

**EMPIRE ELECTRIC  
ENERGY MANAGEMENT  
SURVEY  
2008**

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ENERGY MANAGEMENT  
SURVEY  
2008**

Prepared for

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## EXECUTIVE SUMMARY

The Executive Summary presents an overview of the 2008 Energy Management Survey of The Empire District Electric Company's residential customers. Overall survey results are based on 1,960 completed mail questionnaires and have a +/- 2% margin of error (95% confidence interval). Response rate for the survey was 39%.

In addition to overall survey results, survey findings are also analyzed by level of electric consumption (e.g., low, medium, high) as defined by Empire Electric.

The survey was designed, implemented, and analyzed by **Opinion Research Specialists, LLC** of Springfield, Missouri. Survey findings are summarized below.

### HOME HEATING & COOLING

#### Main Heating Fuel for Home (see page 7 in report)

- Empire Electric customers primarily heated their homes with either natural gas (43% of respondents) or electricity (41%).
- *Electric Consumption:* 64% of high electric consumers used electricity as their main heating fuel, while low and medium electric consumers were more likely to use natural gas (57% and 49%, respectively).

#### Main Heating System for Home (p. 8)

- A majority of Empire Electric customers (64%) used a central forced air furnace as their home's main heating system.
- *Electric Consumption:* Regardless of electric consumption levels, a majority of Empire Electric customers relied on central forced air furnaces as their main heating system (although high electric consumers were less likely to do so). A relatively large percentage of high electric consumers (35%) used heat pumps.

### **Age of Heating System Equipment** (p. 9)

- While 14% of respondents said their heating system equipment was less than three years old, 23% said their equipment was more than 15 years old. For a plurality of respondents, 25%, their heating system equipment was between six and ten years old.

### **Availability of Natural Gas in the Neighborhood** (p. 11)

- 60% of respondents said natural gas was available in their neighborhood.
- *Electric Consumption:* The vast majority of low electric consumers (71%) and medium electric consumers (66%) had access to natural gas in their neighborhood compared to 44% of high electric consumers.

### **Main Cooling System for Home** (p. 12)

- 68% of Empire Electric customers cooled their homes with central air conditioning.
- *Electric Consumption:* Regardless of electric consumption levels, the majority of Empire Electric customers used central air conditioning as their home's main cooling system. A relatively large percentage of high electric consumers (28%) used heat pumps and 22% of low electric consumers relied on window air conditioning units.

### **Age of Cooling System Equipment** (p. 13)

- While 16% of respondents said their home's cooling system equipment was less than three years old, 14% said their equipment was more than 15 years old. For a plurality of respondents, 28%, the cooling system equipment in their home was between six and ten years old.

### **Type of Home Thermostat** (p. 15)

- The vast majority of homes, 67%, were equipped with manually adjusted thermostats, while 28% had programmable thermostats, and 5% had no thermostat.

- *Electric Consumption:* Low electric consumers were somewhat more likely than medium or high electric consumers to have manually adjusted thermostats.

### Normal Daytime Thermostat Setting in Winter (p. 16)

- Median daytime thermostat setting in the **winter** for Empire Electric residential customers was 70 degrees Fahrenheit and ranged from 50° F to 90° F.
- *Electric Consumption:* Median daytime thermostat setting in the **winter** for low, medium, and high electric consumers was 70°, 72°, and 71° F, respectively.

### Normal Daytime Thermostat Setting in Summer (p. 17)

- Median daytime thermostat setting in the **summer** for Empire Electric residential customers was 75° F and ranged from 40° F to 91° F.
- *Electric Consumption:* Median daytime thermostat setting in the **summer** for low, medium, and high electric consumers was 75°, 75°, and 74° F, respectively.

### Main Water Heating Fuel for Home (p. 18)

- A majority of Empire Electric customers (56%) had electric hot water heaters, while 37% heated with natural gas and 7% used propane.
- *Electric Consumption:* While electricity was the primary water heating fuel for the vast majority of high electric consumers (79%), a majority of low electric consumers (53%) used natural gas.

### Age of Hot Water Heater (p. 19)

- While 19% of respondents said their hot water heater was less than three years old, 9% had hot water heaters that were more than 15 years old. For a plurality of respondents, 30%, their hot water heater was between six and ten years old.

### Size of Hot Water Heater (p. 21)

- While 40 gallons was the most common size of hot water heater among respondents (42%), 31% had smaller units (30 gallons or less) and 27% had larger units (50 gallons or more).
- *Electric Consumption:* A plurality of low, medium, and high electric consumers (about 40% each) had a 40 gallon hot water heater. However, 32% of high electric consumers used a 50 gallon tank and 37% of low electric consumers used a 30 gallon tank.

### Age of Refrigerator (p. 22)

- While 17% of respondents said their refrigerator was less than three years old, 11% had refrigerators that were more than 15 years old. For a plurality of respondents, 31%, their refrigerator was between six and ten years old.

### Likelihood of Replacing Equipment in the Next Two Years (p. 23)

- Approximately 20% to 25% of Empire Electric customers planned to replace either their refrigerator, hot water heater, cooling or heating equipment in the next couple of years.

## APPLIANCES

### Number of Appliances in the Home (p. 25)

- At least 90% of respondents had a refrigerator, microwave oven, clothes washer, and electric clothes dryer.
- At least 75% of respondents had an electric range and dishwasher.
- Relatively few homes were equipped with a sauna/hot tub (7%), gas/propane dryer (7%), dehumidifier (13%), or a gas/propane range (23%).
- *Electric Consumption:* With two exceptions (gas/propane ranges and clothes dryers), high electric consumers were more likely than either medium or low electric consumers to have at least one of the eleven appliances mentioned in the survey.



### Number of Entertainment Devices in the Home (p. 29)

- Over 90% of respondents had at least one VCR/DVD player in their home and nearly 80% had at least one tube-type television. Two-thirds of respondents had one or more stereos in the home, while one-third included at least one video game console, LCD television, and DVR.
- Relatively few homes were equipped with a plasma TV (14%) or home theater (18%).
- *Electric Consumption:* With the exception tube-type televisions, high electric consumers were more likely than either medium or low electric consumers to have two or more of the eight entertainment devices mentioned in the survey. Likewise, medium electric consumers were more likely than low electric consumers to have two or more of these entertainment devices in their home.

### Number of Computer/Communication Devices in the Home (p. 33)

- 53% of respondents had two or more cell phones (87% had at least one) and 41% had more than one cordless phone at home (79% had at least one).
- 23% of respondents had two or more personal computers at home (75% had at least one) and 13% had more than one printer at home (70% had at least one).
- Nearly 30% of respondents had an iPod/MP3 player (12% had two or more), while 22% had a fax machine in their home. Less than 10% owned a PDA.
- *Electric Consumption:* High electric consumers were more likely than either medium or low electric consumers to have one or more of each of the seven computer/communication devices mentioned in the survey. Likewise, medium electric consumers were more likely than low electric consumers to have these computer/communication devices in their home.

## ENERGY MANAGEMENT & CONSERVATION

### Frequency of Heating/Cooling System Checked by a Licensed Service Co. (p. 36)

- 53% of respondents seldom, if ever, had their heating or cooling systems checked by a licensed technician. Thirty percent had them inspected at least once a year.

- **Electric Consumption:** High electric consumers were somewhat more likely to have their heating/cooling systems checked on a more frequent basis by a licensed professional than low or medium electric consumers.

### **Rebates/Incentives Customers Would Likely Use if Offered by Empire** (p. 37)

- Approximately 45% of residential customers said they would be likely to use an Empire Electric rebate or incentive to encourage energy efficient purchases and upgrades if they applied to lighting, heating/cooling duct cleaning, central air-conditioner service tune-ups, weatherization materials, or refrigerators.
- About 35% would be interested if applied to washing machines, water heater insulation blankets, programmable thermostats, central air-conditioners, or insulation upgrades.
- Less than 20% expressed an interest in rebates/incentives targeting heat pumps or window air-conditioners.
- **Electric Consumption:** In almost every instance, high electric consumers expressed greater interest than medium or low electric consumers in Empire Electric rebates/incentives for energy efficient purchases/upgrades.

### **Energy Efficiency Services Customers Would Likely Use if Offered by Empire** (p. 41)

- 46% of respondents said they would be likely to sign-up for an on-site home energy audit.
- 38% said they would be likely to search for energy efficiency information online.
- 34% said they would be interested in low interest loans for energy efficient upgrades or appliances.
- 28% said they would be interested in conducting a self-administered Internet based home energy audit.
- **Electric Consumption:** In general, as residential customers' electric consumption levels increased so did their likelihood of using these four energy efficiency services.

### Willingness to Let Empire Electric Cycle Central Air-Conditioning On and Off During Peak Usage Days (p. 43)

- To help reduce demand for electricity, 31% of respondents said they would be willing to let Empire Electric automatically cycle their central air-conditioner on and off in fifteen minute intervals during peak usage days in the summer.
- *Electric Consumption:* Willingness to allow Empire Electric to cycle customers' central air-conditioners on and off during peak usage days declined slightly with increased electric consumption.

### Weatherization/Insulation Measures Undertaken in the Past Five Years (p. 44)

- About 30% of respondents said they had caulked windows/door frames, weatherstripped doors/windows, and sealed other air leaks in their residence within the past five years.
- Just over 20% had installed new storm doors, double or triple paned windows, and added insulation to their attic or ceiling.
- Approximately 15% had added exterior wall insulation and storm windows, while less than 10% had added floor insulation or insulated/wrapped their foundation.

## **INTRODUCTION**

This survey was commissioned by The Empire District Electric Company to assist Empire Electric in its efforts to develop effective energy efficiency programs and to promote energy efficiency among its residential customers. The survey was designed, administered, and analyzed by Opinion Research Specialists, LLC of Springfield, Missouri.

## **SURVEY DESIGN AND METHODOLOGY**

A single-wave mail survey design was implemented for this survey. On July 2, a four-page questionnaire plus cover letter was mailed to 6,000 randomly selected Empire Electric residential customers residing in Missouri, Arkansas, Kansas, and Oklahoma (stratified on the basis of population and electric usage, e.g., low, medium, and high).

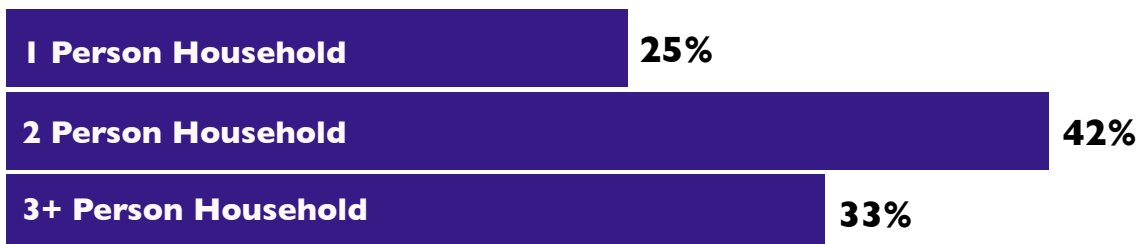
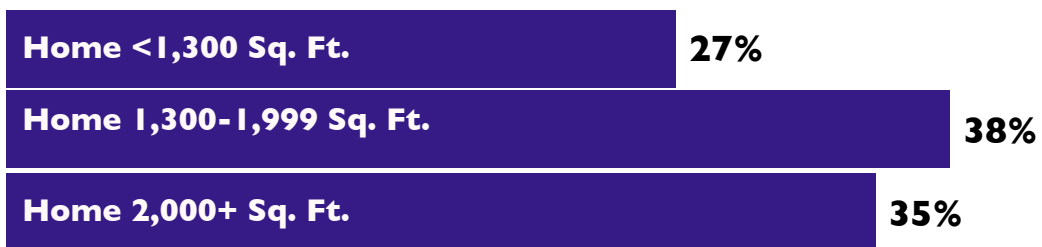
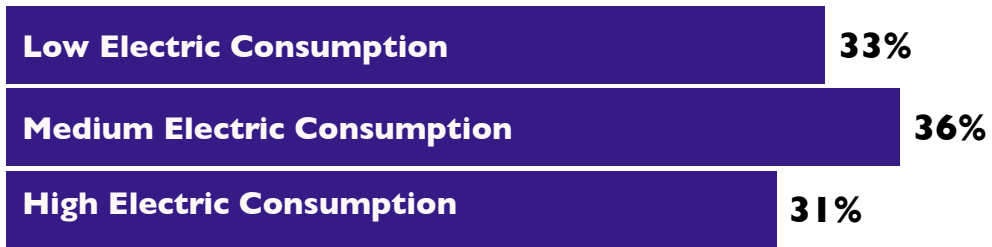
Survey participants were given approximately three weeks to complete the survey. A total of 1,960 questionnaires were completed and returned. Nine hundred and twenty-three questionnaires were returned by the post office as undeliverable (15%). An examination of the “undeliverable” questionnaires did not reveal a significant bias in geographic location as measured by ZIP code. The overall response rate for this survey was 39%.

