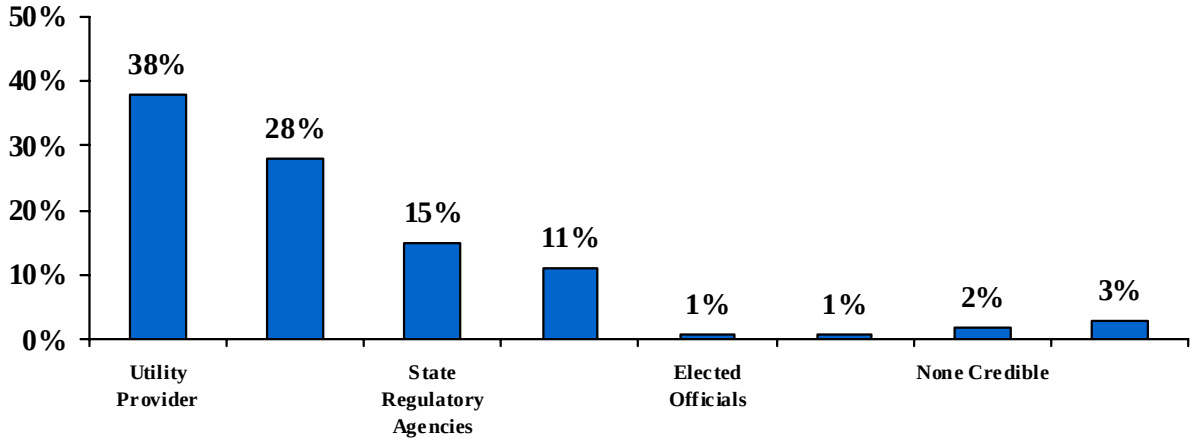

Figure 9: Most credible information source

Another question asked respondents to select the group they viewed as the least credible source of information. These results are presented in Figure 10. Elected officials were selected most frequently as the least credible source of information.

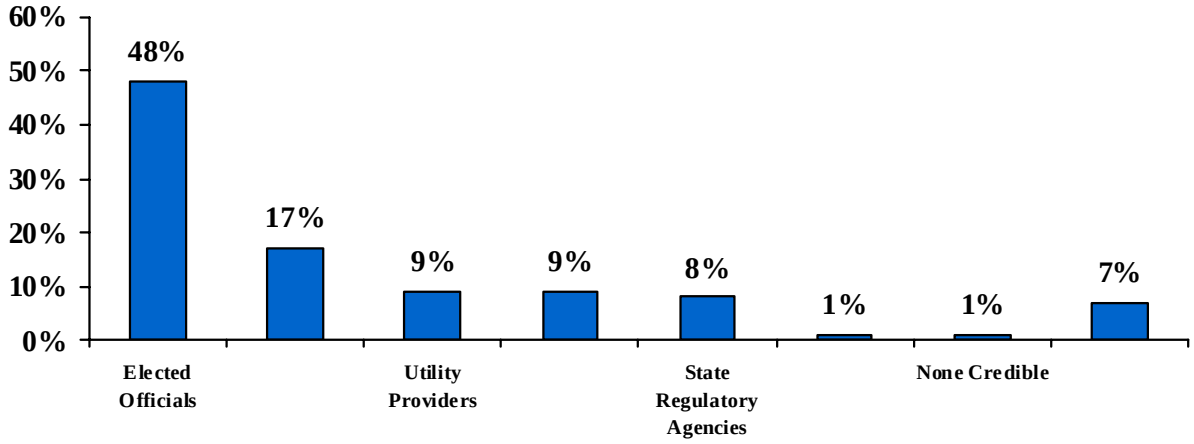

Figure 10: Least credible information source

Bivariate and Multivariate Analyses

These data provide a rich source of information about Iowa consumer attitudes and behaviors. Bivariate analyses provide a good first step in understanding basic aspects of this subject. However, because of the complexities and interconnectedness of many of the characteristics of the respondents, more sophisticated analyses can provide a sharper view of the respondents and can provide more precise information for planning educational campaigns designed to increase knowledge, generate more positive energy conservation attitudes and ultimately, increase energy conservation behaviors.

One question of interest was whether general and/or specific environmental attitudes are associated with actual energy conservation behaviors. A second question focuses on whether self-ratings of overall conscientious energy conservation are associated with reports of positive individual behaviors. A final question focuses on attempting to determine key predictors of energy conservation behaviors in an analysis that controls for overlapping variables such as age and children in the home.

Attitudes & Behaviors: To understand the association between attitudes and behaviors, an attitude score and a behavior score was constructed for each respondent. The attitude score was derived from scaling responses to the general environmental questions and the specific energy attitude items and creating a scale where higher scores reflected more concern about the environment/energy conservation with scores up to 16 possible. Behavior scales were computed by adding responses to; having an energy audit, making changes based on an audit, and specific use of energy efficiency products and practicing conservation in the household with possible scores up to 10. Simple correlational analysis yields a significant but modest correlation ($r = .12$, $p < .01$) between the attitude score and the behavior score supporting the notion that these attitudes and behaviors are indeed connected.

Self-Perceptions & Behaviors: Interestingly, self-perceptions were also significantly associated with reported conservation behaviors. Those reporting that they did a good or excellent job conserving energy were also more likely to have higher scores on the individual product usage and behaviors that made up the energy conservation scale. The correlation between ratings of family conservation behavior was positive, as expected, and slightly higher ($r = .14$, $p < .01$) than the correlation between attitudes and behaviors.

Predictors of Conservation Attitudes and Behaviors: To understand the unique contributions of multiple interrelated variables, a linear regression was conducted to understand

predictors of both energy attitudes and behaviors. The independent variables in the equation to predict attitudes were: age, income, education, sex, presence of children, and urban/rural status.

When effects of the variables are control simultaneously, only sex and education remain unique, significant predictors of energy conservation attitudes. Being male is associated with lower attitude scores and having more education (college graduate or higher) predicts higher energy conservation attitudes (see Table 12).

Table 12: Linear regression results for energy attitudes.

Potential Predictors	Beta	t	Sig
Age	-.061	-1.492	.136
Rural Status	-.049	-1.554	.120
Male Sex	-.065	-2.055	.040
Have Children	-.058	-1.485	.138
Income			
$10,000-$25,000	.049	1.332	.183
$25,000-$35,000	.028	.732	.464
$35,000-$50,000	.022	.532	.595
$50,000-$70,000	-.008	-.192	.848
$70,000-$90,000	.017	.441	.660
$90,000+	.052	1.182	.237
Education			
HS Education	.089	1.194	.233
Some College	.143	1.828	.068
College Grad	.179	2.433	.015
Grad Prof School	.216	3.845	.000

Regression analysis of energy conservation behaviors revealed that age, presence of minor children in the home, attitude scores, and income were significant predictors of reported energy conservation product use and behaviors. As shown in Table 13, respondents who are older, had minor children in the home, and had higher incomes were more likely to report energy conservation behaviors.

Table 13: Linear regression results for energy conservation behaviors.

Potential Predictors	Beta	t	Sig
Age	.104	2.577	.010
Rural Status	.013	.431	.666
Male Sex	.009	.298	.766
Children	.095	2.448	.015
Attitude score	.096	3.097	.002
Income			
$10,000-$25,000	-.023	-.636	.525
$25,000-$35,000	-.060	-1.604	.109
$35,000-$50,000	.037	.899	.369
$50,000-$70,000	.082	1.958	.051
$70,000-$90,000	.070	1.789	.074
$90,000+	.104	2.402	.016
Education			
HS Education	.018	.238	.812
Some College Education	.066	.853	.394
College Grad	.138	1.891	.059
Grad Prof School	.104	1.860	.063

In sum, these analyses suggest that characteristics that influence attitudes are not always identical with those that influence behaviors. However, attitudes are important predictors of behaviors in the domain of energy efficiency and conservation.

Conclusions

- Respondents view global climate change/global warming as a serious issue and believe strong action is needed to combat the changes.
- Knowledge about energy efficiency and conservation is moderate but generally accurate. Additional information should emphasize the most effective and practical conservation strategies.
- Use of CFLs is high as is satisfaction with the product. More consumers appear poised to adopt these products.
- ENERGY STAR awareness is moderate with about half of the respondents familiar with the term. Those who are familiar are accurate in their understanding.
- Television and print media are still viewed as the most effective communication sources for energy information and are most likely to be mentioned as the primary sources of energy information. Those utilizing the internet mention provider websites as most likely to be visited.
- Utility providers are viewed as a credible source of energy information.
- Attitudes and behaviors vary across subgroups. Additional efforts may be needed to increase positive environmental attitudes and behaviors among males, those with lower educational attainment, and those with lower household incomes.

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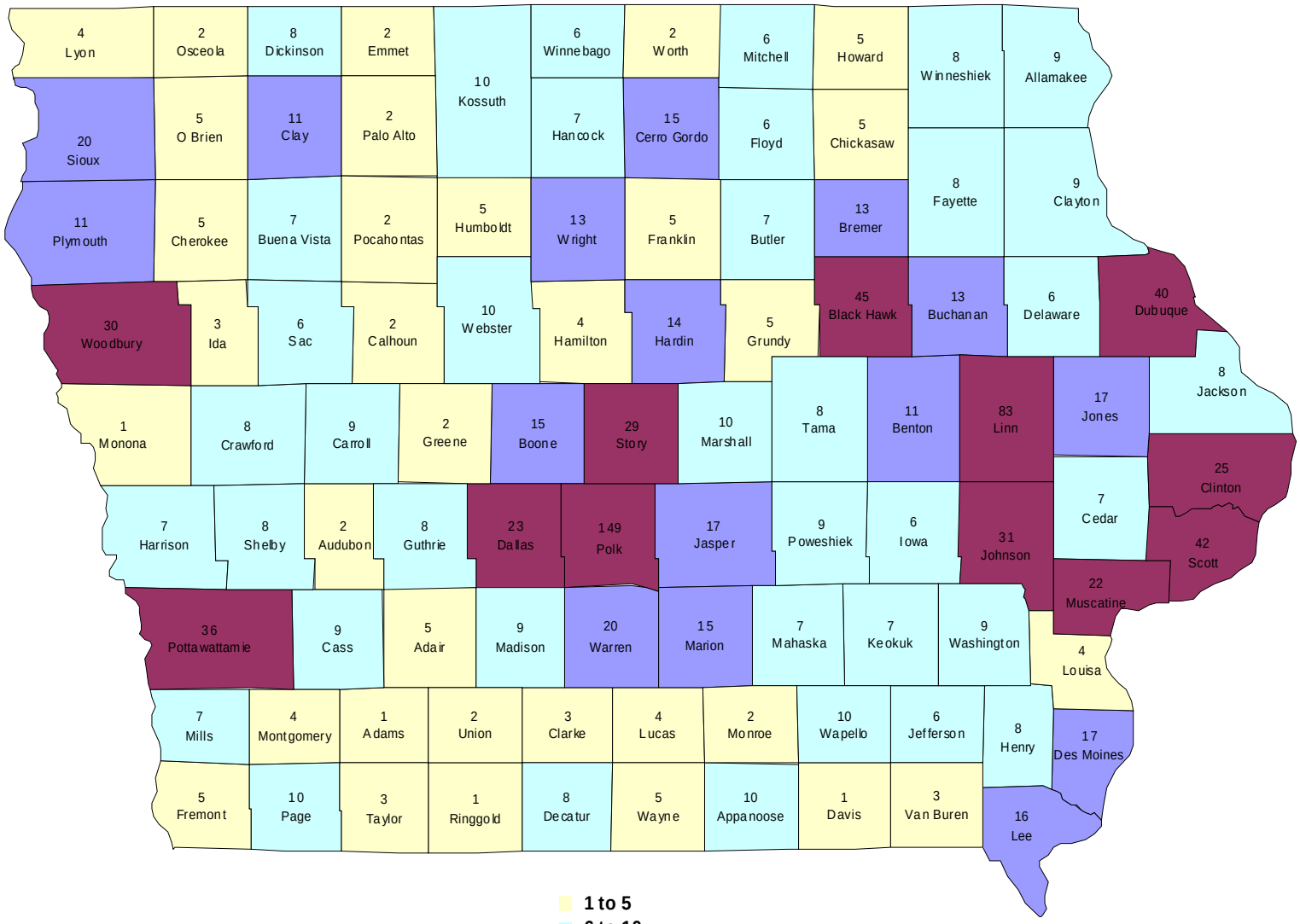
Appendix A

2007 Energy Survey Respondent Distribution



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Appendix B

2007 Iowa Residential Energy Survey

Data Collection Final Draft
September 11, 2007

INTRO

Hello, my name is _____ and I am calling from The University of Northern Iowa Center for Social and Behavioral Research on behalf of the Iowa Utilities Board and the Iowa Energy Center. We are conducting an interview with Iowans regarding their household energy use.

PrvRes

First, have I reached a residential phone number?

1. Yes
2. No [I'm sorry, but we are trying to call people at their homes. Thank you for your time. Good-bye.]

SELECT

I would like to interview the adult in your household who would be most likely to make decisions concerning your utilities. Would that be you, or someone else in your household?

1. Person speaking **SKIP TO CONFIDENTIALITY**
2. Someone else, coming to phone **SKIP TO INTRO2**
3. Someone else, not available

CALLBACK

Who should I ask for when I callback and when would be the best time to try?

[PRESS ENTER, THEN F3 AND RECORD FIRST NAME ONLY IN CONTACT FIELD AND SCHEDULE CALLBACK]

INTRO2

Hello, my name is _____ and I am calling from The University of Northern Iowa Center for Social and Behavioral Research on behalf of the Iowa Utilities Board and the Iowa Energy Center. We are conducting an interview with Iowans regarding their household energy use.

CONFIDENTIALITY

I won't ask for your name, address, or other personal information that can identify you. There are no direct benefits, and risks of participating are similar to those typically encountered in your day-to-day life. Participation is voluntary and your responses are anonymous. If we come to any question you do not wish to answer, just let me know and we can move to the next question. The interview will take about 20 minutes for most people. I can provide the name and telephone number of the project manager or the research protections office if you have any questions about the study. If you have a few minutes, I'd like to begin.

Q1 The first couple of items are about general issues related to the environment. In these items, the term global warming is used but the term global climate change is also sometimes used and refers to the same issue.

From what you know about global warming, which of the following statements comes closest to your opinion?

[READ - SELECT ONLY ONE]

1. Global warming has been established as a serious problem and immediate action is necessary. **31.3%**

2. There is enough evidence that global warming is taking place and some action should be taken. **39.9%**

3. We don't know enough about global warming and more research is necessary before we take any actions. **20.3%**

4. Concern about global warming is unwarranted. **6.0%**

7. DON'T KNOW/NOT SURE 2.1%
9. REFUSED 0.3%

Q2 If global warming is occurring, do you think the effects can be controlled if most people take steps such as driving less, recycling, and turning down their thermostat, or will more drastic measures be needed?

[DO NOT READ]

1. Yes, can be controlled this way **35.8%**
2. No, more drastic measures needed **49.8%**
3. Do not think global warming/climate change is happening **4.7%**

7. DON'T KNOW/NOT SURE 9.3%
9. REFUSED .5%

Q3 How would you rate the overall quality of the environment in this country today? Would you say…

1. excellent, **5.7%**
2. good, **42.5%**
3. fair, or **40.9%**
4. poor? **9.8%**

7. DON'T KNOW/NOT SURE 1.0%
9. REFUSED 0.1%

Q4 I'm now going to read a list of items. For each one please tell me on a scale from 1 to 5 where 1 means "Not at All Important" and 5 means "Very Important," how important the following aspects of energy utility service are to you. The first one is . . .

____ [Scale 1-5]
7. DON'T KNOW/NOT SURE
9. REFUSED

a. Cost ***M* = 4.41**
b. Reliability of service ***M* = 4.59**
c. Customer service ***M* = 4.25**
d. Energy saving tips and other education information ***M* = 3.95**
e. Use of environmentally sound practices ***M* = 4.26**
f. The source of electricity, for example, coal vs. nuclear power ***M* = 3.92**

Q5 Do you own or rent the home you live in now?

1. Own **89.6%**
2. Rent **10.2%**

7. DON'T KNOW/NOT SURE 0.2%
9. REFUSED 0.1%

Q6 What type of home do you live in? Is it a...

11. single family **attached** home, [Duplex] **7.3%**
12. single family **detached** home, **82.8%**
13. an Apartment/Condo/Townhouse with **fewer** than 5 units **2.3%**
14. an Apartment/Condo/Townhouse with five or **more** units **5.3%**
15. a mobile home, or **2.3%**
66. something else? **[SPECIFY] 0.1%**

77. DON'T KNOW/NOT SURE 0%
99. REFUSED 0%

Q7 What is the approximate square footage of **indoor living space** in your home?

[Interviewer note: number of square feet that pertain to respondents unit only]

___ ___ ___ ___ Number of square feet
0 – 3000 ***M* = 1881, 68%**
3001= More than 3,000 square feet **8.3%**

7777. DON'T KNOW/NOT SURE 31.9%
9999. REFUSED 0.1%

[IF Q7<=3001 OR 9999, SKIP TO Q9]

Q8 Although you aren't sure about the actual square footage of **indoor living space**, can you estimate which of the following size categories your home falls into? Would you say…

[Interviewer note: number of square feet that pertain to respondent's unit only]

11. less than 500 square feet, **5.0%**
12. 501 to 1,000 square feet, **15.8%**
13. 1,001 to 1,500 square feet, **21.8%**
14. 1,501 to 2,000 square feet, **14.7%**
15. 2,001 to 2,500 square feet, **5.3%**
16. 2,501 to 3,000 square feet, or **1.8%**
17. more than 3,000 square feet? **1.3%**

77. DON'T KNOW/NOT SURE 34.2%
99. REFUSED 0.0%

Q9 Does your household receive an energy bill each month?
Interviewer note: Energy bill would be for electricity, gas, and any other energy source; such as propane, butane, kerosene.

1. Yes **98.0%**
2. No **1.8%**

7. DON'T KNOW/NOT SURE 0.2%
9. REFUSED 0.0%

Q10 Who is responsible for paying the energy bill for your home each month?

11. Household/Respondent **97.9%**
12. Landlord **0.9%**
13. Management Company **0.4%**
66. Someone else **[SPECIFY**] **0.6%**

77. DON'T KNOW/NOT SURE 0.1%
99. REFUSED 0.1%

Q11 What is the name of the company that provides electricity to your home?

11. Mid-American **35.8%**
12. Interstate/Alliant **32.8%**
15. Municipal Utility **16.1%**
16. Rural Electric Cooperative **11.5%**
66. Other **[SPECIFY] 2.0%**

77. DON'T KNOW/NOT SURE 1.8%
99. REFUSED 0.0%

Q12 What is the name of the company that provides natural gas or other energy to your home?

11. Mid-American **33.0%**
12. Interstate/Alliant **17.8%**
13. Aquila **9.8%**
14. Municipal Utility **8.6%**
15. Rural Electric Cooperative **6.9%**
16. NO OTHER ENERGY USED AT HOME **9.1%**
66. Other **[SPECIFY] 9.5%**

77. DON'T KNOW/NOT SURE 5.2%
99. REFUSED 0.1%

Q13a What is the approximate energy bill during summer months?

$___ ___ ___ ___ {0 – 7,775} ***M* = 141.04, 92.0%**

7776. $7,776 OR MORE 0.0%
7777. DON'T KNOW/NOT SURE 7.6%
9999. REFUSED 0.4%

Q13b What is the approximate energy bill during winter months?

$___ ___ ___ ___ {0 – 7,775} ***M* = 179.77, 89.6%**

7776. $7,776 OR MORE 0.0%
7777. DON'T KNOW/NOT SURE 10.0%
9999. REFUSED 0.4%

Q14 Can you tell me the rate you pay per kilowatt hour of electricity?

___ ___ ___ . ___ ___ **[RATE PER KILOWATT HOUR IS IN CENTS]**
***M* = 19.7 cents, 7.3%**

776. 776 cents or greater 0.0%
777. DON'T KNOW/NOT SURE 92.6%
999. REFUSED 0.2%

Q15 Thinking about your energy bill, what types of information do you typically read if any, other than the amount?

[DO NOT READ – SELECT ALL THAT APPLY]

11. Unit costs/rates **11.6%**
12. Monthly usage **25.8%**
13. Daily usage **13.0%**
14. Usage compared to last year **18.0%**
15. Average temperature compared to a year ago **6.2%**
16. Minimum charge **2.3%**
17. Cost Breakdown (e.g., base charge verse taxes) **7.8%**
18. Educational Information, including inserts **10.3%**
19. Tax and franchise information **3.4%**
20. Refund or rebates **2.1%**
21. Don't read any other information **37.3%**
22. Read all information **1.0%**
66. Other **[SPECIFY] 5.9%**

77. DON'T KNOW/NOT SURE 2.7%
99. REFUSED 0.1%

Q16a Over the past 5 years, would you say your energy bill has...

1. decreased considerably, **4.6%**
2. decreased somewhat, **9.7%**
3. stayed about the same, **21.7%**
4. increased somewhat, or **39.5%**
5. increased considerably? **21.5%**

7. DON'T KNOW/NOT SURE 2.8%
9. REFUSED 0.3%

Q16b **[IF Q16a=3, SKIP TO Q17]** What would you say is the primary reason for this change?

[DO NOT READ - SELECT UP TO 3]
11. Energy prices increasing **56.8%**
12. Energy prices decreasing **0.5%**
13. Using more energy in general **6.4%**
14. More people in the house **2.2%**
15. Fewer people in the house **2.3%**
16. Trying to conserve more in general **3.0%**
17. Using compact fluorescent lights **1.1%**
18. Added insulation to house **3.0%**
19. New doors or windows **2.7%**
20. New furnace, air conditioner, water heater **5.0%**
21. Remodeled/Increased size **1.0%**
22. Alternate energy source **1.1%**
23. Changed homes **6.2%**
24. Political forces **1.4%**
25. Weather fluctuations **0.9%**
66. Other **[SPECIFY] 7.9%**

77. DON'T KNOW/NOT SURE 9.1%
99. REFUSED 0.4%

Q17 How well do you think you and your family are doing in conserving energy in your home? Would you say…

1. excellent, **18%**
2. good, **57.1%**
3. only fair, or **22.7%**
4. poor? **2.2%**

***M* = 2.09**

7. DON'T KNOW/NOT SURE 0.1%
9. REFUSED 0.0%

[RANDOMIZE Q18-Q22]

Q18 Now I'm going to ask you about several terms that are sometimes used when referring to energy. **[RANDOMIZE LIST]**

What comes to mind when you hear the term Energy Efficiency?