## **INTERPRETATION OF DATA**

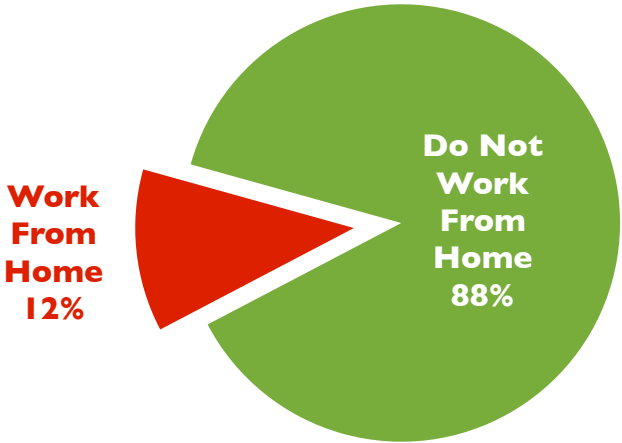
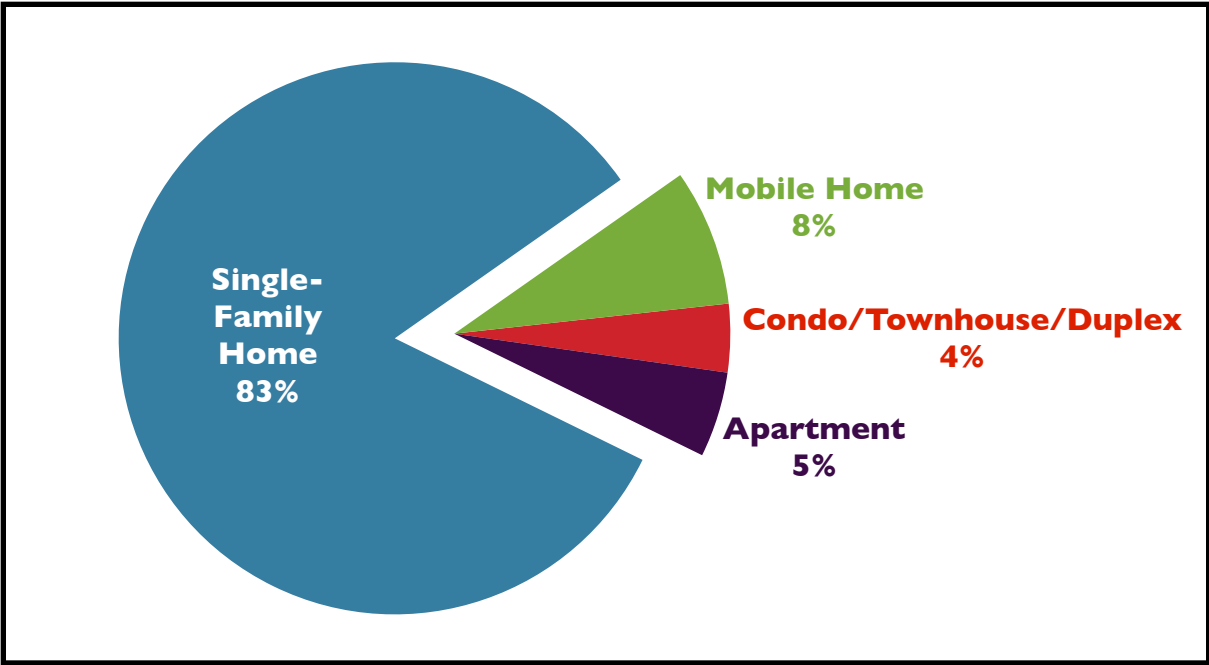
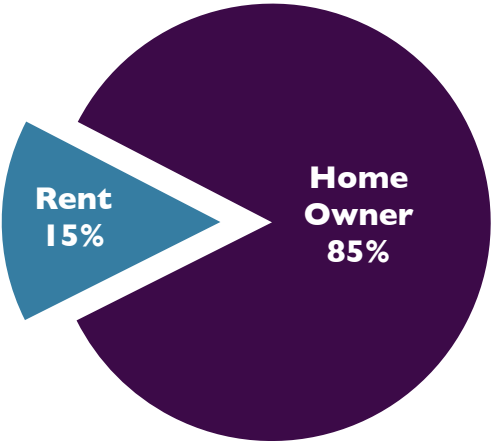
Overall survey results, based on 1,960 completed questionnaires, have a margin of error of approximately +/- 2% at the 95% confidence interval. For example, if a response listed in the report is 66%, one can be 95 percent confident that the “true” percentage, that which would have been obtained if the entire population of Empire Electric residential customers had participated in the survey, is between 64% and 68%. Margin of error increases when subsets of the total sample are analyzed (e.g., electric usage, type of residence, etc.).

Some percentages in the report may not add to exactly 100% due to rounding.

## DEMOGRAPHIC PROFILE OF SURVEY RESPONDENTS



# DEMOGRAPHIC PROFILE OF SURVEY RESPONDENTS (Cont'd)



## DEMOGRAPHIC PROFILE OF LOW, MEDIUM, AND HIGH ELECTRIC CONSUMERS

	Low Electric Consumption	Medium Electric Consumption	High Electric Consumption
Rent Residence	<b>22%</b>	<b>16%</b>	<b>7%</b>
Own Residence	<b>78%</b>	<b>84%</b>	<b>93%</b>
Apartment	<b>11%</b>	<b>3%</b>	<b>1%</b>
Single-Family Home	<b>77%</b>	<b>81%</b>	<b>90%</b>
Mobile Home	<b>7%</b>	<b>8%</b>	<b>8%</b>
Condo/Townhouse/Duplex	<b>5%</b>	<b>8%</b>	<b>1%</b>
Residence <10 Years Old	<b>19%</b>	<b>20%</b>	<b>25%</b>
Residence 10-19 Years Old	<b>18%</b>	<b>23%</b>	<b>24%</b>
Residence 20-39 Years Old	<b>24%</b>	<b>26%</b>	<b>34%</b>
Residence 40+ Years Old	<b>39%</b>	<b>31%</b>	<b>17%</b>
Residence <1,300 Sq. Ft.	<b>40%</b>	<b>32%</b>	<b>13%</b>
Residence 1,300-1,999 Sq. Ft.	<b>37%</b>	<b>43%</b>	<b>33%</b>
Residence 2000+ Sq. Ft.	<b>23%</b>	<b>25%</b>	<b>54%</b>
Residence 5 Rooms or Less	<b>38%</b>	<b>24%</b>	<b>11%</b>
Residence 6-7 Rooms	<b>38%</b>	<b>44%</b>	<b>29%</b>
Residence 8+ Rooms	<b>24%</b>	<b>32%</b>	<b>60%</b>
1 Person Household	<b>41%</b>	<b>24%</b>	<b>11%</b>
2 Person Household	<b>39%</b>	<b>42%</b>	<b>44%</b>
3+ Person Household	<b>20%</b>	<b>34%</b>	<b>45%</b>
Work From Home	<b>9%</b>	<b>10%</b>	<b>18%</b>
Do Not Work From Home	<b>91%</b>	<b>90%</b>	<b>82%</b>

## **DEMOGRAPHIC PROFILE OF LOW, MEDIUM, AND HIGH ELECTRIC CONSUMERS (Cont'd)**

**High Electric Consumers (HEC)** are more likely than medium or low electric consumers to have the following characteristics:

- own their residence (93% HEC v. 78% LEC);
- live in a single-family home (90% HEC v. 77% LEC);
- live in a 2,000+ square foot residence (54% HEC v. 23% LEC);
- live in a residence with at least eight rooms (60% HEC v. 24% LEC);
- live in a residence 20-39 years old (34% HEC v. 24% LEC);
- live in a household with three or more people (45% HEC v. 20% LEC); and
- work from home (18% HEC v. 9% LEC).

**Low Electric Consumers (LEC)** are more likely than medium or high electric consumers to have the following characteristics:

- rent (22% LEC v. 7% HEC);
- live in an apartment (11% LEC v. 1% HEC);
- live in a residence less than 1,300 square feet (40% LEC v. 13% HEC);
- live in a residence with five rooms or less (38% LEC v. 11% HEC);
- live in a residence at least 40 years old (39% LEC v. 17% HEC);
- live alone (41% LEC v. 11% HEC); and
- work outside the home (91% LEC v. 82% HEC).



# SURVEY RESULTS

Overall results are based on a total of  
1,960 survey respondents.

Survey results by electric consumption  
are based on the following:

Low electric consumers = 602 respondents

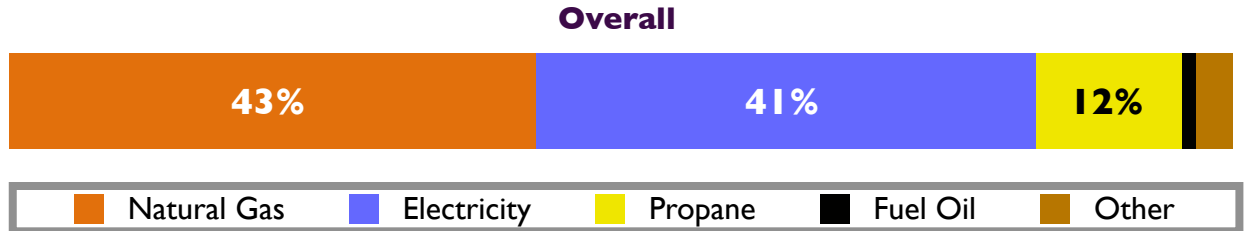
Medium electric consumers = 702 respondents

High electric consumers = 656 respondents

# HEATING & COOLING YOUR HOME

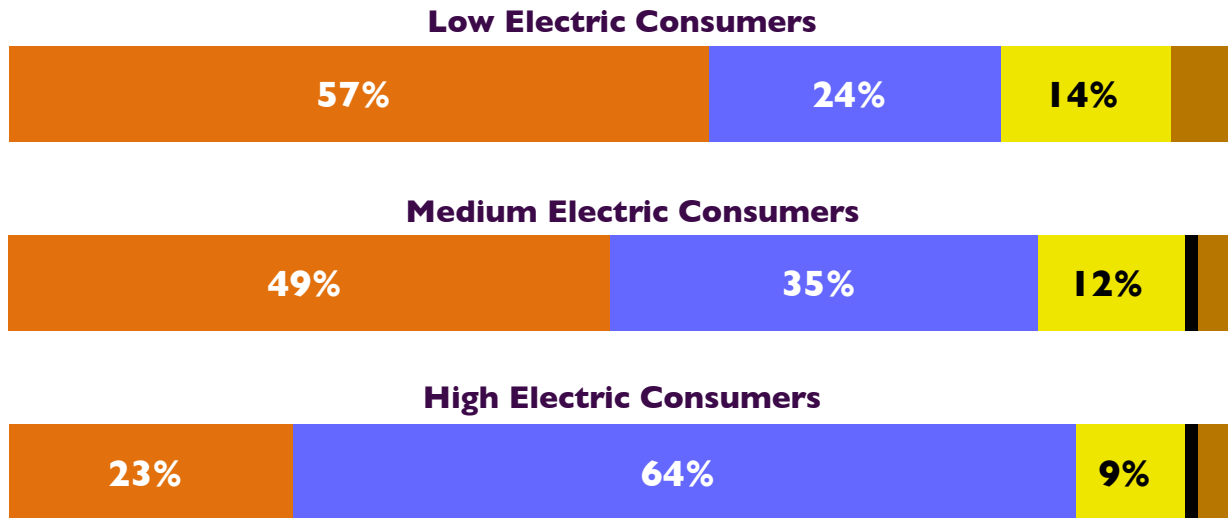
## Main Heating Fuel for Home

Empire Electric customers primarily heated their homes with either natural gas (43%) or electricity (41%).



### Electric Consumption

Electricity was the primary heating fuel for 64% of high electric consumers, while low and medium electric consumers were more likely to heat their homes with natural gas.



### Key Demographic Findings (see page 52):

- Respondents most likely to heat their homes with electricity were apartment dwellers (82%) and those living in a condo/townhouse/duplex (77%).
- Respondents most likely to heat with natural gas lived in older homes, i.e., at least 40 years old (64%).
- A relatively large percentage of those who lived in mobile homes relied on propane as their main heating fuel (28%).

# HEATING & COOLING YOUR HOME

## Main Heating System for Home

A majority of Empire Electric customers (64%) used a central forced air furnace as their home's main heating system.

### Overall



### Electric Consumption

While a majority of low, medium, and high electric consumers relied on central forced air furnaces as their main heating system, a relatively large percentage of high electric consumers (35%) used heat pumps.

### Low Electric Consumers



### Medium Electric Consumers



### High Electric Consumers



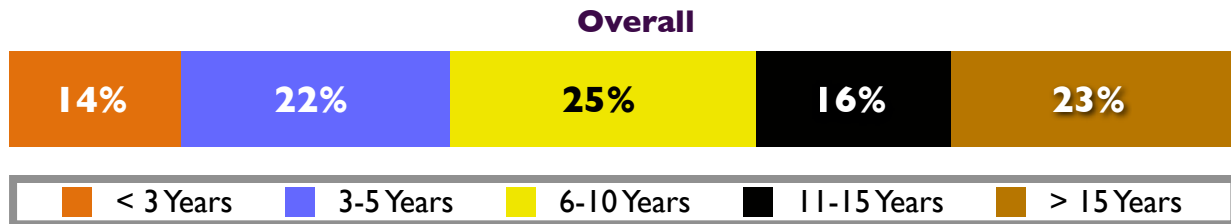
### Key Demographic Findings (see page 52):

- Those most likely to use central forced air furnaces lived in mobile homes (81%).
- The use of heat pumps was relatively high among homes with at least 2,000 square feet (32%) and homes less than 10 years old (31%).
- 12% of homes age 40 or older used a fireplace or stove as their main heating source compared to less than 1% of homes less than ten years old.
- Relying on room/space heaters as the main heating system was relatively high among apartment dwellers (13%), renters (11%), and those with homes less than 1,300 square feet (11%).

# HEATING & COOLING YOUR HOME

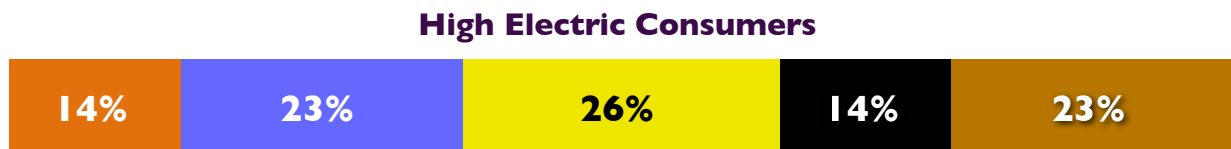
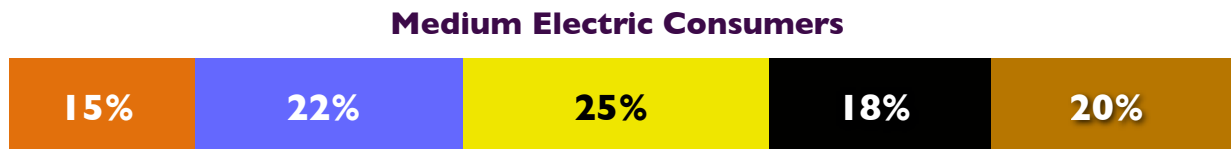
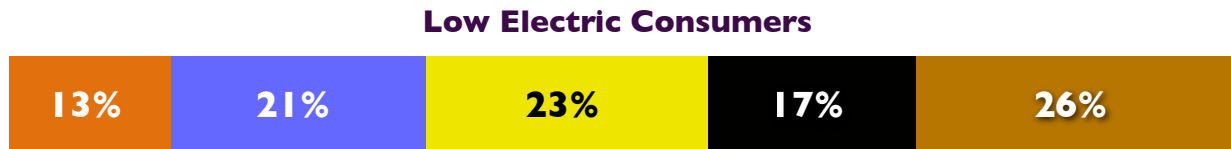
## Age of Heating System Equipment

While 14% of respondents said their home's heating system equipment was less than three years old, 23% said their equipment was more than 15 years old. For a plurality of respondents, 25%, their heating system equipment was between six and ten years old.



### Electric Consumption

There were no statistically significant differences among low, medium, and high electric consumers with respect to the age of their home's heating system equipment.



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### Key Demographic Findings (see page 52):

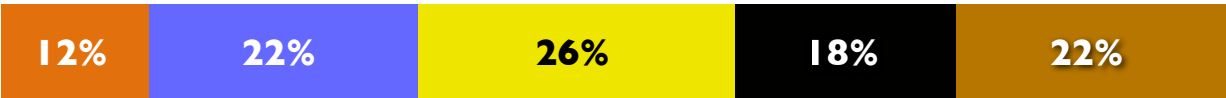
- Residences 20 to 39 years old were the most likely to have heating equipment more than 15 years old (41%).