[SELECT ALL THAT APPLY]

11. Energy Star **2.6%**
12. Hybrid/diesel/ bio-diesel vehicles **1.4%**
13. Compact fluorescent light bulbs **4.7%**
14. Reduction in America's dependence on foreign oil **0.2%**
15. Turning up/down thermostat **4.8%**
16. Appliances that use less energy to run **46.8%**
17. Adding Insulation **6.5%**
18. Caulking and weather-stripping on windows and doors **3.6%**
19. Geothermal Heat Pumps **0.5%**
20. Instant Water Heaters **1.3%**
21. Expensive windows **2.4%**
22. Rebates from utilities **0.2%**
23. Biofuels **0.0%**
24. Wind Generators **0.5%**
25. Solar Panels **0.3%**
26. Expensive High Tech Homes **0.5%**
27. Saving money **7.3%**
28. Saving energy, conservation **7.5%**
29. Turn off lights **2.3%**
30. Good/positive/better for environment **1.2%**
31. Good furnaces / AC units **2.2%**
32. Efficiency, less energy use, more power with less energy use **4.3%**
33. Good/wise/responsible use of energy **1.4%**
66. Other **[SPECIFY] 9.8%%**

77. DON'T KNOW/NOT SURE 8.2%
99. REFUSED 0.0%

Q19 Now I'm going to ask you about several terms that are sometimes used when referring to energy.

What comes to mind when you hear the term Energy Conservation?

[SELECT ALL THAT APPLY]

11. Turning off appliances when not using them **27.1%**
12. Compact fluorescent light bulbs **3.1%**
13. Hybrid/diesel/ bio-diesel vehicles **1.3%**
14. Renewable energy (Ethanol, bio-diesel, solar, wind) **3.3%**
15. Turning up/down thermostat **17.4%**
16. Appliances that use less energy to run **7.4%**
17. Reduction in America's dependence on foreign oil **1.1%**
18. Adding insulation, caulking, weatherstripping **4.9%**
19. Saving energy/conserving **23.7%**
20. Environmental concerns **1.5%**
21. Cost savings **1.3%**
22. Driving less **1.6%**
23. Turning off lights **3.3%**
24. Recycling **0.7%**
66. Other **[SPECIFY] 10.9%**

77. DON'T KNOW/NOT SURE 14.1%
99. REFUSED 0.2%

Q20 Now I'm going to ask you about several terms that are sometimes used when referring to energy.

What comes to mind when you hear the term ENERGY STAR?

[SELECT ALL THAT APPLY]

11. Efficient appliances **36.3%**
12. Expensive appliances **0.8%**
13. Money saver **3.8%**
14. Helps protect environment **0.7%**
15. Adding insulation **0.3%**
16. Rebate **0.9%**
17. Ratings **2.2%**
18. Appliances **0.3%**
19. Conserves energy **1.7%**
66. Other **[SPECIFY] 6.8%**

77. DON'T KNOW/NOT SURE 49.8%
99. REFUSED 0.1%

Q21 Now I'm going to ask you about several terms that are sometimes used when referring to energy.

What comes to mind when you hear the term Time of Use Rates?

[SELECT ALL THAT APPLY]

11. Off/On peak hours **42.1%**
12. Time-of-use meter **4.9%**
13. Reduced cost (for off peak usage) **10.2%**
14. Energy used in a period of time **1.0%**
15. Amount of energy used **0.6%**
66. Other **[SPECIFY] 9.3%**

77. DON'T KNOW/NOT SURE 38.0%
99. REFUSED 0.3%

Q22 Now I'm going to ask you about several terms that are sometimes used when referring to energy.

What comes to mind when you hear the term Peak Demand?

[SELECT ALL THAT APPLY]

11. High electrical demand **72.3%**
12. Power outage **1.6%**
13. Electrical emergency **1.1%**
14. Brownouts/ blackouts **1.3%**
15. Air conditioners, using AC too much **2.7%**
16. Extreme hot/cold weather **8.4%**
17. Peak time of day, time when most energy is used, daytime **2.7%**
18. Increased cost of energy **1.2%**
66. Other **[SPECIFY] 5.9%**

77. DON'T KNOW/NOT SURE 7.3%
99. REFUSED 0.0%

Q23 Have you ever seen or heard of a designation called *ENERGY STAR*? It is a blue and white graphic with the word "energy" spelled out with a star beside it.

1. Yes 50.0%
2. No 45.8%

7. DON'T KNOW/NOT SURE 4.2%
9. REFUSED 0.0%

Q24 To the best of your knowledge, what is the *ENERGY STAR* label designed to communicate?

[DO NOT READ - SELECT UP TO 3]

11. Saves Energy/ Uses less energy **51.7%**
12. Less harmful to the environment, less pollution **2.0%**
13. Costs less to operate, saves money on electric bill **4.3%**
14. Rebate available if you purchase ENERGY STAR appliance **1.0%**
15. Government standard/recommendation for energy efficiency products **4.3%**
66. Other **[SPECIFY] 3.3%**

77. DON'T KNOW/NOT SURE 40.8%
99. REFUSED 0.0%

Q25 Where have you seen or heard something about ENERGY STAR?

[DO NOT READ – SELECT ALL THAT APPLY]

11. Label(s) on appliance or electronic equipment **32.2%**
12. Newspaper or magazine advertisement **4.4%**
13. Newspaper or magazine article **1.8%**
14. TV Commercial **7.2%**
15. TV News feature story **1.8%**
16. Radio commercial **0.9%**
17. Billboard **0.3%**
18. Utility mailing or bill inserts **6.4%**
19. Direct mail or circular advertisement **1.3%**
20. Yellow ENERGYGUIDE label **0.1%**
21. Displays in stores **5.6%**
22. Web/Internet **1.3%**
23. Salesperson **1.6%**
24. Contractor/Homebuilder **0.7%**
25. Realtor **0.8%**
26. Lender **0.0%**
27. Friend, neighbor, relative, or co-worker **1.3%**
66. Other **[SPECIFY] 2.8%**

77. DON'T KNOW/NOT SURE 48.5%
99. REFUSED 0.2%

Q26 I'm now going to read a list of statements. For each one, please tell me on a scale from 1 to 5 where 1 means "Strongly Disagree" and 5 means "Strongly Agree" how likely you are to agree with the statement. The first one is…

a My life is too busy to worry about making energy related improvements to my home.
***M* = 2.13**
____ [Scale 1-5]
7. DON'T KNOW/NOT SURE
9. REFUSED

b Scarce energy supplies will be a major problem in the future.
***M* = 3.87**

c Instead of utilities building new power plants, customers should use less electricity.
***M* = 3.20**

d It is possible to save energy without sacrificing comfort by being energy efficient.
***M* = 4.13**

e It is worth it to me for my household to use less energy in order to help preserve the environment.
***M* = 4.08**

Q27 Think about ways to reduce energy use in the home, what 3 things come to mind as most important?

[SELECT UP TO 3]

11. Home insulation and sealing air leaks **29.8%**
12. Programmable thermostat **7.8%**
13. Raising/lowering thermostat in summer/winter, respectively **53.3%**
14. Buying energy efficient appliances **15.8%**
15. Solar heating and cooling **0.6%**
16. Switching to fluorescent light bulbs **11.0%**
17. Natural gas or oil heating system **1.3%**
18. Insulating water heater **2.9%**
19. Install energy efficient windows **11.0%**
20. Installing flow restrictors on shower heads/faucets **1.9%**
21. Turning down temp on water heater **6.9%**
22. Turning off lights, TV, etc, when not in use **53.8%**
23. Conserve energy, generally **3.0%**
24. Use energy efficient furnace **1.4%**
25. Recycle **0.8%**
26. Conserve water **4.1%**
27. Use appliances non-peak times **2.5%**
28. Dry clothes outside or on racks, don't use dryer as much **1.0%**
29. Wash only full loads (laundry or dishwasher) **1.7%**
66. Other **[SPECIFY] 10.5%**

77. DON'T KNOW/NOT SURE 3.6%
99. REFUSED 0.2%

Q28 What is the **main** system that is used to heat your home?

Interviewer note: Probe for specifics, example, there are 4 different types of central forced air furnaces, 2 types of heat pumps, etc.

[SELECT ONLY ONE]

11. Natural gas central forced air furnace **63.7%**
12. Natural gas hot water boiler radiators/baseboards/natural gas heating **3.1%**
13. Natural gas steam boiler (with radiators) **0.4%**
14. Natural gas radiant floor heating **0.3%**
15. Natural gas fireplace **0.0%**
16. Electric Baseboard **2.9%**
17. Electric central forced air furnace **5.6%**
18. Air-source Heat pump (ELEC) **0.7%**
19. Ground-source heat pump (ELEC) **1.8%**
20. Portable heaters (ELEC) **0.2%**
21. Oil central forced air furnace **1.7%**
22. Oil hot water boiler ((radiators/baseboards); oil heating) **0.6%**
23. Oil steam boiler (with radiators) **0.0%**
24. Bottled gas central forced air (propane, butane, or kerosene) **10.1%**
25. Bottled gas portable heaters (propane, butane, or kerosene) **1.8%**
26. Wood stove **2.8%**
27. Wood fireplace **0.7%**
28. Solar **0.1%**
29. None (No heating system) **0.0%**
30. Corn furnace **0.8%**
31. Coal **0.1%**
32. Geothermal **0.5%**
66. Other System & Fuel **[SPECIFY] 0.7%**

77. DON'T KNOW/NOT SURE 2.5%
99. REFUSED 0.0%

Q29 **[IF Q28=20, SKIP TO Q32**] What type of temperature control is on the **main** heating system in your home? Interviewer note: The one used most often.

[READ IF NECESSARY]

11. Regular thermostat with temperature settings **43.6%**
12. Clock or programmable thermostat **47.2%**
13. Dial control **without** temperature settings **7.2%**
14. Simple on/off switch or no temperature control, or **1.2%**
66. Something else **[SPECIFY] 0.8%**

77. DON'T KNOW/NOT SURE 0.4%
99. REFUSED 0.1%

Q30 When you are **heating** your house, at what temperature do you normally keep your thermostat?

___ ___ Degrees in Fahrenheit (0-96) ***M* = 69.27, 98.4%**

97. = 97 degrees or more **0.0%**

98. DON'T KNOW/NOT SURE 1.3%
99. REFUSED 0.2%

Q31 When you are **heating** your house, at what **temperature** do you normally keep your thermostat set during the three different periods of time?

a When one or more people in your household are at home and awake?

___ ___ Degrees in Fahrenheit (0-96) ***M* = 69.36, 98.3%**

97. = 97 degrees or more **0.0%**
98. DON'T KNOW/NOT SURE 1.5%
99. REFUSED 0.1%

b When one or more people in your household are at home and everyone is sleeping?
___ ___ Degrees in Fahrenheit (0-96) ***M* = 66.80, 98.1%**

97. = 97 degrees or more **0.0%**
98. DON'T KNOW/NOT SURE 1.7%
99. REFUSED 0.1%

c When no one is at home?
___ ___ Degrees in Fahrenheit (0-96) ***M* = 65.23, 97.5%**

97. = 97 degrees or more **0.0%**
98. DON'T KNOW/NOT SURE 2.3%
99. REFUSED 0.1%

Q32 What is the **main** system that is used to cool your home? Is it…

11. Central air conditioner, **78.3%**
12. Air-source heat pump, **1.6%**
13. Ground-source heat pump, **2.4%**
14. Ductless mini-split air conditioner, **0.3%**
15. Room air conditioners, **13.1%**
16. Ceiling fans, **2.8%**
17. Whole-house fan, or **0.3%**
18. Room fan **0.7%**
66. Something else? **[SPECIFY] 0.4%**

77. DON'T KNOW/NOT SURE 0.1%
99. REFUSED 0.0%

Q33 **[IF Q32>15, SKIP TO Q34]** What type of temperature control is on the main cooling system in your home? Interviewer note: The one used most often.

[READ IF NECESSARY]

11. Regular thermostat with temperature settings **36.6%**
12. Clock or programmable thermostat **44.9%**
13. Dial control **without** temperature settings **8.8%**
14. Simple on/off switch or no temperature control, or **2.9%**
66. Something else **[SPECIFY] 0.2%**

77. DON'T KNOW/NOT SURE 0.7%
99. REFUSED 0.1%

Q34 Which of the following statements best describes how the main **cooling** system is used in your home? Would you say…

1. the thermostat is kept at a constant setting or temperature, **39.0%**
2. the thermostat setting changes based on the time of day or night, **31.3%**
3. the cooling system is turned on only when someone is hot, or **17.5%**
4. you rarely use this cooling system? **10.6%**

7. DON'T KNOW/NOT SURE 1.2%
9. REFUSED 0.4%

Q35 Now I'm going to ask you a few questions about specific things related to energy efficiency and conservation.

Have you ever had an energy audit?

1. Yes **23.1%**
2. No **[SKIP TO Q36g] 75.8%**

7. DON'T KNOW/NOT SURE [SKIP TO Q36g] 1.2%
9. REFUSED [SKIP TO Q36g] 0.0%

[ENTRIES BELOW ARE % OF THOSE WHO HAVE HEARD OF AN ENERGY AUDIT]

Q36a Did someone recommend the audit or did you learn about it independently?

1. Recommended **32.9%**
2. Learned about it independently **[SKIP TO Q36c] 63.5%**

7. DON'T KNOW/NOT SURE 3.6%
9. REFUSED 0.0%

Q36b Who recommended the energy audit?

[DO NOT READ – SELECT ONE]

11. Friend/Family **12.9%**
12. Neighbor **0.0%**
13. Contractor **5.0%**
14. Utility Provider **65.3%**
66. Other **[SPECIFY] 6.9%**

77. DON'T KNOW/NOT SURE 9.9%
99. REFUSED 0.0%

[SKIP TO Q36d]

Q36c Where did you hear or learn about energy audits?

[DO NOT READ – SELECT ONE]

11. Newspapers **5.7%**
12. Magazines **0.6%**
13. Television news **6.3%**
14. Radio **1.1%**
15. Films and documentaries on television **0.0%**
16. Conversations with relatives/family/friends/neighbors/colleagues **11.4%**
17. Books **0.0%**
18. Internet **1.7%**
19. Publications/Brochures/Printed information and material **35.2%**
20. Events (conferences, fairs/exhibitions, festivals, etc.) **0.6%**
21. NOT INTERESTED IN INFO ON ENVIRONMENT **0.0%**
22. Energy company (bill inserts, info from company) **22.2%**
66. Other **[SPECIFY] 6.8%**

77. DON'T KNOW/NOT SURE 8.5%
99. REFUSED 0.0%

Q36d What changes did you make as a result of the energy audit, if any?

[DO NOT READ – SELECT ALL THAT APPLY]

11. Home insulation and sealing air leaks **52.7%**
12. Programmable thermostat **6.5%**
13. Buying energy efficient appliances **8.7%**
14. Solar heating and cooling **0.0%**
15. Switching to compact fluorescent light bulbs **27.1%**
16. Switched to natural gas or oil heating system **1.1%**
17. Insulating water heater **16.2%**
18. Install energy efficient windows **19.1%**
19. Outdoor photocell lighting unit **0.0%**
20. Outdoor light motion sensor **0.0%**
21. NONE **12.6%**
22. Water flow inhibitor **13.7%**
66. Other **[SPECIFY] 6.9%**

77. DON'T KNOW/NOT SURE 1.4%
99. REFUSED 0.0%

Q36e What recommendations were made to you that you did **not** take, if any?

[DO NOT READ – SELECT ALL THAT APPLY]

11. Home insulation and sealing air leaks **14.1%**
12. Programmable thermostat **0.0%**
13. Buying energy efficient appliances **4.3%**
14. Solar heating and cooling **0.0%**
15. Switching to compact fluorescent light bulbs **1.8%**
16. Switched to natural gas or oil heating system **0.4%**
17. Insulating water heater **1.8%**
18. Install energy efficient windows **5.4%**
19. Outdoor photocell lighting unit **0.0%**
20. Outdoor light motion sensor **0.0%**
21. MADE ALL CHANGES **47.3%**
22. NONE GIVEN/NONE NEEDED **15.5%**
23. Water flow inhibitor **2.5%**
66. Other **[SPECIFY] 0.0%**

77. DON'T KNOW/NOT SURE 8.7%
99. REFUSED 0.0%

Q36f **[IF Q36e=21 OR 22, SKIP TO Q37a]** Why did you decide not to make those recommended changes?

[DO NOT READ – SELECT ALL THAT APPLY]

11. Too expensive/Could not afford to make the changes **36.5%**
12. The change was not worth the investment **6.7%**
13. Recommended changes were not applicable **6.7%**
14. Changes too disruptive/Inconvenient **16.3%**
66. Other **[SPECIFY] 16.3%**

77. DON'T KNOW/NOT SURE 20.2%
99. REFUSED 1.0%

[SKIP TO Q37a]

Q36g What changes have you made, if any, in the last 2 years to conserve energy or lower energy costs?

[DO NOT READ – SELECT ALL THAT APPLY]

11. Home insulation and sealing air leaks **24.7%**
12. Programmable thermostat **13.3%**
13. Buying energy efficient appliances **13.0%**
14. Solar heating and cooling **0.2%**
15. Switching to compact fluorescent light bulbs **14.8%**
16. Switched to natural gas or oil heating system **1.2%**
17. Insulating water heater **2.9%**
18. Install energy efficient windows **15.7%**
19. Outdoor photocell lighting unit **0.2%**
20. Outdoor light motion sensor **0.1%**
21. NONE **27.4%**
22. Install energy efficient doors **3.5%**
23. Install new furnace **19.2%**
24. Turn off lights, appliances **7.9%**
25. Use AC less, use fans **5.8%**
66. Other **[SPECIFY] 10.3%**

77. DON'T KNOW/NOT SURE 1.1%
99. REFUSED 0.0%

Q37a Next, I'm going to read a list of steps individuals can take to reduce energy consumption and/or save money. For each one, please tell me if it's something you currently do or use in your home.

Do you use compact fluorescent light bulbs in your home rather than traditional incandescent bulbs?

Interviewer Note: Compact fluorescent light bulbs screw into regular light bulb sockets. They look different from standard incandescent bulbs in that they are often made out of thin tubes shaped into loops or spirals

1. Yes **[SKIP TO Q37c] 73.9%**
2. No **25.8%**

7. DON'T KNOW/NOT SURE 0.3%
9. REFUSED 0.0%

Q37b Do you not use compact fluorescent light bulbs because…

1. you haven't thought about it, or **43.5%**
2. because you have a reason you prefer not to? **53.4%**

7. DON'T KNOW/NOT SURE 2.9%
9. REFUSED 0.3%

[SKIP TO Q37e]

Q37c What percent of the bulbs in your home are compact fluorescent bulbs?

___ ___ ___ Percent (0-100) ***M* = 52.02**

777. DON'T KNOW/NOT SURE 1.4%
999. REFUSED 0.0%

Q37d How satisfied are you with compact fluorescent bulbs? Would you say…
***M* = 3.41**
1. very dissatisfied. **2.0%**
2. somewhat dissatisfied, **7.8%**
3. somewhat satisfied, or **37.3%**
4. very satisfied? **52.1%**

7. DON'T KNOW/NOT SURE 0.8%
9. REFUSED 0.0%

[SKIP TO Q38a]

Q37e Are you familiar with compact fluorescent light bulbs?

1. Yes **83.2%**
2. No **[SKIP TO Q38a] 16.8%**

7. DON'T KNOW/NOT SURE [SKIP TO Q38a] 0.3%
9. REFUSED 0.0%

Q37f What is the main reason you do not use this type of bulb?

[DO NOT READ – SELECT ONLY ONE]

11. Too expensive **24.1%**
12. Could not afford it **0.0%**
13. Not worth the investment **3.8%**
14. Not aesthetically pleasing **11.8%**
15. Warm up time is annoying **2.1%**
16. Planning to do it, haven't yet **13.1%**
17. Problems with bulbs **11.4%**
18. Don't need new lights **10.1%**
19. Haven't thought about it **7.6%**
66. Other **[SPECIFY] 16.0%**

77. DON'T KNOW/NOT SURE 7.8%
99. REFUSED 0.4%

Q38a Do you use a solar panel to produce energy for your home?

1. Yes **[SKIP TO Q39a] 0.8%**
2. No **99.1%**

7. DON'T KNOW/NOT SURE 0.2%
9. REFUSED 0.0%

Q38b Do you not use a solar panel to produce energy for your home because…

1. you haven't thought about it, or **40.4%**
2. because you have a reason you prefer not to? **58.4%**

7. DON'T KNOW/NOT SURE 0.9%
9. REFUSED 0.3%

Q39a Do you use ceiling fans to circulate air?

1. Yes **[SKIP TO Q40a] 86.8%**
2. No **13.2%**

7. DON'T KNOW/NOT SURE 0.1%
9. REFUSED 0.0%

Q39b Do you not use ceiling fans because…

1. you haven't thought about it, or **10.1%**
2. because you have a reason you prefer not to? **88.1%**

7. DON'T KNOW/NOT SURE 1.9%
9. REFUSED 0.0%

Q40a Do you turn off lights when you leave a room?

1. Yes **[SKIP TO Q41a] 95.8%**
2. No **4.2%**

7. DON'T KNOW/NOT SURE 0.0%
9. REFUSED 0.0%

Q40b Do you not turn off lights when you leave a room because…

1. you haven't thought about it, it's not your habit or **52.0%**
2. because you have a reason you prefer not to? **48.0%**

7. DON'T KNOW/NOT SURE 0.0%
9. REFUSED 0.0%

Q41a Do you turn off the television when you leave a room?

1. Yes **[SKIP TO Q42a] 76.8%**
2. No **22.8%**

7. DON'T KNOW/NOT SURE 0.2%
9. REFUSED 0.3%

Q41b Do you not turn off the television when you leave a room because…

1. you haven't thought about it, it's not your habit or **36.7%**
2. because you have a reason you prefer not to? **60.8%**

7. DON'T KNOW/NOT SURE 1.1%
9. REFUSED 1.4%

Q42a Do you use flow restrictors on shower heads?

1. Yes **[SKIP TO Q43a] 46.6%**
2. No **48.6%**

7. DON'T KNOW/NOT SURE 4.5%
9. REFUSED 0.3%

Q42b Do you not use flow restrictors on shower heads because…

1. you haven't thought about it, or **47.7%**
2. because you have a reason you prefer not to? **44.6%**

7. DON'T KNOW/NOT SURE 7.2%
9. REFUSED 0.5%

Q43a Have you added or changed insulation in the walls or attic in your home?

1. Yes **[SKIP TO Q44] 47.8%**
2. No **51.9%**

7. DON'T KNOW/NOT SURE 0.3%
9. REFUSED 0.0%

Q43b Have you not added or changed the insulation in your home because…

1. you haven't thought about it, or **12.1%**
2. because you have a reason you prefer not to? **86.9%**

7. DON'T KNOW/NOT SURE 0.8%
9. REFUSED 0.2%

Q44 What would you say are the 2 most significant obstacles to you adopting more energy conservation measures in your home?

[DO NOT READ – SELECT UP TO 2]

11. Don't have enough information/don't know what to do **16.8%**
12. Too expensive/Could not afford it **46.7%**
13. The savings from the change was not worth the investment **4.1%**
14. Waiting out for something better to come out in the near future **1.7%**
15. Changes too disruptive/Inconvenient **16.2%**
16. Renting, can't make changes **4.5%**
17. Age – too old to make changes **0.8%**
18. Have children -- difficult to make changes **0.9%**
19. Comfort – don't want to be too hot or cold or inconvenienced **0.4%**
20. Home is already efficient **5.8%**
21. Resources/products not available **0.7%**
22. Time constraints **3.8%**
66. Other **[SPECIFY] 9.5%**

77. DON'T KNOW/NOT SURE 17.1%
99. REFUSED 0.3%

Q45 Who in your household makes the majority of the energy decisions?