# HEATING & COOLING YOUR HOME

## Age of Heating System Equipment by Type of Heating System Equipment

In terms of home heating systems, heat pumps tended to be relatively new (47% were less than six years old), while fireplaces/stoves tended to be relatively old (40% were more than 15 years old). Interestingly, those who heated primary with room/space heaters had equipment that was either very new (24% less than three years old) or relatively old (37% more than 15 years old).

### Central Forced Air Furnace



### Heat Pump



### Fireplace or Stove



### Room or Space Heater



# HEATING & COOLING YOUR HOME

## Availability of Natural Gas in the Neighborhood

A majority of respondents, 60%, said natural gas was available in their neighborhood.

### Overall



### Electric Consumption

The vast majority of low electric consumers (71%) and medium electric consumers (66%) had access to natural gas in their neighborhood compared to 44% of high electric consumers.

### Low Electric Consumers



### Medium Electric Consumers



### High Electric Consumers



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### Key Demographic Findings (see page 52):

- Respondents in older homes (40+ years old) were the most likely to have access to natural gas in their neighborhood (75%).

# HEATING & COOLING YOUR HOME

## Main Cooling System for Home

A majority of Empire Electric customers (68%) used central air conditioning as their home's main cooling system.

### Overall



## Electric Consumption

While a majority of low, medium, and high electric consumers relied on central air conditioning as their main cooling system, a relatively large percentage of high electric consumers (28%) used heat pumps and 22% of low electric consumers depended on window air conditioning units.

### Low Electric Consumers



### Medium Electric Consumers



### High Electric Consumers



## Key Demographic Findings (see page 52):

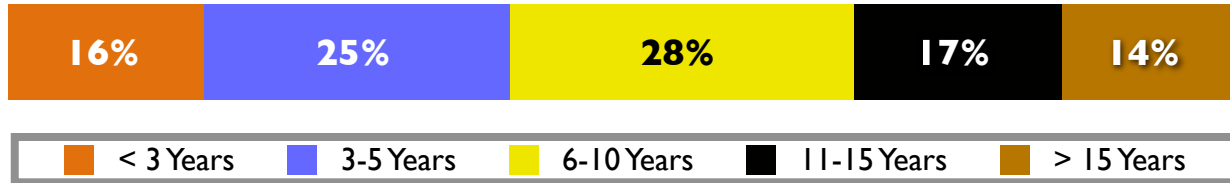
- Those most likely to cool their home with central a/c were mobile home residents (79%), condo/townhouse/duplex dwellers (78%), those with homes less than ten years old (77%), had homes 1,300 sq. ft. to 1,999 sq. ft. in size (76%), and homes 10 to 19 years old (75%).
- Those most likely to cool their home with a heat pump lived in homes 2,000+ sq. feet (27%).
- Those most likely to cool their home with a window air conditioner were renters (28%), lived in homes 40+ years old (27%), and had homes less than 1,300 sq. feet (26%).

# HEATING & COOLING YOUR HOME

## Age of Cooling System Equipment

While 16% of respondents said their home's cooling system equipment was less than three years old, 14% said their equipment was more than 15 years old. For a plurality of respondents, 28%, the cooling system equipment in their home was between six and ten years old.

### Overall



### Electric Consumption

There were no major differences among low, medium, and high electric consumers with respect to the age of their home's cooling system equipment.

#### Low Electric Consumers



#### Medium Electric Consumers



#### High Electric Consumers



### Key Demographic Findings (see page 53):

- Residences 20 to 39 years old were the most likely to have cooling equipment more than 15 years old (27%).



# HEATING & COOLING YOUR HOME

## Age of Cooling System Equipment by Type of Cooling System Equipment

In terms of home cooling systems, window air conditioning units tended to be relatively new (56% were less than six years old), while central air conditioning units tended to be relatively old (35% were more than 10 years old).

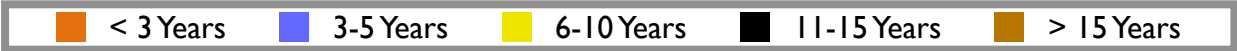
### Window Air Conditioning Unit



### Heat Pump



### Central Air Conditioning



# HEATING & COOLING YOUR HOME

## Type of Home Thermostat

The vast majority of homes, 67%, were equipped with manually adjusted thermostats.

### Overall



### Electric Consumption

Low electric consumers were somewhat more likely than medium or high electric consumers to have manually adjusted thermostats.

### Low Electric Consumers



### Medium Electric Consumers



### High Electric Consumers

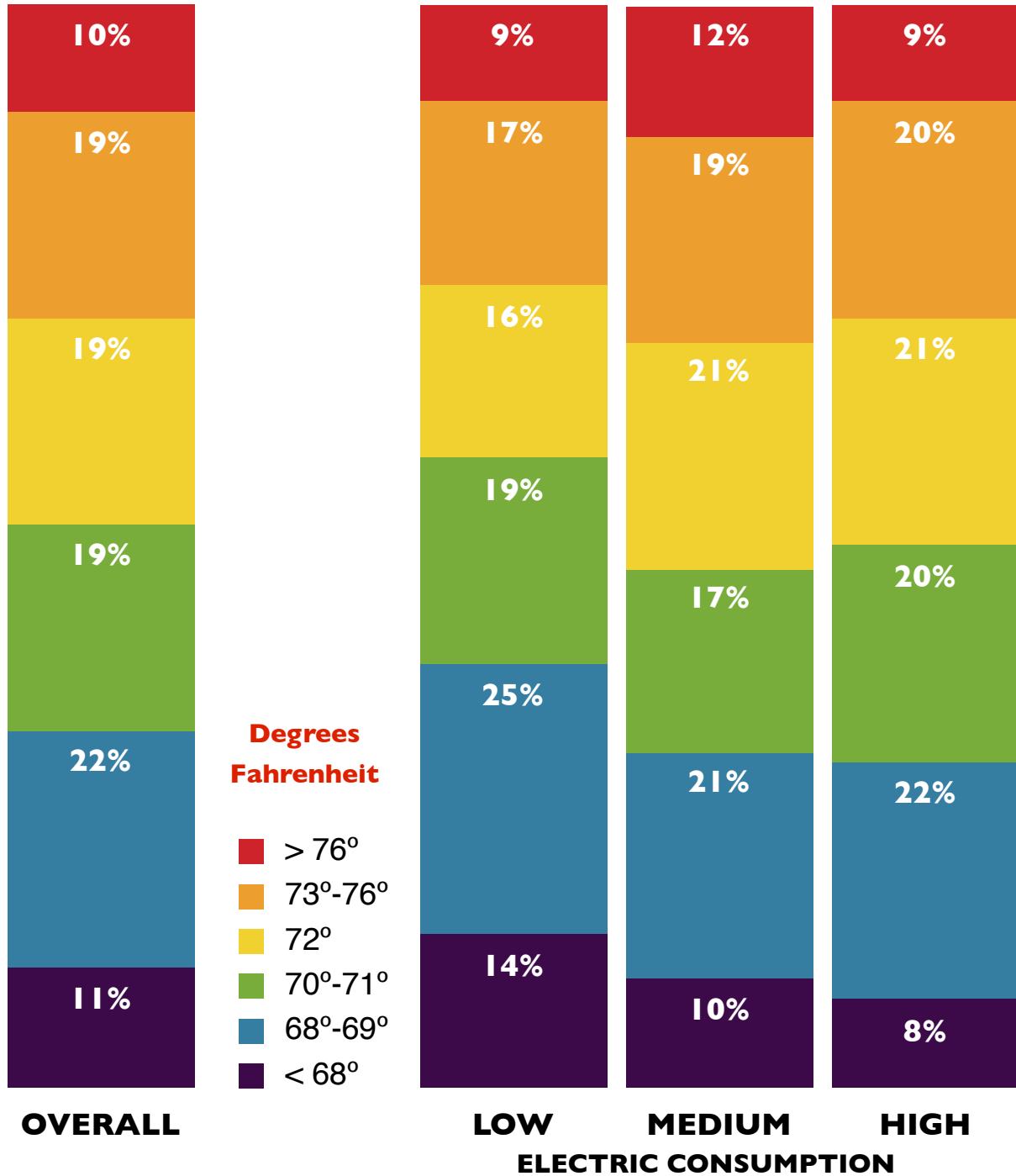


### Key Demographic Findings (see page 53):

- Those most likely to have manually adjusted thermostats were apartment dwellers (87%), mobile home residents (77%), people living in condos/townhouses/duplexes (76%), renters (76%), and those living alone (74%).
- Those most likely to have programmable thermostats worked from home (41%) and lived in residences less than ten years old (37%).

# HEATING & COOLING YOUR HOME

## Normal Daytime Temperature Thermostat Setting in Winter



Mean: 71.1°  
**Median: 70°**  
 Range: 50°-90°

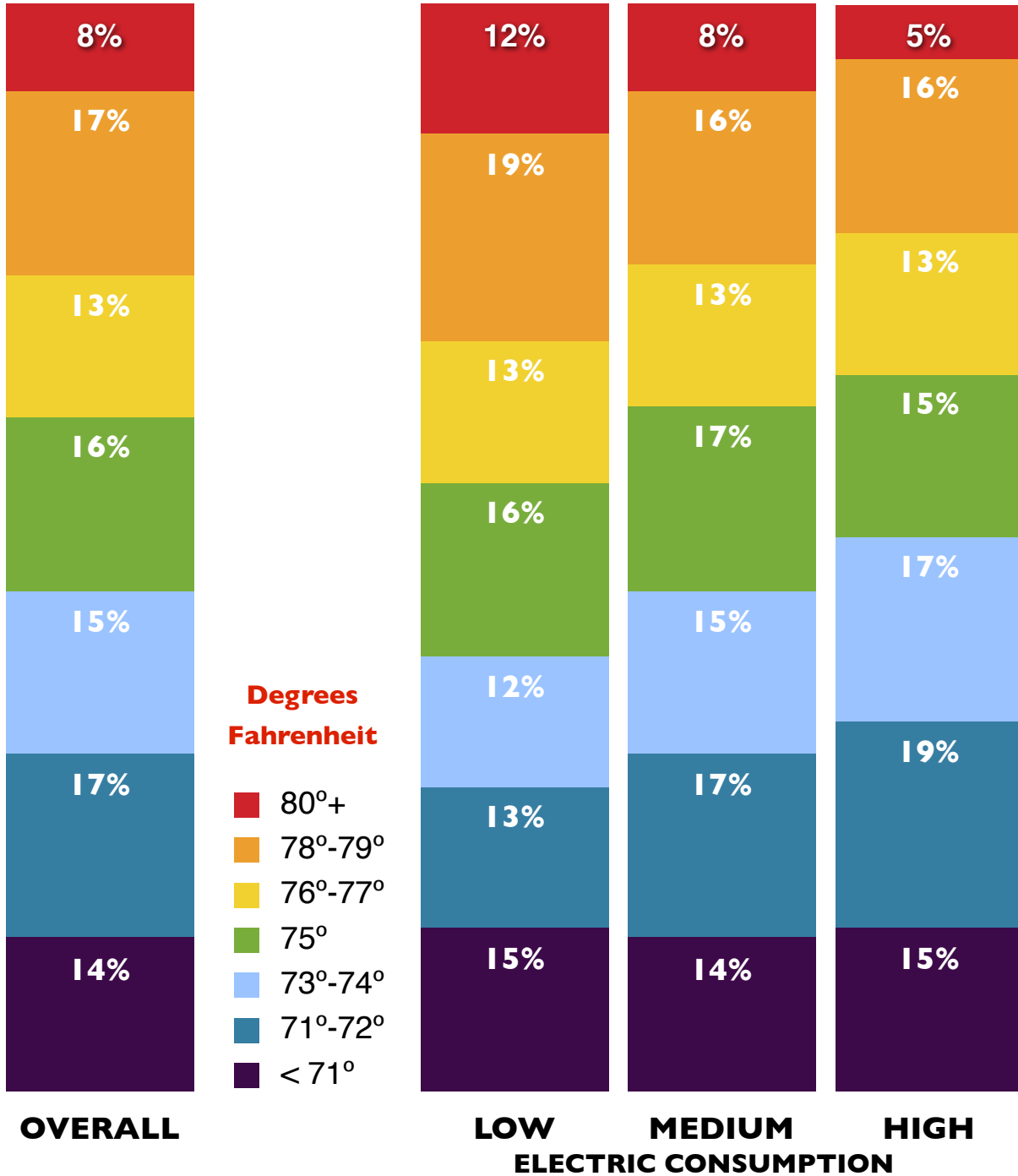
Mean: 70.7°  
**Median: 70°**  
 Range: 50°-90°

Mean: 71.4°  
**Median: 72°**  
 Range: 58°-88°

Mean: 71.2°  
**Median: 71°**  
 Range: 50°-85°

# HEATING & COOLING YOUR HOME

## Normal Daytime Temperature Thermostat Setting in Summer



Mean: 74.5°  
**Median: 75°**  
 Range: 40°-91°

Mean: 74.9°  
**Median: 75°**  
 Range: 50°-90°

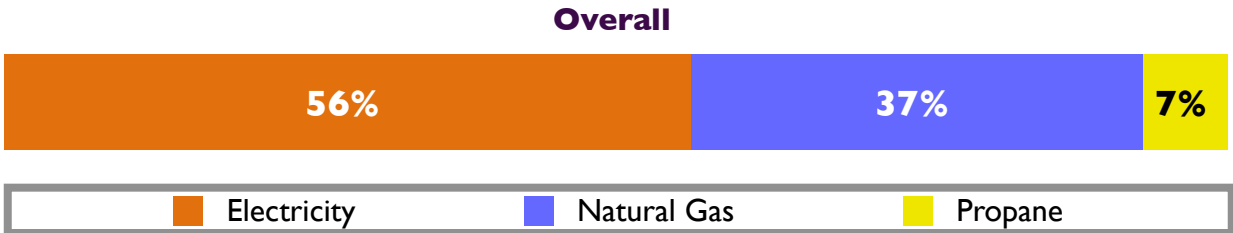
Mean: 74.5°  
**Median: 75°**  
 Range: 50°-91°

Mean: 74.2°  
**Median: 74°**  
 Range: 40°-82°

# HEATING & COOLING YOUR HOME

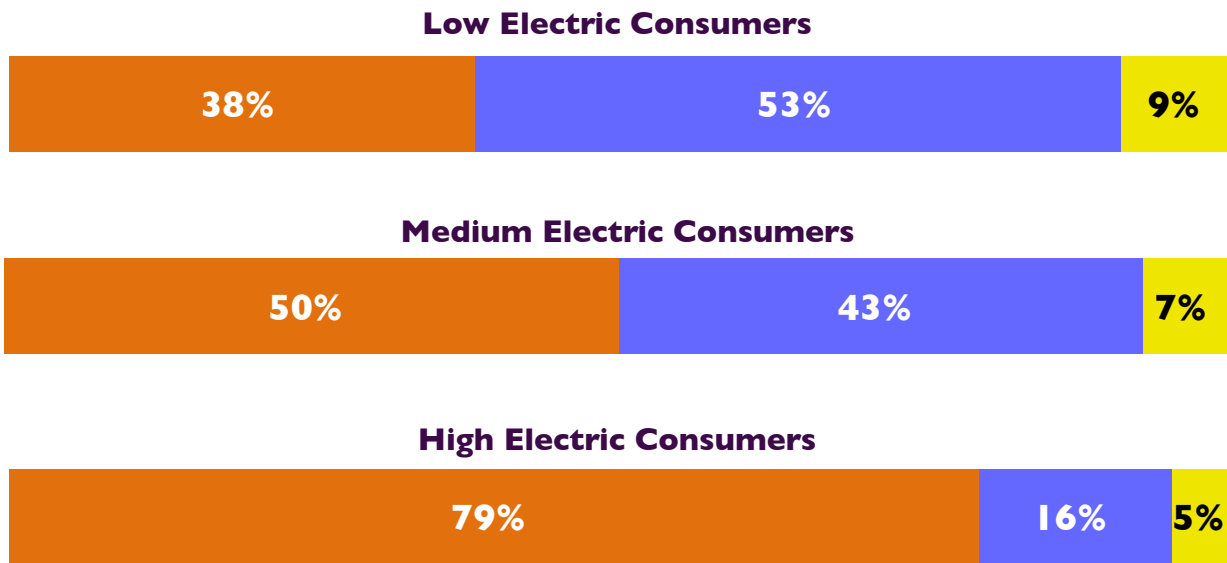
## Main Water Heating Fuel for Home

Electricity was the primary water heating fuel for 56% of respondents, while 37% relied on natural gas.