11. Female head of household **37.2%**
12. Male head of household **33.0%**
13. Joint decision-making **29.4%**
66. Other **[SPECIFY] 0.3%**

77. DON'T KNOW/NOT SURE 0.2%
99. REFUSED 0.0%

Q46 Do you receive electric bill inserts?

1. Yes **85.0%**
2. No **[SKIP TO Q48] 11.3%**

7. DON'T KNOW/NOT SURE [SKIP TO Q48] 3.6%
9. REFUSED [SKIP TO Q48] 0.1%

Q47 How often would you say you read electric bill inserts? Would you say…

1. Never, **12.8%**
2. Rarely, **20.4%**
3. Several times per year, or **27.3%**
4. Every month? **39.2%**

7. DON'T KNOW/NOT SURE 0.3%
9. REFUSED 0.0%

Q48 In the past 2 years, have you visited web sites that provide information about energy efficiency or energy conservation?

1. Yes **22.3%**
2. No **[SKIP TO Q50] 77.7%**

7. DON'T KNOW/NOT SURE 0.1%
9. REFUSED 0.0%

Q49 What sites have you visited that you recall?

[DO NOT READ – SELECT ALL THAT APPLY]

11. Department of energy (http://www.energy.gov/) **1.5%**
12. Energy Savers (http://www.energysavers.gov/) **1.9%**
13. Energy Star (http://www.energystar.gov/) **3.0%**
14. Climate Change (www.climatechange.org) **0.0%**
15. Live Earth (http://www.liveearth.org/) **0.0%**
16. Local electricity provider's site (varies) **9.0%**
17. Iowa Energy Center (http://www.energy.iastate.edu/) **1.1%**
18. Iowa Department of Natural Resources (http://www.iowadnr.com/) **1.1%**
19. Center for Energy and Environmental Education (http://www.uni.edu/ceee/) **0.4%**
66. Other **[SPECIFY] 21.1%**

77. DON'T KNOW/NOT SURE 41.8%
99. REFUSED 0.0%

Q50 Information about energy efficiency and conservation is sometimes lengthy and may be communicated in a variety of ways. Using a scale from 1 to 5 where 1 means "Not at All Effective" and 5 means "Very Effective," how effective do you think each of the following would be for communicating information about energy efficiency or conservation of electricity and natural gas?

a Television advertising ***M* = 3.87**

____ **[Scale 1-5]**

7. DON'T KNOW/NOT SURE
9. REFUSED

b Radio advertising ***M* = 3.13**
c Print media such as newspapers and magazines ***M* = 3.28**
d Internet websites ***M* = 2.79**
e Community outreach to non-profit organizations & groups ***M* = 2.87**
f Town meetings ***M* = 2.35**
g DVDs provided by utilities or retailers ***M* = 2.43**
h Podcasts available for download from the internet ***M* = 2.08**

Q51 **[IF Q50c<2, SKIP TO Q52]** Among the various types of print media, how effective do you think each of the following types would be to communicate information about energy efficiency and conservation? Use the same 1 to 5 scale as before where 1 means "Not at All Effective" and 5 means "Very Effective."

a Newspapers ***M* = 3.55**

____ **[Scale 1-5]**

7. DON'T KNOW/NOT SURE
9. REFUSED

b Magazines ***M* = 3.17**
c Direct mailings from electric companies to customers ***M* = 3.58**
d Direct mailings from state agencies to customers ***M* = 3.21**
e Brochures targeting specific customer groups, like business vs. residential ***M* = 3.22**
f Printed information inserted with your electric bill ***M* = 3.57**
g Internet information ***M* = 2.73**

Q52 Thinking about various ways to get information about energy efficiency and conservation what would you say are your 3 primary sources of information on these topics?

[DO NOT READ – SELECT UP TO 3]

11. Newspapers **47.9%**
12. Magazines **21.4%**
13. Television news **54.5%**
14. Radio **16.8%**
15. Films and documentaries on television **2.5%**
16. Conversations with relatives/family/friends/neighbors/colleagues **12.2%**
17. Books **1.3%**
18. Internet **22.9%**
19. Publications/Brochures/information and material **46.0%**
20. Events (conferences, fairs/exhibitions, festivals, etc.) **1.8%**
21. NOT INTERESTED IN INFO ON ENVIRONMENT **1.0%**
22. Energy/utility company **9.1%**
66. OTHER **[SPECIFY] 3.9%**

77. DON'T KNOW/NOT SURE 4.3%
99. REFUSED 0.2%

Q53 Which of the following sources of information do you consider the most credible regarding energy efficiency and conservation? Would you say…

11. State regulatory agencies, **14.8%**
12. Utility providers, **37.9%**
13. Environmental advocacy groups, **10.9%**
14. Elected officials, or **1.4%**
15. Consumer groups? **28.0%**

[DO NOT READ]
17. ALL EQUALLY CREDIBLE **1.1%**
18. NONE CREDIBLE **1.8%**
66. OTHER **[SPECIFY] 0.8%**

77. DON'T KNOW 3.0%
99. REFUSED 0.0%

Q54 Which of the following sources of information do you consider the least credible regarding energy efficiency and conservation? Would you say …

11. State regulatory agencies, **7.7%**
12. Utility providers, **8.8%**
13. Environmental advocacy groups, **17.3%**
14. Elected officials, or **48.2%**
15. Consumer groups? **8.6%**

[DO NOT READ]

17. ALL EQUALLY CREDIBLE **1.4%**
18. NONE CREDIBLE **1.3%**
66. OTHER **[SPECIFY] 0.0%**

77. DON'T KNOW 6.4%
99. REFUSED 0.3%

Q55a Now I'm going to ask you about some of the appliances in your home.

How many refrigerators are in your home?

___ ___ number of refrigerators (0-10) ***M* = 1.38, 100%**

77. DON'T KNOW/NOT SURE 0.0%
99. REFUSED 0.0%

Q55b **[IF Q55a=0, SKIP TO Q56a]** How many years old is your **[IF Q55a>*1 "primary"]*** refrigerator? Would you say…

1. 6 or fewer years old, **50.8%**
2. 7 to 14 years old, or **33.8%**
3. 15 or more years old? **13.1%**

7. DON'T KNOW/NOT SURE 2.1%
9. REFUSED 0.0%

Q56a How many stand-alone freezers are in your home, if any?

___ ___ number of stand-alone freezers (0-10) ***M* = 0.76, 99.9%**

77. DON'T KNOW/NOT SURE 0.1%
99. REFUSED 0.0%

Q56b **[IF Q56a=0, SKIP TO Q57a]** How many years old is your **[IF Q56a>*1 "primary"]*** stand-alone freezer? Would you say…

1. 6 or fewer years old, **38.5%**
2. 7 to 14 years old, or **29.3%**
3. 15 or more years old? **32.1%**

7. DON'T KNOW/NOT SURE 0.3%
9. REFUSED 0.0%

Q57a Do you have a clothes washer that is used just by the people in your household?

1. Yes **95.5%**
2. No **[SKIP TO Q58a] 4.5%**

7. DON'T KNOW/NOT SURE 0.0%
9. REFUSED 0.0%

Q57b Which of the following best describes the type of clothes washer in your home? Would you say a …

11. Vertical-axis, top-loading clothes washer with agitator **81.4%**
12. Horizontal-axis, front-loading/top-loading with no agitator, or **18.4%**
66. something else? **[SPECIFY] 0.3%**

77. DON'T KNOW/NOT SURE 0.7%
99. REFUSED 0.0%

Q57c In an average week, how many loads of laundry does your household wash?

___ ___ number of loads (0-50) ***M* = 6.16, 94.8%**

77. DON'T KNOW/NOT SURE 1.3%
99. REFUSED 0.0%

Q58a Do you have a clothes dryer that is used just by the people in your household?

1. Yes **94.8%**
2. No **[SKIP TO Q59] 5.2%**

7. DON'T KNOW/NOT SURE 0.0%
9. REFUSED 0.0%

Q58b What fuel or energy source do you use to run your clothes dryer?

[READ IF NECESSARY – SELECT ONE]

11. Electricity **73.2%**
12. Natural gas **23.6%**
13. Propane, or **2.9%**
66. Something else? **[SPECIFY] 0.3%**

77. DON'T KNOW/NOT SURE 0.8%
99. REFUSED 0.0%

Q59 Do you do laundry on certain days and at certain times or does it vary from week to week?

1. Certain days and times **14.6%**
2. Certain time, various days **7.0%**
3. Certain days, various times **8.8%**
4. Varies **69.7%**

7. DON'T KNOW/NOT SURE 0.5%
9. REFUSED 0.0%

Q60a To your knowledge, do you own any ENERGY STAR rated appliances or equipment?

1. Yes **53.1%**
2. No **[SKIP TO Q61a] 35.3%**

7. DON'T KNOW/NOT SURE [SKIP TO Q61a] 11.6%
9. REFUSED [SKIP TO Q61a] 0.0%

Q60b What appliances or equipment do you own that is ENERGY STAR rated?

11. Dishwasher **19.2%**
12. Refrigerators **49.8%**
13. Freezers **15.8%**
14. Dehumidifier **1.4%**
15. Clothes Washer **46.2%**
16. Clothes Dryer **40.8%**
17. Room Air Conditioner **2.8%**
18. Room Air Purifier **0.0%**
19. Water Heater **19.6%**
20. Central Air Conditioning **9.9%**
21. Furnace **18.7%**
22. Boiler **0.5%**
23. Air-Source Heat Pump **0.6%**
24. Ceiling Fans **0.6%**
25. Programmable Thermostats **0.3%**
26. Fans **0.0%**
27. Roof Products **0.0%**
28. Insulation **0.2%**
29. Windows/doors/skylights **1.6%**
30. Battery Charger **0.0%**
31. Cordless Phone **0.0%**
32. Television **3.0%**
33. VCR **0.6%**
34. DVD/DVR **0.5%**
35. Computers/Laptops **3.9%**
36. Monitors **1.4%**
37. Copier **0.0%**
38. Fax **0.0%**
39. Printer/Scanner **0.0%**
40. External Power Adapters **0.0%**
41. Light Fixtures **0.2%**
42. Compact Fluorescent Bulbs **2.4%**
43. Microwave **4.4%**
44. Stove / oven **9.1%**

66. Something else **[SPECIFY] 3.5%**
77. DON'T KNOW/NOT SURE 1.5%
99. REFUSED 0.0%

Q61a Are you aware of any rebate offers for buying energy efficient appliances?

1. Yes **59.6%**
2. No **[SKIP TO Q62] 39.5%**

7. DON'T KNOW/NOT SURE 0.9%
9. REFUSED 0.0%

Q61b Can you recall any details of recent offers you may have seen?

1. Yes **[OPEN END- SPECIFY] 46.6%**
2. No **52.3%**

13. Rebate on air conditioner **4.7%**
14. Rebate on doors and windows **0.3%**
15. Rebate on washer/dryer **5.7%**
16. Rebate on furnace **9.2%**
17. Rebate on hot water heater **6.8%**
18. Rebate on light bulbs **1.1%**
19. Rebate on refrigerator **5.4%**
20. Rebate on windows **2.1%**
21. Rebate on insulation **0.3%**
22. Recall amount of rebate only **1.9%**
23. Recall general rebate from utility co **1.3%**
24. Tax refund/credit **3.3%**

66. Other **5.6%**

7. DON'T KNOW/NOT SURE 0.8%
9. REFUSED 0.1%

Q61c Have you participated in any of these rebates within the last 2 years?