### Electric Consumption

While electricity was the primary water heating fuel for the vast majority of high electric consumers (79%), a majority of low electric consumers (53%) used natural gas.



### Key Demographic Findings (see page 53):

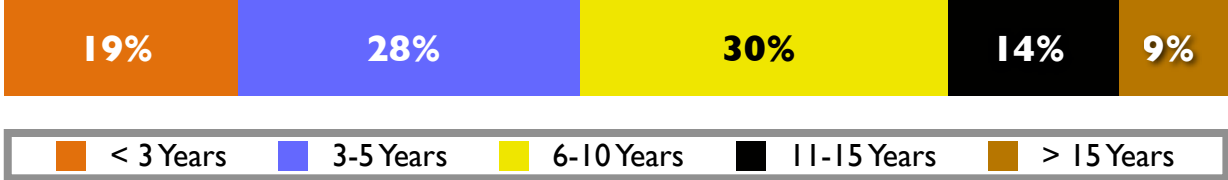
- Those most likely to use electric hot water heaters were mobile home residents (85%), condo/townhouse/duplex dwellers (84%), and those living in apartments (77%).
- Those most likely to use natural gas hot water heaters lived in older homes, i.e., 40+ years of age (56%).

# HEATING & COOLING YOUR HOME

## Age of Hot Water Heater in Home

While 19% of respondents said their hot water heater was less than three years old, 9% had hot water heaters that were more than 15 years old. For a plurality of respondents, 30%, their hot water heater was between six and ten years old.

### Overall



### Electric Consumption

There were no major differences among low, medium, and high electric consumers with respect to the age of their home’s hot water heater.

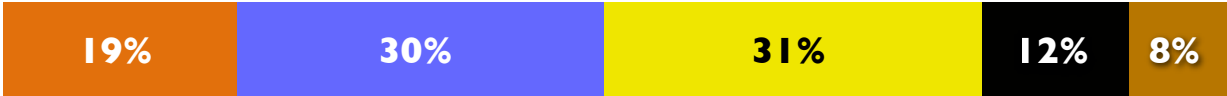
### Low Electric Consumers



### Medium Electric Consumers



### High Electric Consumers



# HEATING & COOLING YOUR HOME

## Age of Hot Water Heater by Type of Water Heating Fuel

There were no major differences among the three types of water heating fuel and age of a respondent's hot water heater.

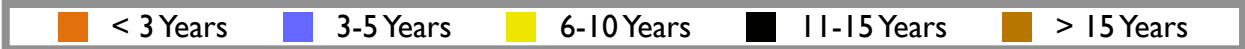
### Electricity



### Natural Gas



### Propane

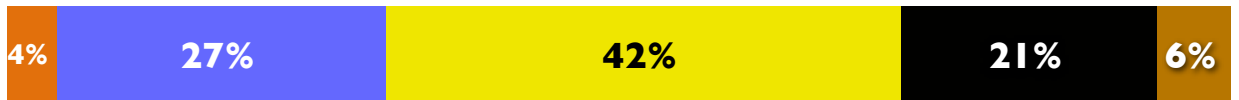


# HEATING & COOLING YOUR HOME

## Size of Hot Water Heater in Home

While 40 gallons was the most common size of hot water heater among respondents (42%), 31% had smaller units (30 gallons or less) and 27% had larger units (50 gallons or more).

### Overall



### Electric Consumption

A plurality of low, medium, and high electric consumers (about 40% each) had a 40 gallon hot water heater. However, 32% of high electric consumers used a 50 gallon tank and 37% of low electric consumers used a 30 gallon tank.

### Low Electric Consumers



### Medium Electric Consumers



### High Electric Consumers



### Key Demographic Findings (see page 53):

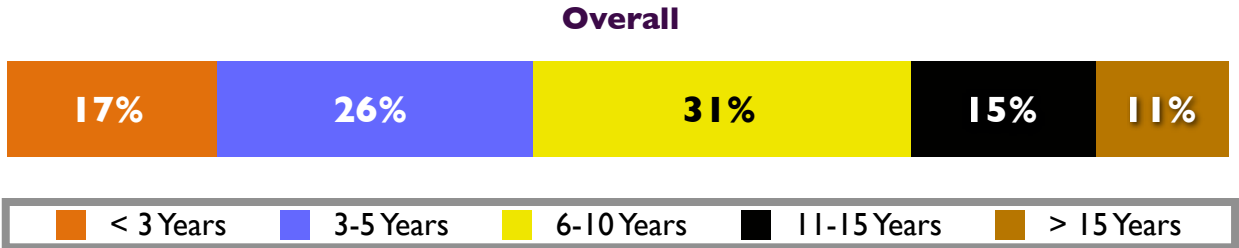
- Residences with 2,000+ square feet were the most likely to use larger hot water heaters, i.e., 50 gallons or more (46%).
- Apartment dwellers were the most likely to have smaller hot water heaters, i.e., 30 gallons or less (61%).



# HEATING & COOLING YOUR HOME

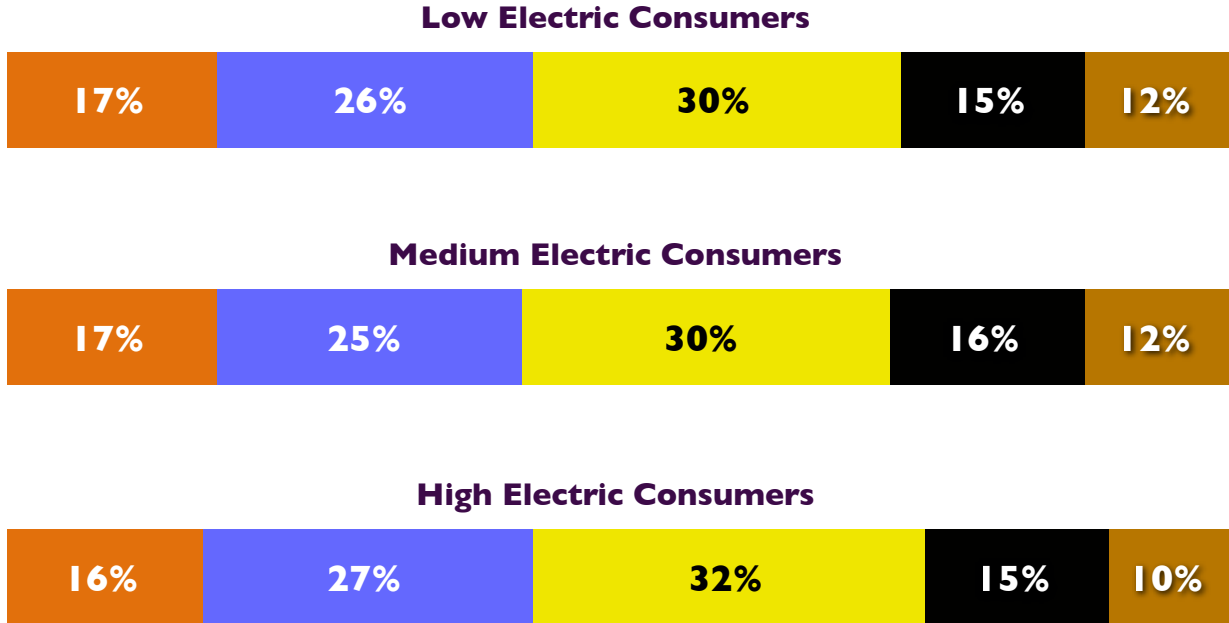
## Age of Refrigerator in Home

While 17% of respondents said their refrigerator was less than three years old, 11% had refrigerators that were more than 15 years old. For a plurality of respondents, 31%, their refrigerator was between six and ten years old.



### Electric Consumption

There were no statistically significant differences among low, medium, and high electric consumers with respect to the age of their home's refrigerator.



# HEATING & COOLING YOUR HOME

## Likelihood of Replacing Equipment in the Next Two Years— Overall Results

Approximately 20% to 25% of Empire Electric customers planned to replace either their refrigerator, hot water heater, cooling or heating equipment in the next couple of years.

### Refrigerator



### Hot Water Heater



### Cooling Unit/Equipment



### Heating Unit/Equipment



# HEATING & COOLING YOUR HOME

## Likelihood of Replacing Equipment in the Next Two Years— by Electric Consumption

There were no statistically significant differences among low, medium, and high electric consumers with respect to the likelihood of replacing their refrigerator, hot water heater, cooling unit, or heating unit in the next year or two.

### Refrigerator

7	17	Low Electric Consumer	76
7	19	Medium Electric Consumer	74
7	20	High Electric Consumer	73

### Hot Water Heater


7	15	Low Electric Consumer	78
6	18	Medium Electric Consumer	76
6	20	High Electric Consumer	74

### Cooling Unit/Equipment

6	14	Low Electric Consumer	80
4	15	Medium Electric Consumer	81
5	16	High Electric Consumer	79

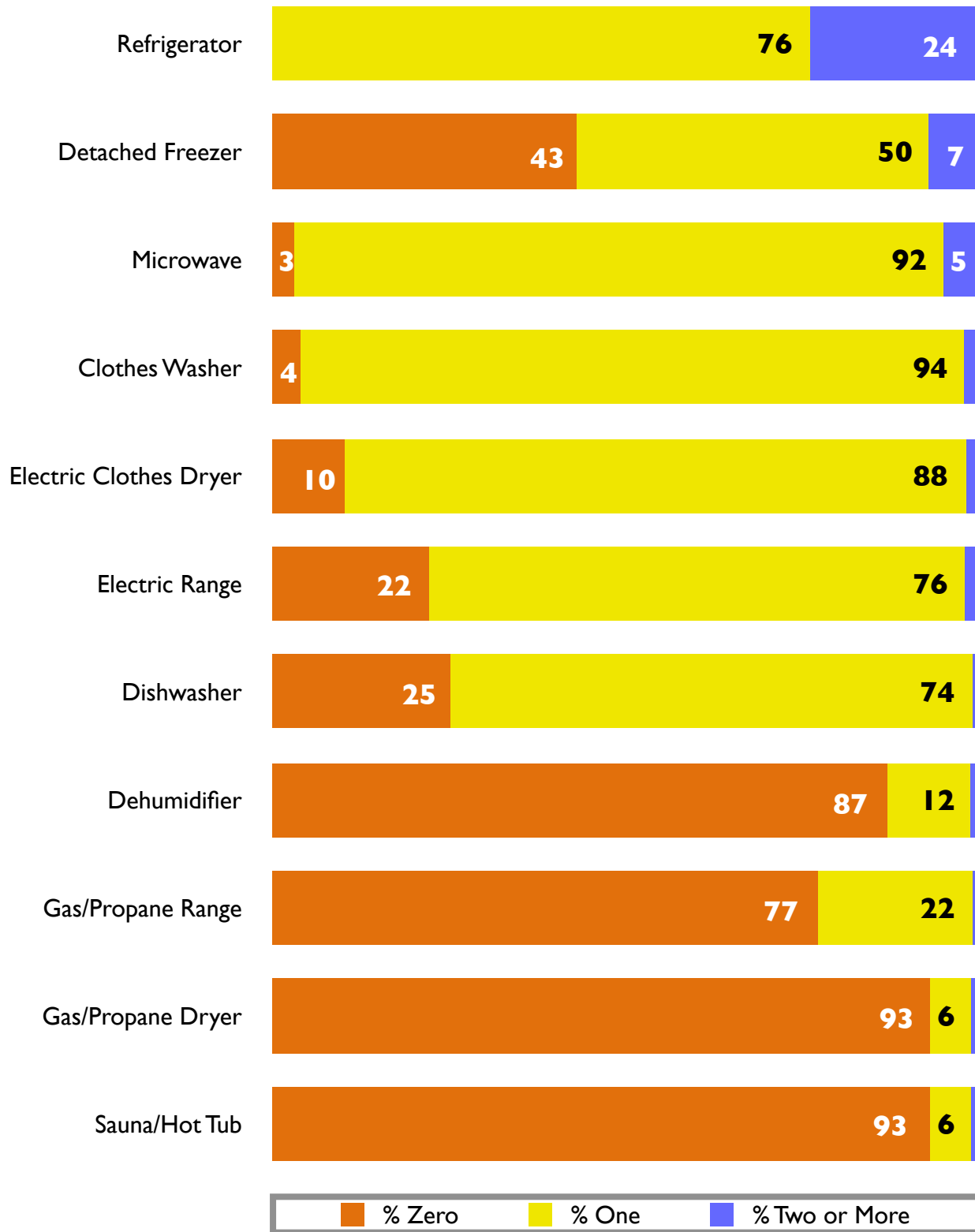
### Heating Unit/Equipment

6	12	Low Electric Consumer	82
4	15	Medium Electric Consumer	81
4	14	High Electric Consumer	82

	% Very Likely		% Somewhat Likely		% Not Too Likely
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# APPLIANCES

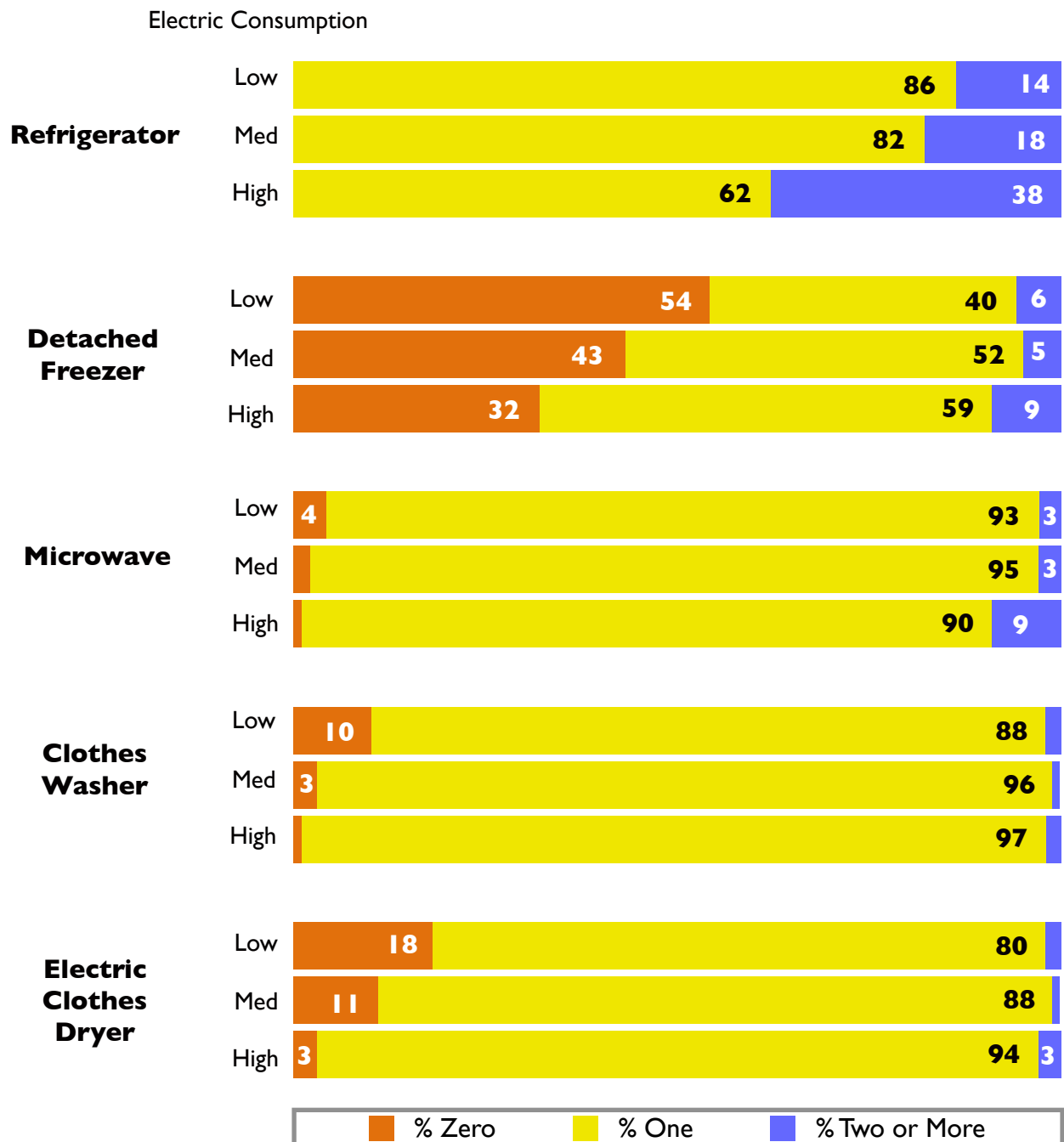
## Number of Appliances in the Home—Overall



# APPLIANCES

## Number of Appliances in the Home by Low, Medium, and High Electric Consumption

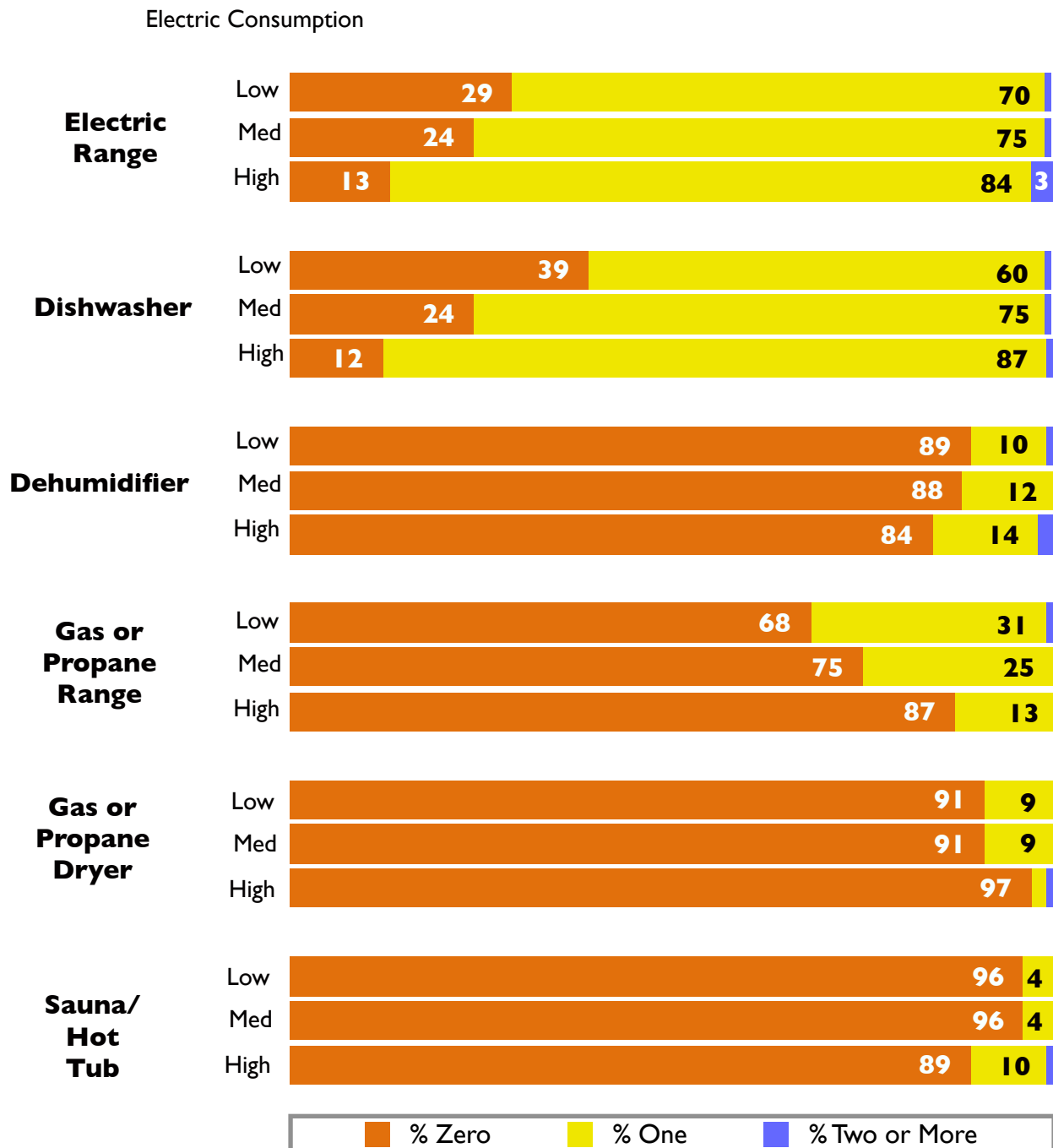
**Electric Consumption:** In almost every instance, high electric consumers were more likely than either medium or low electric consumers to have one or more of the appliances listed below.



# APPLIANCES

## Number of Appliances in the Home by Low, Medium, and High Electric Consumption (Cont'd)

**Electric Consumption:** In almost every instance, high electric consumers were more likely than either medium or low electric consumers to have one or more of the appliances listed below.



# APPLIANCES

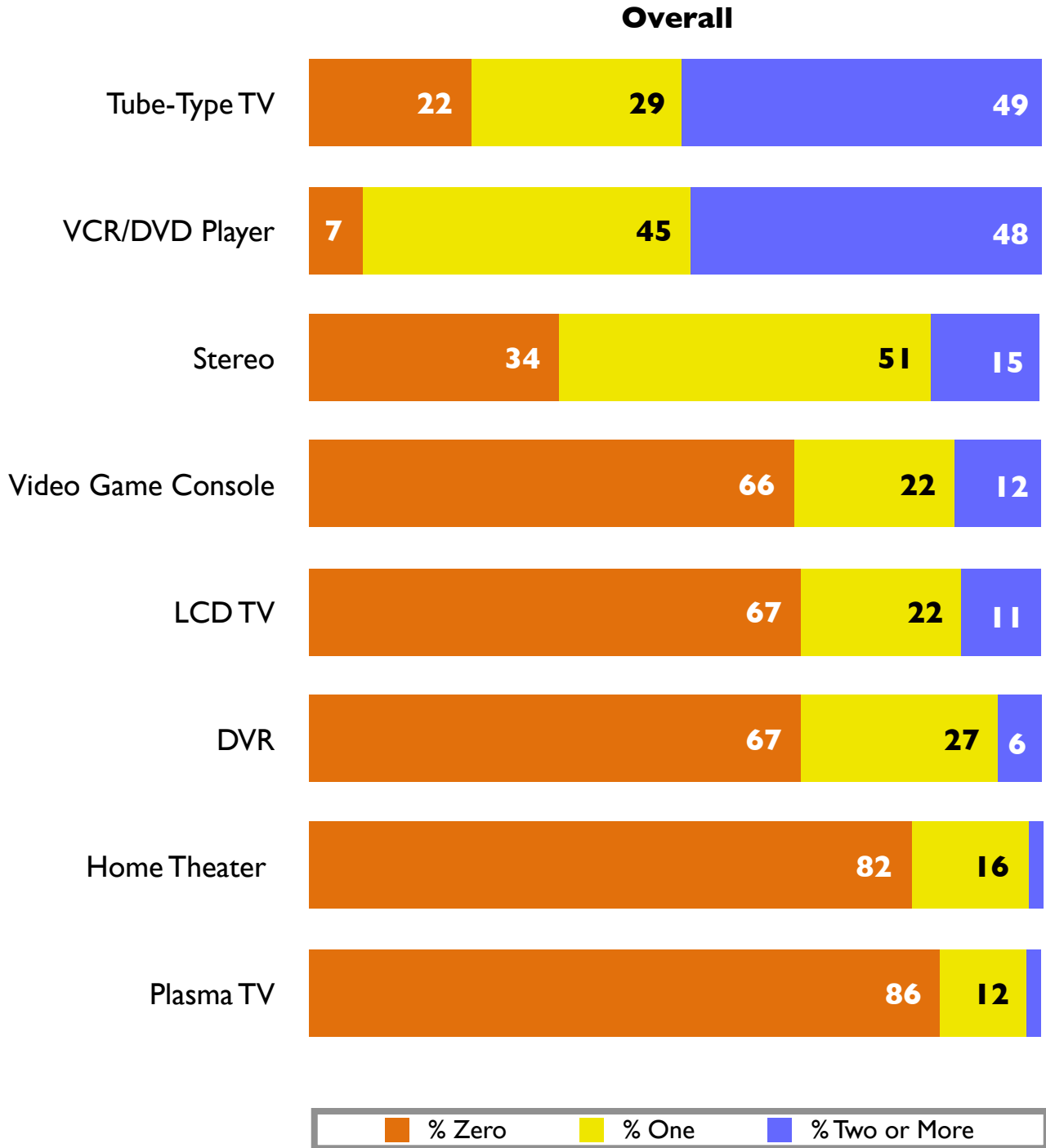
## Number of Appliances in the Home— Overall Results, (Cont'd)

### *Key Demographic Findings (see pages 54-56):*

- Respondents most likely to have two or more refrigerators were those with residences 2,000 sq. ft. or larger (46%) and worked from home (33%).
- Respondents most likely to have at least one detached freezer were those with larger residences at least 2,000 sq. ft. (69%).
- Respondents most likely to have two or more microwaves were those with residences 2,000 sq. ft. or larger (13%).
- 10% of apartment dwellers did not own a microwave oven.
- 49% of apartment dwellers did not own a clothes washer.
- 51% of apartment dwellers did not own an electric clothes dryer.
- 39% of respondents who lived in mobile homes and 35% of respondents who lived in older residences (40+ years old) did not own an electric range.
- 49% of apartment dwellers and 47% of renters did not own a dishwasher.
- Respondents most likely to have at least one dehumidifier lived in larger residences (2,000+ sq. ft.) and worked from home (23% each).
- Respondents most likely to have a gas or propane range lived in a condo/townhouse/ duplex (39%) and in older residences, i.e., 40+ years old (37%).
- Respondents most likely to have a gas or propane dryer lived in older residences, i.e., 40+ years old (14%).
- Respondents most likely to have a sauna or hot tub were those who lived in homes 2,000+ sq. ft. (13%) and in residences less than ten years old (11%).