1. Yes **30.9%**
2. No **68.0%**

7. DON'T KNOW/NOT SURE 1.1%
9. REFUSED 0.0%

Q62 How much would you say rebate offers impact individuals considering the purchase of an appliance? Would you say they have…

1. no impact, **3.8%**
2. little impact, **12.7%**
3. moderate impact, or a **50.1%**
4. major impact? **30.9%**

***M* = 3.11**

7. DON'T KNOW/NOT SURE 2.5%
9. REFUSED 0.0%

Q63 The final section asks a few questions about you so that we can group our findings by type of household.

In what year were you born?

___ ___ ___ ___ [1890 - 1989] ***M* = 1951**
9999. REFUSED **1.6%**

Q64 And you are…

1. Male **37.0%**
2. Female **63.0%**

Q65 What is the highest grade in school or year in college that you have completed?

11. Grades 1-11 **4.1%**
12. High School/GED **29.8%**
13. Associates Degree or Vocational Training **8.2%**
14. Some College **24.6%**
15. Bachelor's Degree **23.3%**
16. Master's Degree **8.3%**
17. PhD or other Professional Degree **1.4%**

77. DON'T KNOW/NOT SURE 0.1%
99. REFUSED 0.3%

Q66 What was the general range of your household income for 2006 from all sources? Was it…

11. Under 10,000 **3.6%**
12. 10,000 to 24,999 **9.7%**
13. 25,000 to 34,999 **11.5%**
14. 35,000 to 49,999 **16.5%**
15. 50,000 to 69,999 **17.4%**
16. 70,000 to 89,999 **9.9%**
17. 90,000 or more? **16.6%**

77. DON'T KNOW/NOT SURE 4.4%
99. REFUSED 10.4%

Q67 Are you Hispanic or Latino?

1. Yes **1.4%**
2. No **98.2%**

7. DON'T KNOW/NOT SURE 0.2%
9. REFUSED 0.3%

Q68 Which one or more of the following would you say is your race? Would you say…

[SELECT ALL THAT APPLY]

11. White, **96.5%**
12. Black or African American, **0.8%**
13. Asian, **0.8%**
14. Native Hawaiian or Other Pacific Islander**, 0.0%**
15. American Indian, Alaska Native, OR **0.7%**
66. Some other race? **[SPECIFY] 1.0%**

77. DON'T KNOW/NOT SURE 0.3%
99. REFUSED 0.6%

Q69 What is your zip code?

___ ___ ___ ___ ___

77777. DON'T KNOW/NOT SURE
99999. REFUSED

Q70a In what year was your residence built?

___ ___ ___ ___ YEAR ***M* = 1961**

7777. DON'T KNOW/NOT SURE 19.4%
9999. REFUSED 0.0%

Q70b [IF Q70a=7777, ASK] Can you tell me the approximate range of years in which it was built? Was it….

1. before 1978, **79.8%**
2. 1979 to 1997, **11.2%**
3. 1998, or later? **2.6%**

7. DON'T KNOW/NOT SURE 6.4%
9. REFUSED 0.0%

Q71 How many people live at this residence?

Interviewer note: number of people that live in respondent's unit only

___ ___ NUMBER OF PEOPLE ***M* = 2.55**

77. DON'T KNOW/NOT SURE 0.0%
99. REFUSED 0.1%

Q72 Do you live in Iowa year-round, or do you live elsewhere for at least three months of each year?

1. Year-round resident **97.2%**
2. Elsewhere at least 3 months **2.8%**

7. DON'T KNOW/NOT SURE 0.0%
9. REFUSED 0.0%

Q73 How long have you lived at this residence?

___ ___ ___ YEARS ***M* = 16.93, 99.6%**

777. DON'T KNOW/NOT SURE 0.3%
999. REFUSED 0.1%

Q74 What is your current marital status?

1. Single, never married **7.6%**
2. Not married, living with a partner **1.2%**
3. Married **66.9%**
4. Separated **1.1%**
5. Divorced **10.3%**
6. Widowed **12.3%**

7. DON'T KNOW/NOT SURE 0.3%
9. REFUSED 0.4%

Q75a How many children ages 15-18 are currently living in your home?

_____ CHILDREN 15-18 ***M* = .18**
99. REFUSED 0.2%

Q75b How many children aged 10 to 14 years old live in your household?

_____ CHILDREN 10-14 ***M* = .18**
99. REFUSED 0.2%

Q75c How many children under 10 years old live in your household?

_____ CHILDREN UNDER 10 ***M* = .29**
99. REFUSED 0.2%

Q76 Which of the following best describes where you live? On a…

11. farm or in a rural area, **25.2%**
12. in a small town of 2,500 people or fewer, **21.2%**
13. in a town of more than 2,500, but fewer than 10,000 people, **16.9%**
14. in a city of 10,000 or more, but fewer than 50,000 people, or **13.9**%
15. in a city of 50,000 or more people? **22.3%**

66. OTHER **[SPECIFY] 0.1%**
77. DON'T KNOW/NOT SURE 0.4%
99. REFUSED 0.0%

That's my last question. I want to thank you very much for you time and cooperation. Good-bye.

Appendix C

Crosstabs & Mean Tables

(Tables appear if the chi-square or t statistic was significant at $p \leq .05$)

Question 1	Income			Sex	
From what you know about global warming, which of the following statements comes closest to your opinion?	**<$25K**	**$25K-$70K**	**> $70K**	**Male**	**Female**
Global warming has been established as a serious problem	43.0%	29.6%	30.9%	28.7%	34.2%
There is enough evidence that global warming is taking place	32.5%	41.5%	45.2%	36.7%	43.4%
We don't know enough about global warming	18.5%	22.9%	16.6%	25.5%	18.0%
Concern about global warming is unwarranted	6.0%	6.0%	7.3%	9.1%	4.4%

Question 2	Sex	
Controlling effects of global warming	**Male**	**Female**
Yes, can be controlled this way	32.6%	43.8%
No, more drastic measures needed	60.7%	51.9%
Do not think global warming/climate change is happening	6.7%	4.3%

Question 3	Income			Age				Sex	
How would you rate the overall quality of the environment in this country today?	**<$25K**	**$25K-$70K**	**> $70K**	**18-30**	**31-50**	**51-70**	**71+**	**Male**	**Female**
Excellent	4.5%	6.5%	6.0%	1.8%	3.2%	6.7%	8.5%	9.0%	3.8%
Good	32.1%	41.6%	49.2%	26.8%	42.9%	43.9%	42.7%	48.6%	39.6%
Fair	48.1%	42.1%	39.1%	64.3%	43.4%	39.5%	38.5%	33.5%	46.0%
Poor	15.4%	9.8%	5.7%	7.1%	10.5%	9.8%	10.3%	8.8%	10.6%

Question 4	Mean Ratings					
Service Dimension Ratings	4a. Cost	4b. Reliability of Service	4c. Customer Service	4d. Energy Saving Tips and Other Education Information	4e. Use of Environmentally Sound Practices	4f. The Source of Electricity, for Example, Coal vs. Nuclear Power
Children Present						
No Minor Children at Home	4.38	4.55	4.28	3.98	4.25	3.95
Minor Children at Home	4.46	4.68	4.19	3.89	4.27	3.87
Income						
<$25K	4.54	4.51	4.39	4.10	4.21	4.00
$25K-$70K	4.43	4.55	4.24	4.01	4.24	3.92
> $70K	4.26	4.71	4.11	3.71	4.32	3.77
Urban or Rural						
Rural	4.41	4.55	4.27	3.99	4.27	3.94
Urban	4.41	4.67	4.21	3.89	4.24	3.89
Age						
18-30	4.32	4.56	4.05	3.95	4.14	3.65
31-50	4.46	4.69	4.20	3.87	4.28	3.85
51-70	4.38	4.60	4.26	3.93	4.32	3.97
71+	4.42	4.41	4.35	4.16	4.11	4.06
Sex						
Male	4.27	4.53	4.06	3.75	4.11	3.68
Female	4.49	4.63	4.36	4.07	4.34	4.07

Question 17	Children Present		Age				Sex	
How well do you think you and your family are doing in conserving energy in your home?	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Male	Femal e
Excellent	21.6%	10.9%	8.8%	11.6%	18.5%	29.2%	19.4%	17.2%
Good	58.6%	54.4%	40.4%	57.6%	60.5%	54.2%	49.8%	61.5%
Ony fair	18.7%	30.4%	43.9%	27.3%	19.8%	15.7%	28.4%	19.3%
Poor	1.1%	4.3%	7.0%	3.4%	1.2%	.8%	2.5%	2.0%

Question 23	Income			Age				Children Present	
Have you ever seen or heard of a designation called ENERGY STAR? It is a blue and white graphic with the word "energy" spelled out with a star beside it.	**<$25K**	**$25K-$70K**	**> $70K**	**18-30**	**31-50**	**51-70**	**71+**	**No Minor Children at Home**	**Minor Children at Home**
Yes	33.8%	52.6%	65.8%	70.2%	68.3%	49.0%	24.0 %	44.1%	67.9%
No	66.2%	47.4%	34.2%	29.8%	31.8%	51.0%	76.0 %	55.9%	32.1%

Question 24_11	Income			Age				Children Present	
To the best of your knowledge, what is the ENERGY STAR label designed to communicate?	**<$25K**	**$25K-$70K**	**> $70K**	**18-30**	**31-50**	**51-70**	**71+**	**No Minor Children at Home**	**Minor Children at Home**
Item 11: Saves Energy/ Uses less energy									
Selected	28.9%	53.6%	67.0%	54.4%	65.8%	52.8%	25.0%	45.5%	64.1%

Question 25	Income			Age				Sex		Urban or Rural		Children Present	
Where have you seen or heard something about ENERGY STAR?	<$25K	$25K-$70K	> $70K	18-30	31-50	51-70	71+	Male	Female	Urban	Rural	No Minor Children at Home	Minor Children at Home
Item 11: Labels on appliances													
Selected	12.6%	31.6%	48.1 %	40.4%	45.9 %	30.8 %	9.7%	35.6 %	30.2%	29.6%	37.0 %	24.7%	47.1%

Question 26a	Income			Children Present		Age				Sex	
My life is too busy to worry about making energy related improvements to my home	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Male	Female
Strongly Disagree	52.6%	43.3%	45.3%	47.4%	42.6%	31.6%	41.4%	52.5%	43.1%	40.7%	48.8%
	12.2%	19.7%	24.8%	16.6%	24.4%	26.3%	25.4%	17.8%	9.9%	19.9%	18.8%
	17.3%	20.3%	17.3%	18.5%	20.8%	28.1%	20.9%	16.7%	19.8%	21.3%	18.1%
	7.7%	9.2%	6.9%	7.5%	8.4%	12.3%	8.4%	6.1%	8.6%	8.1%	7.6%
Strongly Agree	10.3%	7.6%	5.7%	9.9%	3.8%	1.8%	3.9%	6.9%	18.5%	10.0%	6.7%

Question 26b	Children Present		Age			
Scarce energy supplies will be a major problem in the future.	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+
Strongly Disagree	7.8%	5.1%	1.8%	6.0%	8.1%	7.5%
	6.4%	7.2%	14.3%	6.2%	6.8%	5.7%
	20.6%	21.6%	23.2%	25.1%	18.6%	18.1%
	21.3%	27.8%	28.6%	27.5%	22.7%	17.2%
Strongly Agree	43.9%	38.3%	32.1%	35.2%	43.9%	51.5%

Question 26c	Income			Children Present		Age				Sex	
Instead of utilities building new power plants, customers should use less electricity	**<$25K**	**$25K-$70K**	**> $70K**	**No Minor Children at Home**	**Minor Children at Home**	**18-30**	**31-50**	**51-70**	**71+**	**Male**	**Female**
Strongly Disagree	13.1%	9.9%	10.2%	11.5%	9.7%	3.5%	9.7%	12.5 %	11.2 %	14.6%	8.7%
	9.8%	12.9%	11.5%	11.9%	11.8%	19.3%	12.2 %	11.8 %	9.4%	12.3%	11.5%
	38.6%	39.7%	48.2%	38.9%	45.0%	36.8%	45.6 %	41.2 %	34.8 %	37.9%	42.9%
	11.1%	21.8%	18.2%	17.8%	20.5%	21.1%	20.0 %	18.8 %	14.7 %	17.4%	19.4%
Strongly Agree	27.5%	15.7%	11.8%	20.0%	13.0%	19.3%	12.5 %	15.6 %	29.9 %	17.8%	17.5%