# APPLIANCES

## Number of Entertainment Devices in the Home

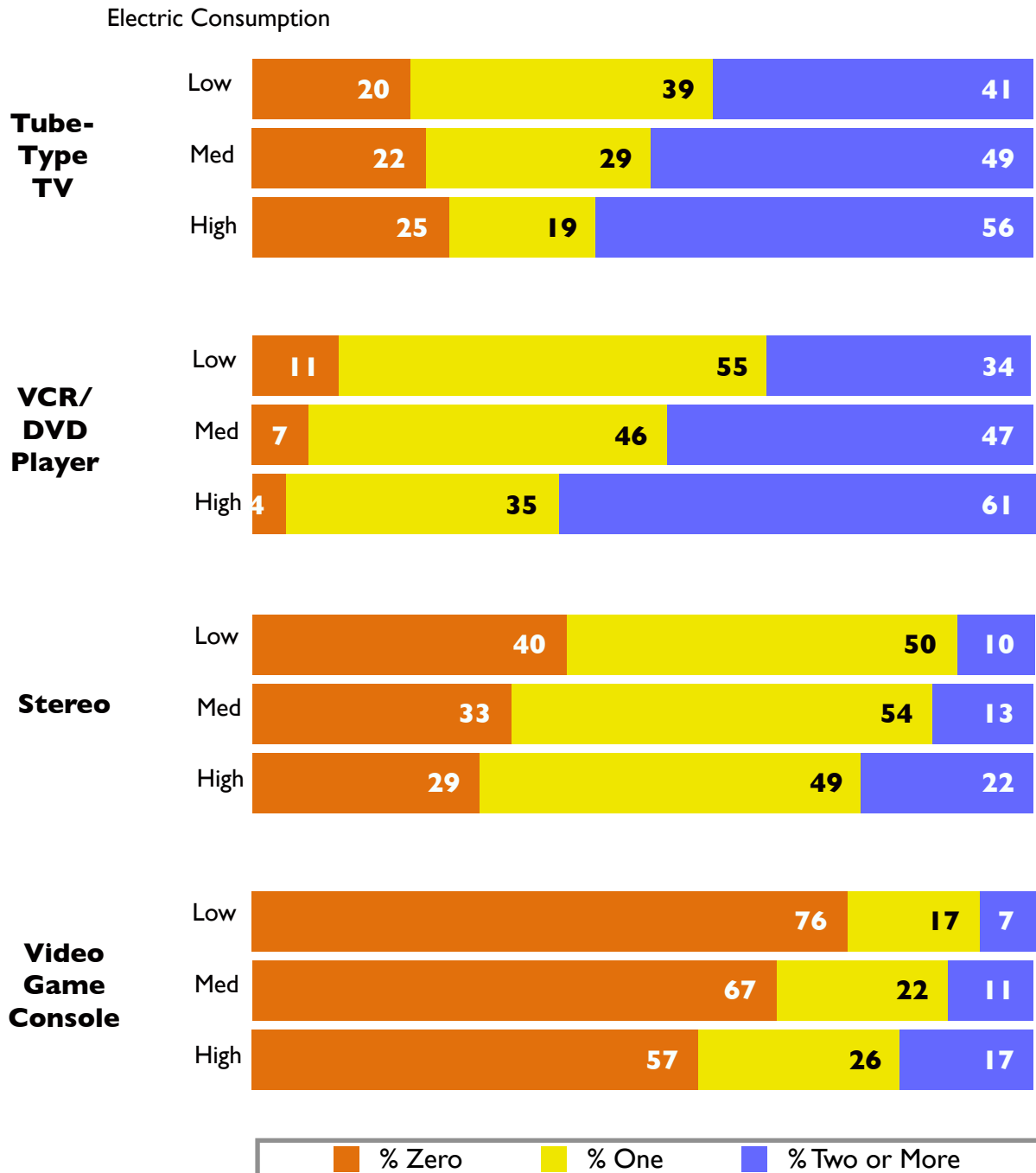




# APPLIANCES

## Number of Entertainment Devices in the Home by Low, Medium, and High Electric Consumption

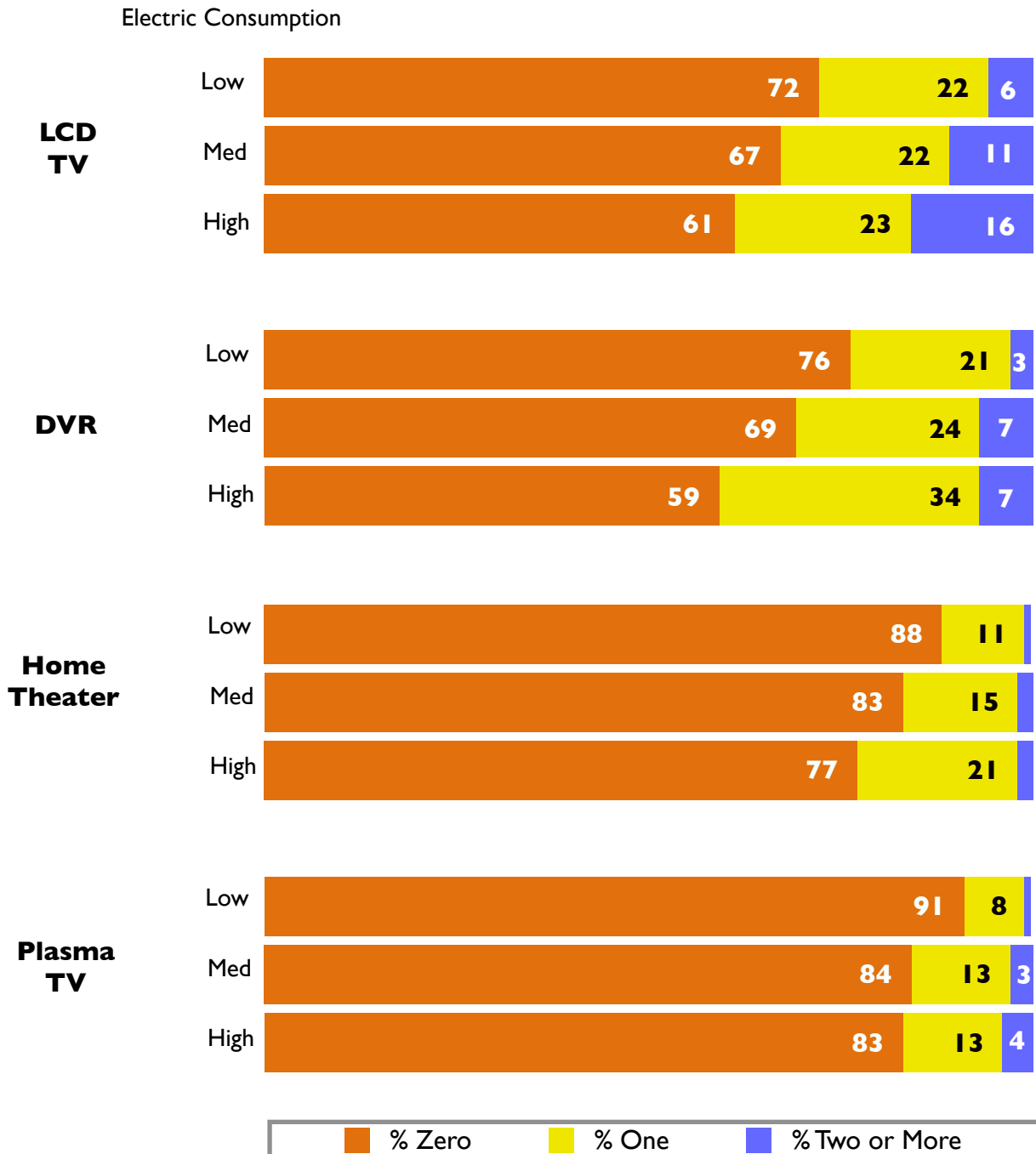
**Electric Consumption:** With the exception of tube-type televisions, high electric consumers were more likely than either medium or low electric consumers to have two or more of each of the entertainment devices listed below in their home. Likewise, medium electric consumers were more likely than low electric consumers to have two or more of these entertainment devices in their home.



# APPLIANCES

## Number of Entertainment Devices in the Home by Low, Medium, and High Electric Consumption (Cont'd)

**Electric Consumption:** High electric consumers were more likely than either medium or low electric consumers to have two or more of each of the entertainment devices listed below in their home. Likewise, medium electric consumers were more likely than low electric consumers to have two or more of these entertainment devices in their home.



# APPLIANCES

## Number of Entertainment Devices in the Home— Overall Results, (Cont'd)

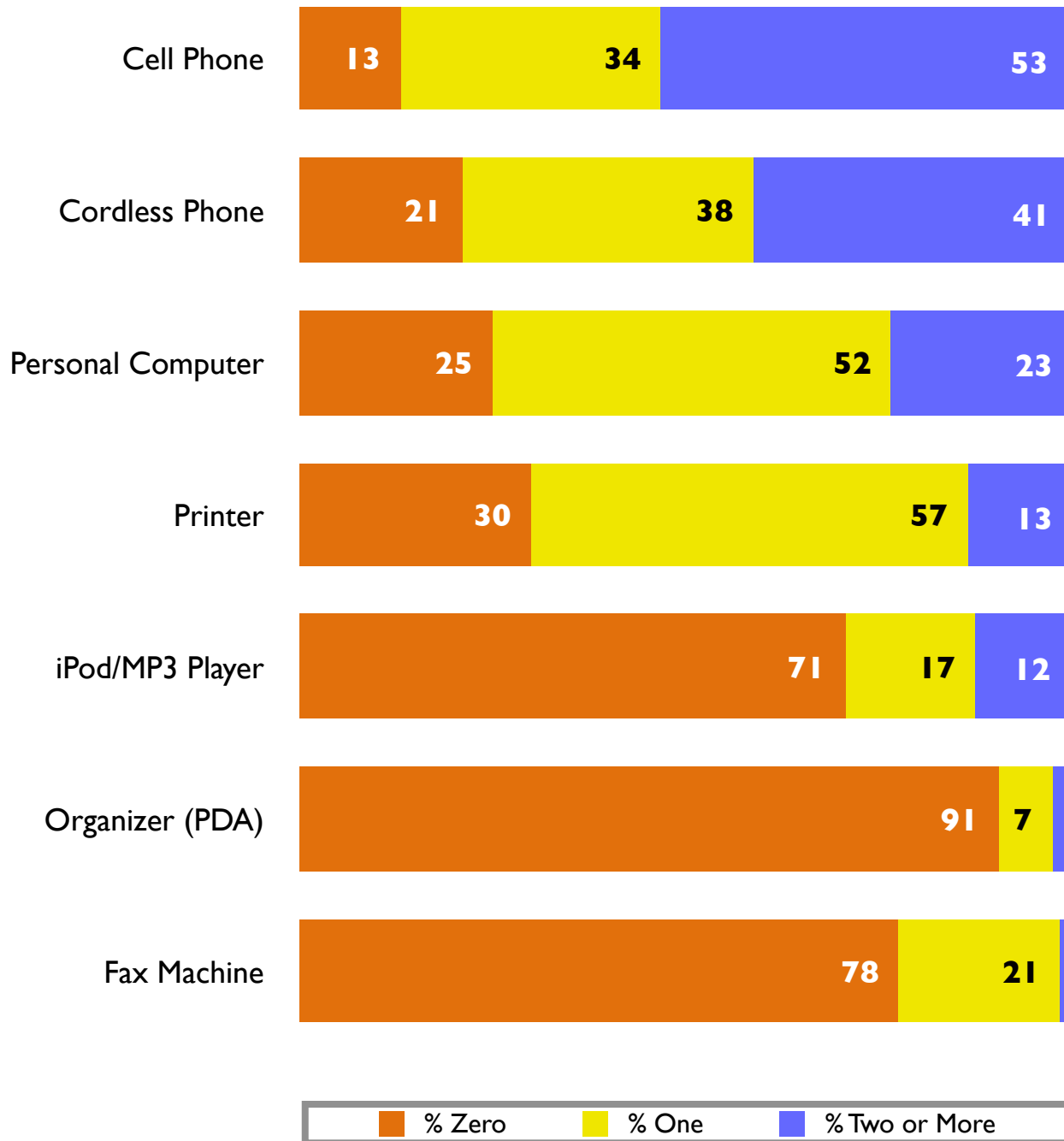
### *Key Demographic Findings (see pages 56-57):*

- Respondents most likely to have two or more tube-type televisions in their home had three or more people living in the household (62%) and had homes 2,000+ sq. ft. (59%).
- Respondents most likely to have two or more VCR/DVD players in their home had three or more people living in the household (70%) and had homes 2,000+ sq. ft. (63%).
- Respondents most likely to have two or more stereos in their home had three or more people living in the household (27%) and had homes 2,000+ sq. ft. (22%).
- Respondents most likely to have two or more video game consoles had three or more people living in the household (29%), while those least likely to own any video game consoles lived alone (92%).
- Respondents most likely to own two or more LCD televisions lived in homes 2,000+ sq. ft. (18%), while those least likely lived in apartments (92%).
- Respondents most likely to have at least one DVR lived in a 2,000+ sq. ft. home (45%), while those least likely were apartment dwellers and lived alone (80% each).
- Respondents most likely to have at least one home theater had three or more people in the household (29%), lived in homes less than ten years old (28%), had homes 2,000+ sq. ft. (26%), and worked from home (25%).
- Respondents most likely to have at least one plasma television lived in homes less than ten years old (20%) and had homes 2,000+ sq. ft. (19%).

# APPLIANCES

## Number of Computer/Communication Devices in the Home

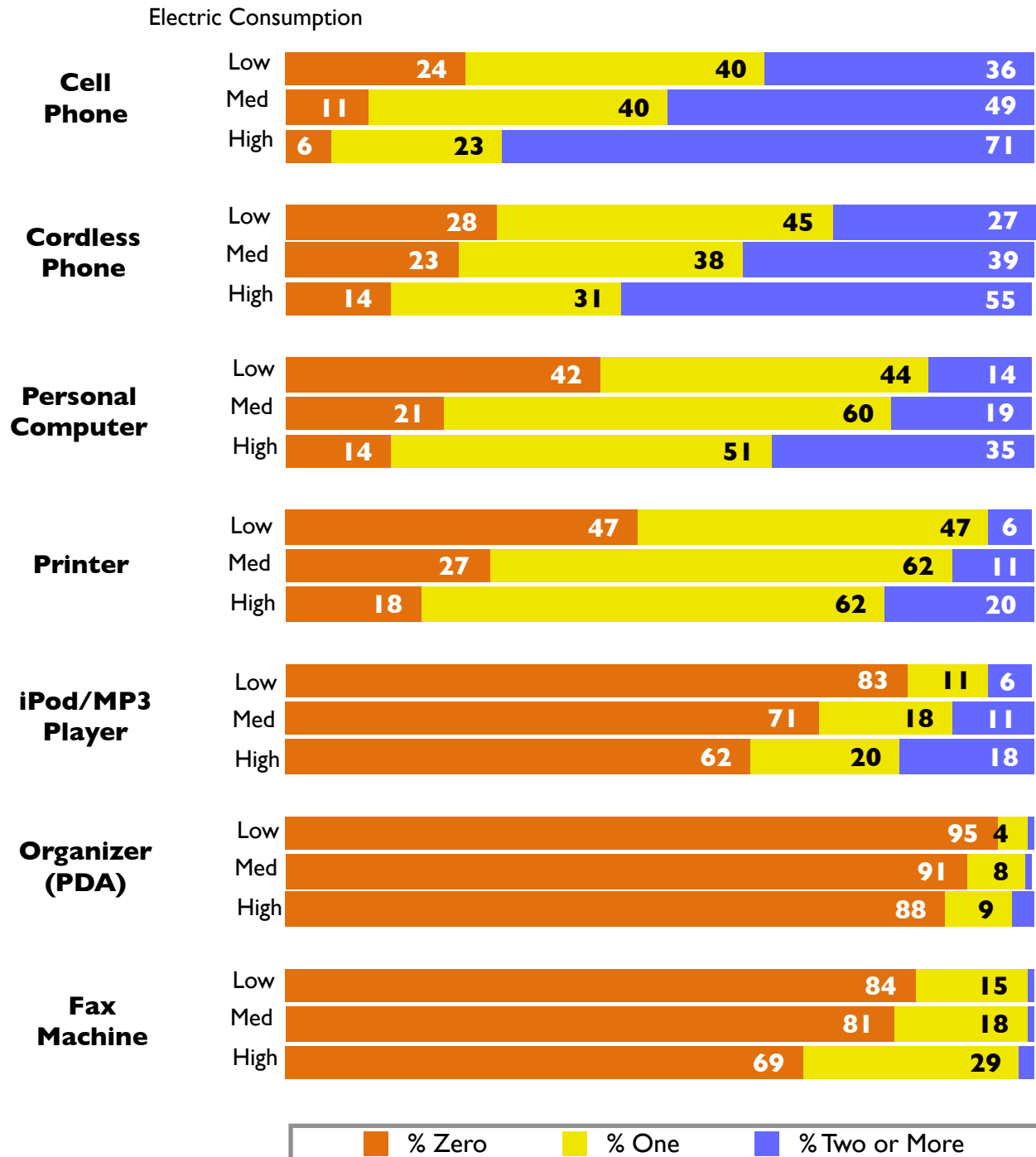
### Overall



# APPLIANCES

## Number of Computer/Communication Devices in the Home by Low, Medium, and High Electric Consumption

**Electric Consumption:** As expected, high electric consumers were more likely than either medium or low electric consumers to have one or more of each of the seven computer/communication devices in their home. Likewise, medium electric consumers were more likely than low electric consumers to have one or more of each of the seven computer/communication devices in their home.



# APPLIANCES

## Number of Computer/Communication Devices in the Home— Overall Results, (Cont'd)

### *Key Demographic Findings (see page 58):*

- Respondents most likely to have two or more cell phones had three or more people in the household (81%).
- Respondents most likely to have two or more cordless phones had homes 2,000+ sq. ft. (61%) and worked from home (54%).
- Respondents most likely to have two or more personal computers in their home worked from home (43%) and had homes 2,000+ sq. ft. (42%).
- Respondents most likely to have two or more printers in their home worked from home (29%) and had homes 2,000+ sq. ft. (25%).
- Respondents most likely to have two or more iPod/MP3 players had three or more people in the household (29%).
- Respondents most likely to have at least one PDA worked from home (17%).
- Respondents most likely to have at least one fax machine in their home home worked from home (17%).

# ENERGY MANAGEMENT & CONSERVATION

## Frequency of Heating/Cooling System Checked by a Licensed Service Company

A majority of respondents (53%) seldom (31%), if ever (22%), had their heating or cooling systems checked by a licensed service company. Thirty percent (30%) had them inspected at least once a year.

### Overall



### Electric Consumption

High electric consumers were somewhat more likely to have their heating/cooling systems checked on a frequent basis by a licensed professional than low or medium electric consumers.

#### Low Electric Consumers



#### Medium Electric Consumers



#### High Electric Consumers

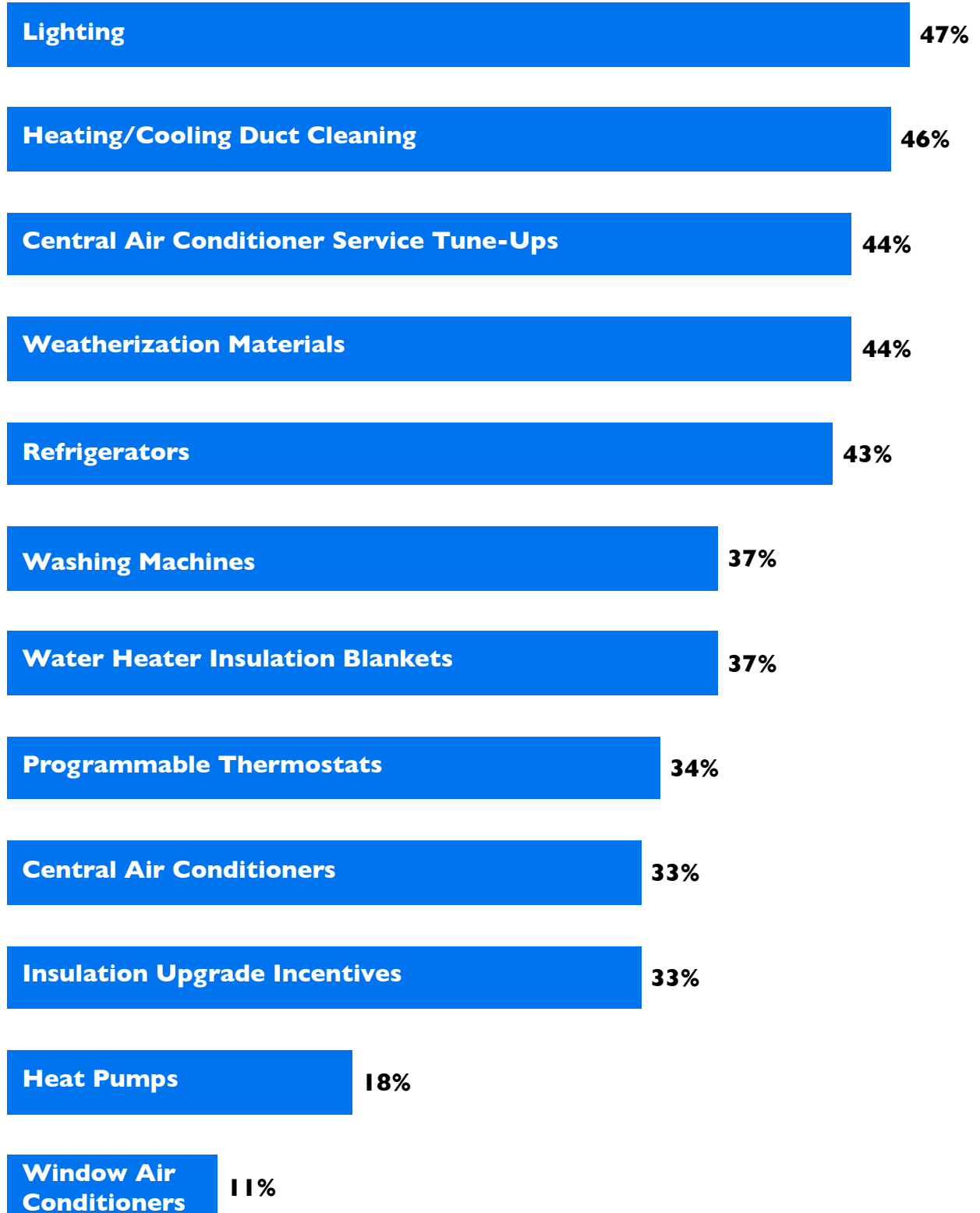


### Key Demographic Findings (see page 59):

- While apartment dwellers were the most likely to have had their heating or cooling system checked by a licensed professional on a seasonal basis (14%), they were also the most likely to have never had it inspected by a licensed professional (42%).

# ENERGY MANAGEMENT & CONSERVATION

## Rebates and Incentives Residential Customers Would Be Likely to Use if Offered by Empire Electric—Overall

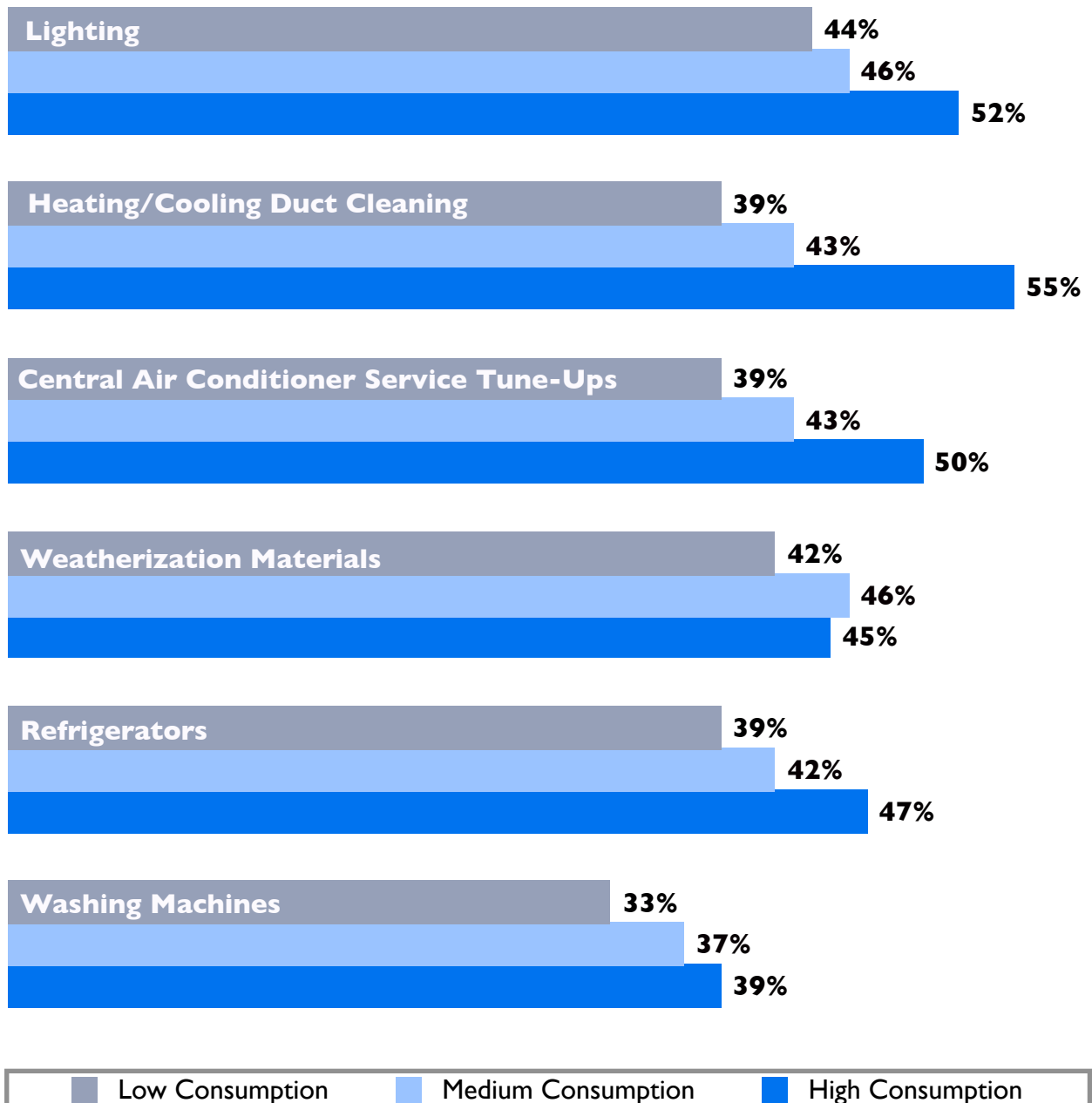




# ENERGY MANAGEMENT & CONSERVATION

## Rebates and Incentives Residential Customers Would Be Likely to Use if Offered by Empire Electric by Low, Medium, and High Electric Consumption

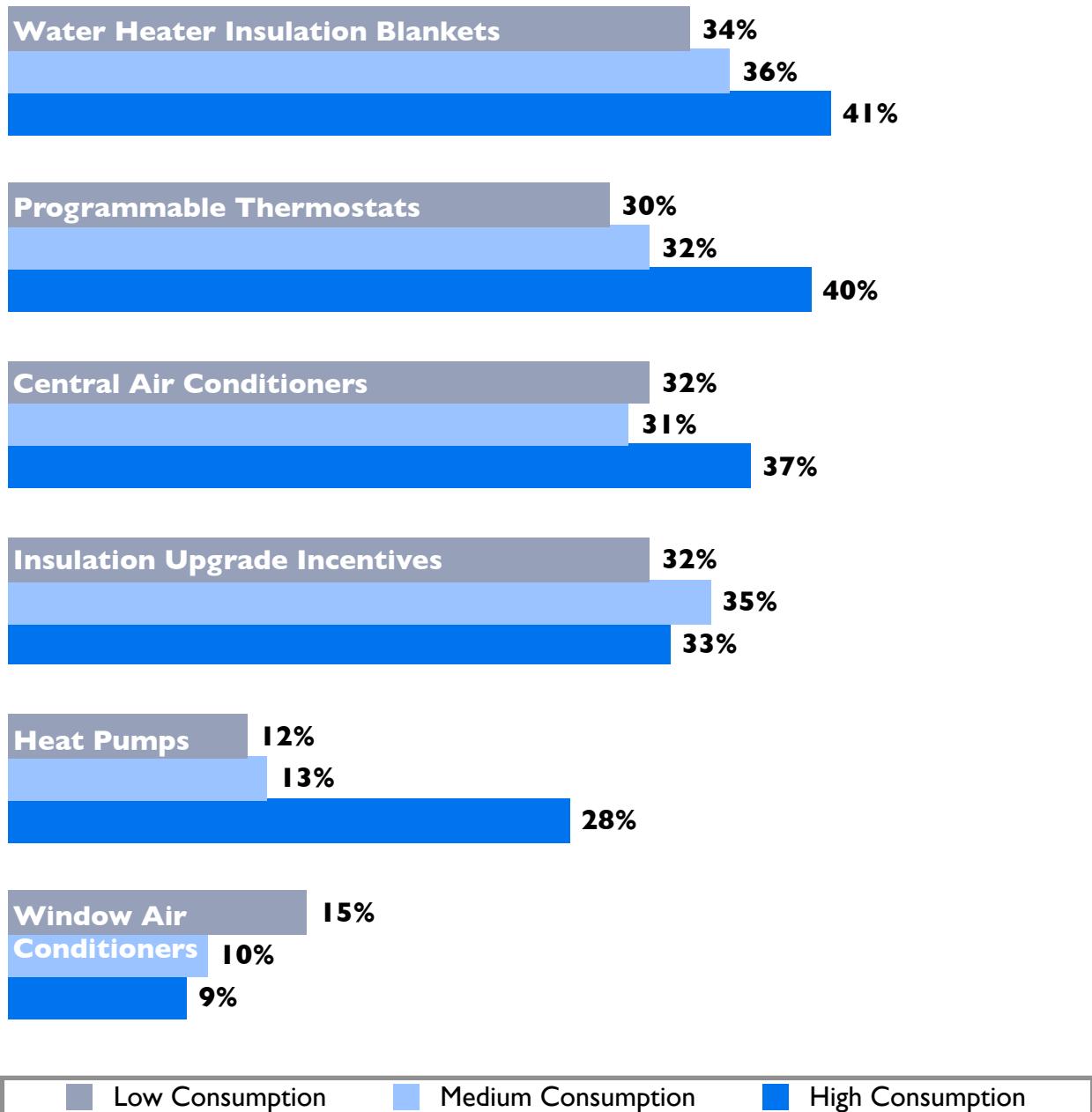
**Electric Consumption:** In almost every instance, high electric consumers were more likely than either medium or low electric consumers to say they would use rebates and incentives for energy efficient purchases/upgrades if offered by Empire Electric.



# ENERGY MANAGEMENT & CONSERVATION

## Rebates and Incentives Residential Customers Would Be Likely to Use if Offered by Empire Electric by Electric Consumption Levels (Cont'd)

**Electric Consumption:** In almost every instance, high electric consumers were more likely than either medium or low electric consumers to say they would use rebates and incentives for energy efficient purchases/upgrades if offered by Empire Electric.