Question 26d	Income			Age				Sex	
It is possible to save energy without sacrificing comfort by being energy efficient	**<$25K**	**$25K-$70K**	**> $70K**	**18-30**	**31-50**	**51-70**	**71+**	**Male**	**Female**
Strongly Disagree	10.1%	4.4%	2.5%	3.5%	4.0%	4.8%	7.3%	5.0%	2.9%
	3.2%	5.2%	3.8%	7.0%	4.9%	3.8%	4.3%	5.2%	3.7%
	13.9%	12.0%	13.6%	15.8%	11.4%	14.3%	11.6 %	21.3 %	14.7%
	19.6%	29.9%	33.4%	29.8%	35.6%	27.9%	19.7 %	30.1 %	30.8%
Strongly agree	53.2%	48.5%	46.7%	43.9%	44.2%	49.3%	57.1 %	38.5 %	47.8%

Question 26 Mean Ratings	26a My life is too busy to worry about making energy related improvements to my home	26c Instead of utilities building new power plants, customers should use less electricity	26e It is worth it to me for my household to use less energy in order to help preserve the environment.
Sex	**Mean Rating**	**Mean Rating**	**Mean Rating**
Male	2.27	3.11	3.92
Female	2.05	3.25	4.17
Age	**Mean Rating**	**Mean Rating**	
18-30	2.26	3.33	
31-50	2.08	3.13	
51-70	1.97	3.13	
71+	2.50	3.43	
Total	2.13	3.20	

Question 27	Income			Age				Sex		Urban or Rural		Children Present	
Think about ways to reduce energy use in the home. What 3 things come to mind as most important?	<$25K	$25K-$70K	> $70K	18-30	31-50	51-70	71+	Male	Female	Urban	Rural	No Minor Children at Home	Minor Children at Home
Item 11: Home insulations and sealing air leaks													
Selected	22.6%	28.6%	34.3%	26.3%	27.3%	37.8%	18.2%	37.4%	25.3%				
Item 13 : Raising/Lowering thermostat in summer/winter, respectively													
Selected	45.3%	53.9%	57.2%					48.2%	56.3%				
Item 14: Buying energy efficient appliances													
Selected	10.7%	14.1%	21.7%	15.8%	19.7%	15.4%	9.7%	13.8%	19.7%	13.2%	20.0%	13.8%	19.7%
Item 16: Switching to florescent light bulbs													
Selected	11.3%	9.0%	14.8%									9.7%	13.4%
Item 17: Natural gas or oil heating system													
Selected								2.5%	.7%			1.9%	.3%
Item 18: Insulating water heater													
Selected				0.0%	4.7%	2.3%	1.7%	4.7%	1.9%				
Item 20: Installing flow restrictors on shower heads/faucets													
Selected				8.8%	2.0%	1.7%	.8%			1.2%	3.0%		
Item 22 Turning off lights, TV, etc, when not in use													
Selected				70.2%	63.4%	46.4%	50.4%					48.5%	64.6%

Question 44	Income			Age				Sex		Children Present	
What would you say are the two most significant obstacles to you adopting more energy conservation measures in your home?	<$25K	$25K-$70K	> $70K	18-30	31-50	51-70	71+	Male	Female	No Minor Children at Home	Minor Children at Home
Item 11: Don't have enough information/ Don't know what to do											
Selected	6.3%	16.7%	24.2%	8.8%	19.7%	18.1%	12.3%				
Item 12: Too expensive/Could not afford it											
Selected				59.6%	56.3%	45.7%	30.1%			40.0%	59.7%
Item 13: The savings from the change was not worth the investment											
Selected	2.5%	3.1%	6.3%					6.1%	2.9%		
Item 15: Changes too disruptive/Inconvenient											
Selected	11.3%	14.9%	19.8%	22.8%	19.9%	13.5%	13.6%			14.7%	19.2%

Question 47	Income			Children Present		Age				Urban Rural	
How often would you say you read electric bill inserts?	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Rural	Urban
Never	6.4%	13.2%	14.4%	12.0%	14.6%	19.6%	15.2%	10.8%	11.9%	10.8%	16.1%
Rarely	17.6%	17.9%	25.6%	18.8%	23.8%	34.8%	22.6%	20.9%	12.4%	18.9%	22.9%
Several times per year	27.2%	27.7%	30.0%	25.0%	32.2%	26.1%	33.0%	26.6%	19.6%	28.6%	25.5%
Every month	48.8%	41.3%	30.0%	44.1%	29.4%	19.6%	29.2%	41.6%	56.2%	41.7%	35.4%

Question 48	Income			Children Present		Age				Sex	
In the past two years, have you visited web sites that provide information about energy efficiency or energy conservation?	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Male	Female
Yes	10.1%	20.6%	35.2%	16.6%	33.9%	28.1%	33.4%	20.4%	6.4%	27.7%	19.1%
No	89.9%	79.4%	64.8%	83.4%	66.1%	71.9%	66.6%	79.6%	93.6%	72.3%	80.9%

Question 50a Communication Channel Effectiveness	Income			Children Present		Age				Sex	
Television advertising	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Male	Female
Not at all Effective	14.1%	6.3%	6.9%	7.9%	7.9%	1.8%	7.7%	6.5%	12.9%	10.2%	6.5%
	3.2%	4.8%	7.6%	6.1%	4.8%	5.3%	4.0%	5.9%	7.3%	7.7%	4.4%
	24.4%	20.1%	17.4%	22.8%	14.7%	14.0%	18.3%	19.2%	27.2%	23.1%	18.4%
	12.8%	27.2%	23.3%	22.3%	27.4%	35.1%	24.9%	23.2%	21.6%	25.4%	23.2%
Very Effective	45.5%	41.6%	44.8%	40.9%	45.2%	43.9%	45.2%	45.2%	31.0%	33.6%	47.4%

Question 50b	Income			Children Present		Age				Sex	
Radio advertising	**<$25K**	**$25K-$70K**	**> $70K**	**No Minor Children at Home**	**Minor Children at Home**	**18-30**	**31-50**	**51-70**	**71+**	**Male**	**Female**
Not at all Effective	17.4%	11.8%	11.4%	15.0%	9.6%	5.3%	8.4%	12.5%	24.2%	15.9%	11.6%
	11.6%	17.3%	14.8%	16.4%	13.9%	17.5%	13.6%	15.7%	18.6%	19.8%	13.0%
	34.8%	33.0%	36.0%	32.8%	35.4%	35.1%	37.0%	35.1%	26.0%	35.8%	32.6%
	12.9%	20.8%	24.6%	18.8%	23.5%	22.8%	22.7%	21.3%	13.4%	17.1%	22.4%
Very Effective	23.2%	17.0%	13.2%	16.9%	17.5%	19.3%	18.3%	15.4%	17.7%	11.4%	20.4%

Question 50c	Income			Children Present		Age				Sex	
Print media such as newspapers and magazines	**<$25K**	**$25K-$70K**	**> $70K**	**No Minor Children at Home**	**Minor Children at Home**	**18-30**	**31-50**	**51-70**	**71+**	**Male**	**Female**
Not at all Effective	10.2%	7.6%	8.2%	9.1%	8.4%	10.5%	8.7%	8.1%	10.4%	9.8%	8.4%
	14.0%	13.5%	15.8%	12.6%	16.7%	22.8%	16.6%	11.7%	11.7%	18.1%	11.7%
	32.5%	32.9%	37.2%	32.3%	35.4%	24.6%	37.1%	34.0%	28.1%	35.0%	32.2%
	19.7%	30.9%	29.0%	27.6%	29.9%	36.8%	27.7%	29.0%	26.0%	25.2%	30.1%
Very Effective	23.6%	15.2%	9.8%	18.4%	9.6%	5.3%	9.9%	17.3%	23.8%	11.9%	17.6%

Question 50d	Income			Children Present		Age			
Internet Websites	**<$25K**	**$25K-$70K**	**> $70K**	**No Minor Children at Home**	**Minor Children at Home**	**18-30**	**31-50**	**51-70**	**71+**
Not at all Effective	39.2%	23.1%	17.5%	31.3%	15.3%	10.5%	14.4%	24.1%	55.0%
	11.9%	15.2%	17.5%	16.1%	14.0%	17.5%	14.4%	17.4%	11.4%
	17.5%	27.7%	30.9%	23.7%	31.3%	31.6%	32.8%	23.9%	18.5%
	15.4%	19.9%	23.6%	17.0%	23.9%	22.8%	23.3%	21.0%	6.6%
Very Effective	16.1%	14.0%	10.5%	12.0%	15.5%	17.5%	15.1%	13.7%	8.5%

Question 50e	Income			Children Present		Age				Sex	
Community outreach to non-profit organizations & groups	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Male	Female
Not at all Effective	27.8%	11.0%	14.0%	18.9%	9.2%	10.5%	9.5%	16.5%	26.8%	16.0%	15.5%
	10.6%	20.2%	24.8%	20.4%	18.6%	15.8%	22.2%	20.3%	14.1%	26.1%	16.0%
	25.8%	37.5%	38.7%	32.5%	42.9%	42.1%	42.1%	33.4%	29.1%	34.1%	37.1%
	21.2%	20.2%	18.4%	18.4%	20.7%	28.1%	17.5%	20.1%	17.4%	16.7%	20.5%
Very Effective	14.6%	11.2%	4.1%	9.7%	8.7%	3.5%	8.7%	9.6%	12.7%	7.1%	10.8%

Question 50f	Income			Children Present		Age				Sex		Urban or Rural	
Town Meetings	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Male	Femal e	Rural	Urban
Not at all Effective	34.4%	27.2%	29.1%	32.9%	25.1%	21.1%	23.1%	33.1%	38.8%	35.3%	27.4%	27.5%	35.1%
	19.2%	26.3%	32.9%	24.7%	31.2%	35.1%	32.3%	24.2%	21.0%	28.8%	25.8%	26.7%	27.3%
	21.9%	29.9%	25.3%	25.1%	28.7%	19.3%	29.6%	26.9%	21.4%	22.4%	28.6%	27.5%	24.4%
	10.6%	10.6%	9.5%	10.3%	9.1%	15.8%	9.5%	9.7%	10.3%	9.2%	10.3%	11.0%	8.1%
Very Effective	13.9%	6.0%	3.2%	6.9%	5.8%	8.8%	5.5%	6.1%	8.5%	4.4%	7.8%	7.4%	5.2%

Question 50g	Income			Children Present		Age			
DVDs provided by utilities or retailers	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+
Not at all Effective	37.7%	24.1%	37.7%	33.0%	23.2%	24.6%	23.0%	31.3%	39.0%
	18.5%	25.8%	18.5%	23.5%	26.5%	31.6%	25.7%	24.7%	20.2%
	19.9%	29.5%	19.9%	25.6%	26.0%	29.8%	28.7%	24.3%	23.3%
	12.6%	13.8%	12.6%	10.3%	18.4%	10.5%	16.6%	12.3%	9.0%
Very Effective	11.3%	6.7%	11.3%	7.5%	5.9%	3.5%	5.9%	7.4%	8.5%

Question 50h	Income			Children Present		Age			
Podcasts available for download from the internet	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+
Not at all Effective	51.8%	39.1%	39.6%	47.1%	32.0%	22.8%	31.8%	44.7%	59.3%
	14.6%	23.8%	29.2%	23.0%	26.0%	31.6%	27.3%	23.7%	16.1%
	17.5%	23.8%	21.1%	19.4%	26.6%	28.1%	24.7%	21.5%	16.6%
	12.4%	9.3%	8.1%	7.1%	11.5%	14.0%	12.6%	6.6%	4.0%
Very Effective	3.6%	4.1%	1.9%	3.4%	3.9%	3.5%	3.5%	3.5%	4.0%

Question 50	Mean Ratings							
Communication Channel Effectiveness	50a Television advertising	50b Radio advertising	50c Print media such as newspapers and magazines	50d Internet websites	50e Community outreach to non-profit organizations & groups	50f Town meetings	50g DVDs provided by utilities or retailers	50h Podcasts available for download from the internet
Children Present								
No Minor Children at Home	3.82	3.06	3.34	2.62	2.80		2.36	1.97
Minor Children at Home	3.97	3.25	3.16	3.10	3.01		2.57	2.29
Income				2.57	2.84	2.50		
<$25K				2.87	3.00	2.42		
$25K-$70K				2.92	2.74	2.25		
> $70K								
Urban or Rural								
Rural		3.19				2.44		
Urban		3.02				2.21		
Age								
18-30	4.14	3.33	3.04	3.19			2.37	2.44
31-50	3.96	3.29	3.14	3.10			2.57	2.29
51-70	3.95	3.11	3.36	2.83			2.40	2.01
71+	3.50	2.82	3.41	2.02			2.28	1.77
Sex								
Male	3.64	2.88	3.11		2.73	2.19	2.56	
Female	4.01	3.27	3.37		2.95	2.45	2.35	

Question 51	Mean Ratings							
	51a Newspapers	51b Magazines	51c Direct mailings from electric companies to customers	51d Direct mailings from state agencies to customers	51e Brochures targeting specific customer groups, like business vs. residential	51f Printed information inserted with your electric bill	51g Internet information	51f Printed information inserted with your electric bill
Children Present								
No Minor Children at Home	3.60				3.17	3.62	2.56	
Minor Children at Home	3.45				3.33	3.46	3.04	
Income								
<$25K	3.75		3.94	3.43	3.94			
$25K-$70K	3.55		3.61	3.25	3.61			
> $70K	3.44		3.36	3.09	3.36			
Urban or Rural								
Rural			3.64					3.65
Urban			3.47					3.42
Age								
18-30			3.39		3.30	3.37	3.04	
31-50			3.45		3.32	3.45	3.05	
51-70			3.61		3.27	3.56	2.69	
71+			3.78		2.93	3.83	2.15	
Sex								
Male	3.40	2.99	3.44	3.08			3.41	
Female	3.64	3.27	3.65	3.28			3.65	

Question 51a	Income			Children Present		Age				Sex	
Newspapers	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Male	Female
Not at all Effective	3.5%	4.4%	2.1%	4.1%	3.0%	3.9%	3.2%	3.4%	5.7%	4.5%	3.3%
	7.8%	10.2%	13.7%	9.5%	12.7%	9.8%	12.4%	10.3%	7.7%	13.4%	9.0%
	33.3%	32.4%	38.4%	34.0%	35.5%	49.0%	32.6%	35.3%	33.5%	36.8%	33.2%
	20.6%	32.4%	29.8%	26.7%	34.1%	23.5%	35.6%	27.8%	21.5%	28.2%	29.6%
Very Effective	34.8%	20.6%	16.1%	25.7%	14.7%	13.7%	16.2%	23.2%	31.6%	17.1%	24.9%

Question 51b	Income			Children Present		Age				Sex	
Newspapers	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Male	Female
Not at all Effective	7.1%	6.4%	4.8%	8.0%	3.6%	7.8%	4.1%	5.7%	12.5%	7.8%	4.1%
	21.4%	18.2%	21.2%	19.7%	19.1%	21.6%	20.1%	18.0%	21.2%	21.6%	20.1%
	30.7%	36.7%	42.5%	35.8%	40.4%	31.4%	40.1%	38.0%	32.7%	31.4%	40.1%
	20.7%	25.3%	24.0%	22.3%	27.1%	31.4%	25.5%	24.8%	18.3%	31.4%	25.5%
Very Effective	20.0%	13.4%	7.5%	14.1%	9.7%	7.8%	10.3%	13.4%	15.4%	7.8%	10.3%

Question 51c	Income			Urban or Rural		Age				Sex	
Direct mailings from electric companies to customers	<$25K	$25K-$70K	> $70K	Rural	Urban	18-30	31-50	51-70	71+	Male	Female
Not at all Effective	4.2%	6.2%	8.2%	4.9%	10.0%	3.9%	7.0%	6.6%	6.7%	8.6%	5.7%
	9.2%	11.4%	15.1%	12.2%	11.8%	21.6%	15.2%	10.7%	7.7%	12.3%	12.0%
	17.6%	21.7%	24.4%	22.3%	22.3%	25.5%	22.2%	21.8%	22.5%	25.7%	20.3%
	26.1%	37.3%	36.4%	35.1%	33.8%	29.4%	37.1%	37.0%	27.3%	33.0%	35.4%
Very Effective	43.0%	23.5%	15.8%	25.5%	22.3%	19.6%	18.4%	24.0%	35.9%	20.4%	26.6%

Question 51d	Income			Urban or Rural	
Direct mailings from state agencies to customers	<$25K	$25K-$70K	> $70K	Rural	Urban
Not at all Effective	13.7%	8.0%	12.7%	13.1%	9.8%
	9.4%	19.1%	17.5%	18.4%	15.9%
	23.0%	27.1%	27.7%	27.0%	28.2%
	28.1%	31.1%	32.2%	30.2%	28.8%
Very Effective	25.9%	14.7%	9.9%	11.3%	17.3%

Question 51e	Income			Children Present		Age				Sex	
Brochures targeting specific customer groups, like business vs. residential	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Male	Female
Not at all Effective	13.7%	6.3%	5.6%	9.6%	4.7%	6.0%	4.6%	6.6%	17.0%	7.5%	8.2%
	18.7%	13.5%	14.3%	15.2%	12.8%	12.0%	13.4%	13.1%	18.5%	18.7%	11.9%
	27.3%	37.8%	38.3%	36.1%	37.8%	40.0%	38.4%	38.6%	30.5%	34.7%	38.0%
	25.2%	30.9%	31.7%	26.9%	33.9%	30.0%	32.2%	29.7%	22.5%	29.0%	29.4%
Very Effective	15.1%	11.5%	10.1%	12.2%	10.8%	12.0%	11.4%	11.9%	11.5%	10.1%	12.6%

Question 51f	Income			Children Present		Age				Sex		Urban or Rural	
Printed information inserted with your electric bill	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Male	Female	Rural	Urban
Not at all Effective	4.3%	6.4%	10.0%	7.7%	6.9%	7.8%	7.0%	7.3%	7.7%	8.4%	6.8%	6.1%	9.4%
	12.1%	10.4%	15.8%	11.6%	14.4%	17.6%	13.3%	12.1%	10.6%	14.2%	11.5%	11.1%	14.8%
	21.3%	22.2%	24.1%	21.1%	25.7%	27.5%	26.8%	24.0%	12.6%	24.4%	21.8%	22.3%	23.7%
	22.7%	32.0%	33.7%	30.0%	32.0%	23.5%	33.3%	30.0%	29.5%	33.3%	29.1%	32.1%	28.3%
Very Effective	39.7%	29.0%	16.5%	29.6%	21.0%	23.5%	19.5%	26.5%	39.6%	19.6%	30.7%	28.4%	23.7%

Question 51g	Income			Children Present		Age				Sex	
Internet information	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Male	Female
Not at all Effective	35.7%	21.2%	14.1%	28.9%	9.4%	7.8%	9.2%	22.8%	49.2%	21.7%	22.4%
	14.0%	21.8%	23.0%	20.2%	23.2%	21.6%	22.0%	23.5%	13.2%	26.3%	18.1%
	21.7%	26.1%	36.1%	26.1%	31.5%	35.3%	33.6%	26.3%	20.1%	24.3%	30.4%
	16.3%	21.0%	19.2%	15.2%	26.0%	29.4%	25.5%	17.0%	8.5%	19.9%	18.3%
Very Effective	12.4%	10.0%	7.6%	9.6%	9.9%	5.9%	9.8%	10.5%	9.0%	7.7%	10.9%

Question 52_11 Primary Sources of Information	Income			Children Present		Age				Urban or Rural	
Newspapers	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Rural	Urban
Selected	14.0%	21.8%	23.0%	51.2%	41.0%	29.8%	41.8%	52.4%	54.7%	46.0%	52.0%

Question 52_13	Income			Sex	
Television News	<$25K	$25K-$70K	> $70K	Male	Female
Selected	45.3%	56.9%	53.5%	48.6%	57.0%

Question 52_14	Age				Urban or Rural	
Radio	18-30	31-50	51-70	71+	Rural	Urban
Selected	22.8%	20.6%	13.7%	14.8%	18.6%	13.6%

Question 52_18	Income			Children Present		Age				Sex	
Internet	<$25K	$25K-$70K	> $70K	No Minor Children at Home	Minor Children at Home	18-30	31-50	51-70	71+	Male	Female
Selected	11.3%	20.9%	34.6%	18.6%	31.4%	40.4%	32.9%	21.6%	4.7%	26.8%	20.6%

Question 52_19	Sex	
Publications/Brochures/information and material	Male	Female
Selected	40.1%	46.8%

Question 52_77	Sex	
Don't Know / Not sure	Male	Female
Selected	6.1%	3.3%

Question 53	Income			Urban or Rural		Age				Sex	
Most Credible Sources	<$25K	$25K-$70K	> $70K	Rural	Urban	18-30	31-50	51-70	71+	Male	Female
State regulatory agencies	10.6%	13.8%	20.0%	15.2%	15.5%	24.1%	17.1%	14.6%	11.8%	15.9%	15.0%
Utility providers	45.0%	39.1%	34.9%	42.3%	33.4%	35.2%	37.2%	36.4%	49.3%	36.1%	41.0%
Environmental advocacy groups	13.9%	11.9%	10.8%	9.2%	15.0%	13.0%	12.6%	11.4%	8.1%	9.1%	12.6%
Elected officials	4.6%	1.3%	.3%	1.2%	1.9%		1.3%	1.3%	2.7%	.9%	1.8%
Consumer groups	23.8%	29.6%	29.8%	28.4%	30.3%	22.2%	26.9%	33.3%	26.2%	33.1%	26.6%
ALL EQUALLY CREDIBLE	1.3%	1.5%	.3%	1.4%	.7%	1.9%	1.5%	.8%	.5%	.9%	1.2%
NONE CREDIBLE	.7%	2.3%	2.5%	1.6%	2.4%		3.0%	2.1%		3.0%	1.2%
OTHER [SPECIFY]		.6%	1.3%	.7%	.7%	3.7%	.5%		1.4%	.9%	.5%

Question 54	Income			Sex	
Least Credible Sources	**<$25K**	**$25K-$70K**	**> $70K**	**Male**	**Female**
State regulatory agencies	15.1%	7.8%	4.5%	9.0%	7.7%
Utility providers	9.4%	10.1%	7.1%	9.0%	9.7%
Environmental advocacy groups	15.1%	18.9%	20.5%	24.0%	15.3%
Elected officials	46.0%	51.9%	56.5%	47.6%	54.1%
Consumer groups	12.9%	7.6%	8.4%	6.7%	10.7%
ALL EQUALLY CREDIBLE	1.4%	1.9%	1.0%	.7%	2.0%
NONE CREDIBLE		1.8%	1.9%	2.9%	.4%
OTHER [SPECIFY]	15.1%	7.8%	4.5%	9.0%	7.7%