# ENERGY MANAGEMENT & CONSERVATION

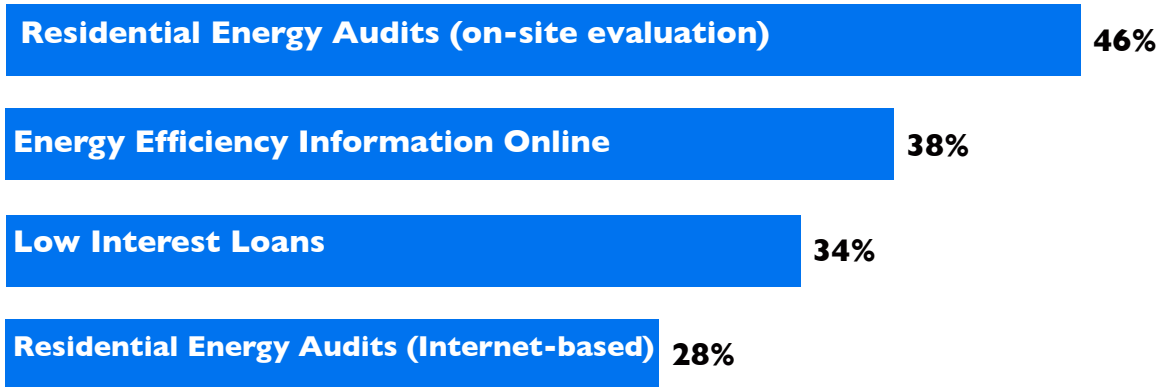
## Rebates and Incentives Residential Customers Would Be Likely to Use if Offered by Empire Electric (Cont'd)

### *Key Demographic Findings (see page 59):*

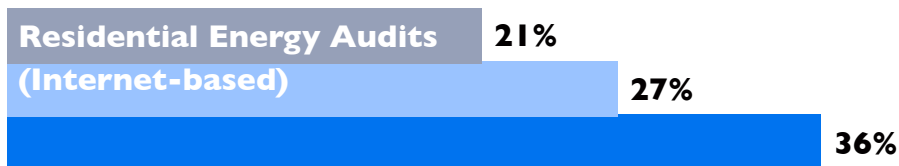
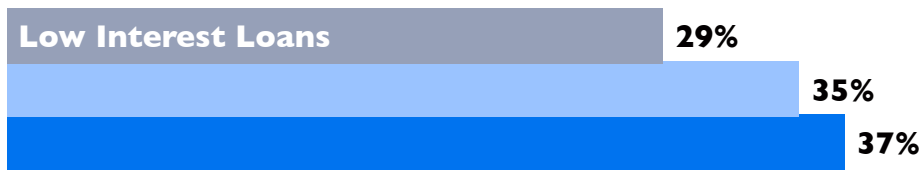
- Interest in Empire Electric rebates and incentives to encourage energy efficient purchases and upgrades varied by type of rebate/incentive. In general, the larger the household the greater the interest, and to a somewhat lesser extent, the larger the residence (square footage) the greater the interest. Conversely, those expressing the least amount of interest tended to live in apartments and lived alone.

# ENERGY MANAGEMENT & CONSERVATION

## Energy Efficiency Services Residential Customers Would Be Likely to Use if Offered by Empire Electric—Overall



**Electric Consumption:** In general, as residential customers’ electric consumption levels increased so did their likelihood to say they would use each of these four energy efficiency services if offered by Empire Electric.



# ENERGY MANAGEMENT & CONSERVATION

## Energy Efficiency Services Residential Customers Would Be Likely to Use if Offered by Empire Electric (Cont'd)

### *Key Demographic Findings (see page 59):*

- Interest in Empire Electric energy efficiency services was strongest among respondents living in large homes (2000+ sq. ft.), households with at least three people, and those working from home. Apartment dwellers and those living alone were the least interested in these services.

# ENERGY MANAGEMENT & CONSERVATION

## Willingness to Let Empire Electric Automatically Cycle Customer Central Air Conditioning On and Off During Peak Usage Days

Just over 30% of respondents said they would allow Empire Electric to automatically cycle their central air conditioner on and off in 15 minute intervals during peak usage days in the summer.

### Overall



### Electric Consumption

Willingness to allow Empire Electric to cycle customers' central air conditioners on and off during peak usage days declined slightly with increased electric consumption.

#### Low Electric Consumers



#### Medium Electric Consumers



#### High Electric Consumers



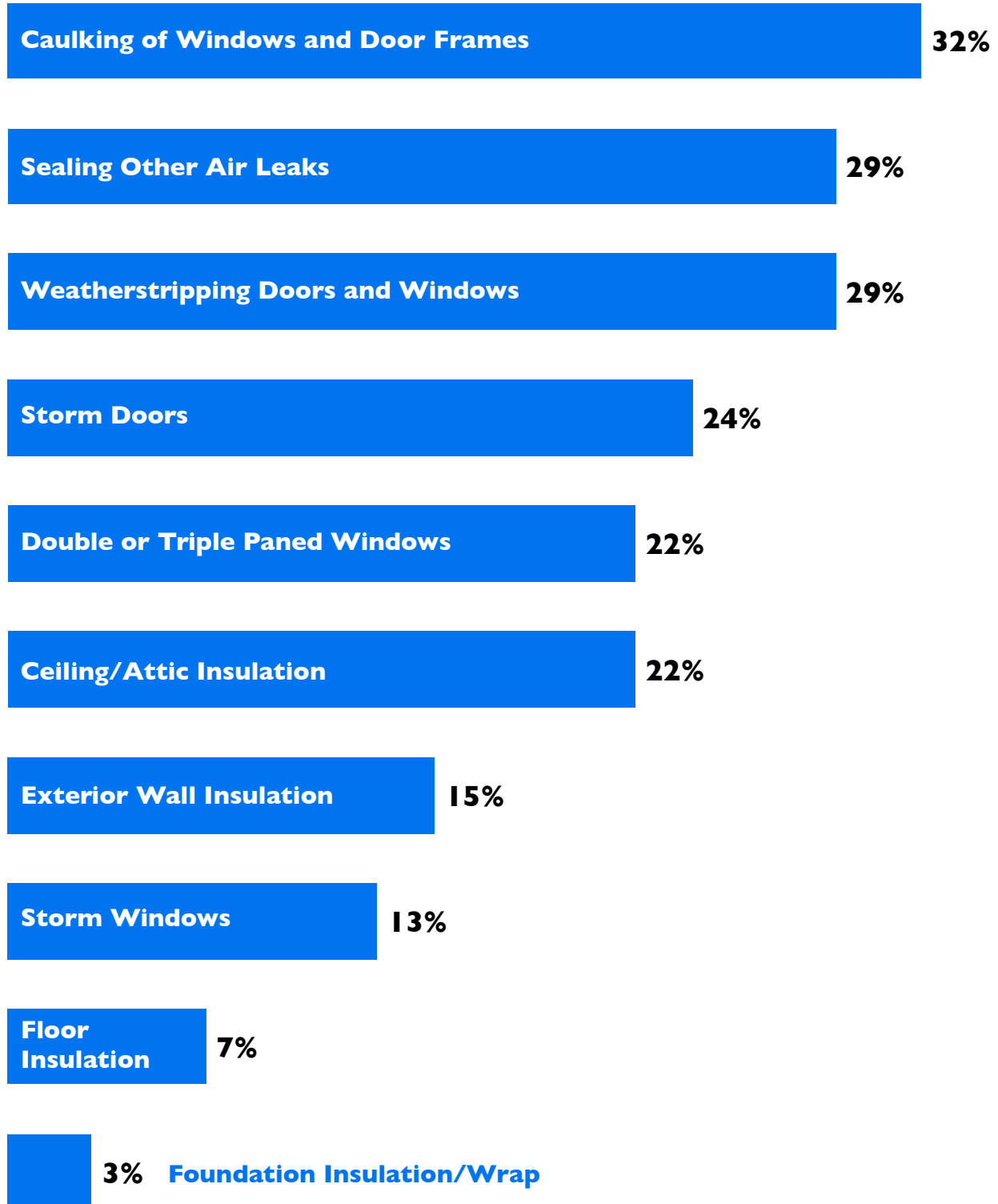
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### Key Demographic Findings (see page 59):

- Differences of opinion on this question varied primarily on the basis of housing type. Specifically, apartment dwellers and those residing in condos/townhouses/duplexes were the most willing to allow Empire Electric to cycle their central air conditioner on and off during peak usage days.

# ENERGY MANAGEMENT & CONSERVATION

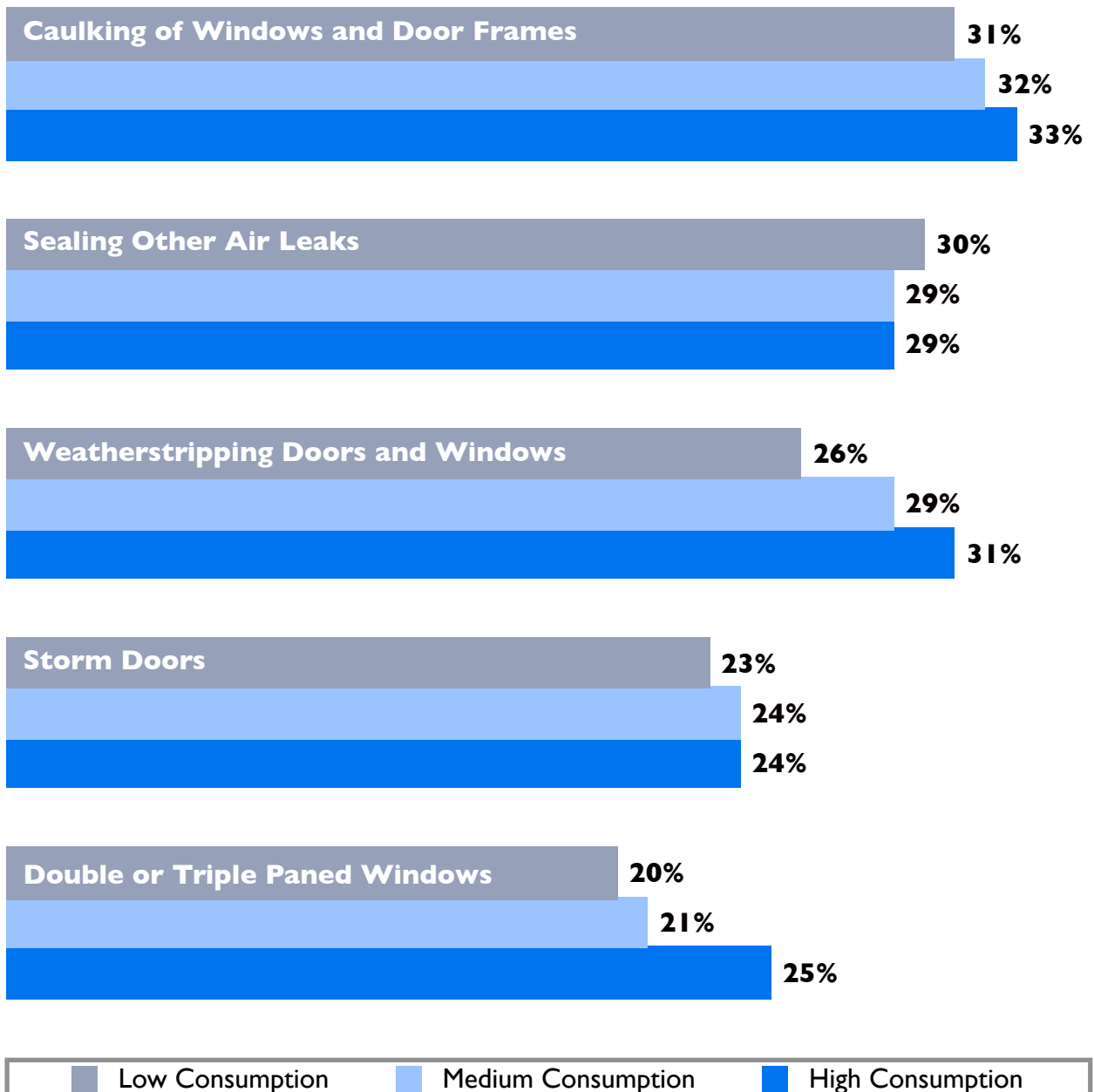
## Installation of Weatherization and/or Insulation Measures in Respondents' Homes Over the Past Five Years— Overall



# ENERGY MANAGEMENT & CONSERVATION

## Installation of Weatherization and/or Insulation Measures in Respondents' Homes Over the Past Five Years by Electric Consumption Levels

**Electric Consumption:** There were no statistically significant differences between high, medium, and low electric consumers with respect to this question.

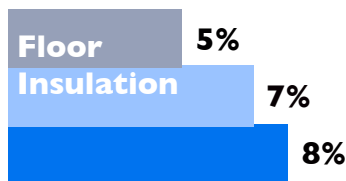
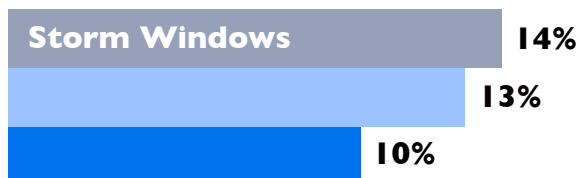
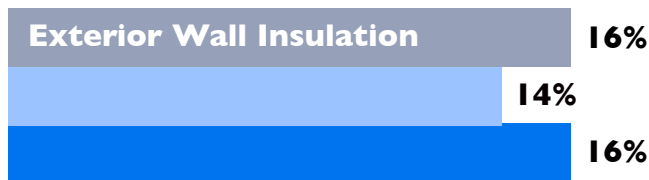




# ENERGY MANAGEMENT & CONSERVATION

## Installation of Weatherization and/or Insulation Measures in Respondents' Homes Over the Past Five Years by Electric Consumption Levels (Cont'd)

**Electric Consumption:** There were no statistically significant differences between high, medium, and low electric consumers with respect to this question.



# **ENERGY MANAGEMENT & CONSERVATION**

## **Installation of Weatherization and/or Insulation Measures in Respondents' Homes Over the Past Five Years (Cont'd)**

### ***Key Demographic Findings (see page 60):***

- In general, apartment dwellers were the least likely to have installed any of the ten previously mentioned weatherization/insulation measures over the past five years. Conversely, respondents most likely to have done so worked from home, lived in newer residences (less than ten years old) or older residences (40+ years old).

# APPENDICES

**Normal Daytime Thermostat Setting in the Winter by High, Medium,  
and Low Electric Consumption**

<b>Fahrenheit</b>	<b>OVERALL</b>	<b>Low Electric</b>	<b>Med Electric</b>	<b>High Electric</b>
<b>50°-58°</b>	0.40%	0.60%	0.20%	0.40%
<b>60°</b>	1%	1.50%	0.90%	0.80%
<b>62°</b>	0.70%	0.90%	0.80%	0.50%
<b>64°</b>	0.70%	1.30%	0.60%	0.30%
<b>65°</b>	5.30%	7.10%	5.50%	3.50%
<b>66°</b>	0.80%	0.40%	0.80%	1.10%
<b>67°</b>	2%	2.70%	1.70%	1.70%
<b>68°</b>	19.90%	22%	18.70%	19.50%
<b>69°</b>	2.50%	2.70%	2.30%	2.40%
<b>70°</b>	17.90%	18%	16.50%	19.20%
<b>71°</b>	0.90%	0.70%	0.90%	1.10%
<b>72°</b>	19.30%	16%	20.50%	20.90%
<b>73°</b>	2.60%	2.20%	3.10%	2.50%
<b>74°</b>	4.70%	4%	4.60%	5.50%
<b>75°</b>	8.20%	8.30%	8.30%	8.10%
<b>76°</b>	3.20%	2.90%	2.90%	3.60%
<b>77°</b>	0.70%	0.20%	0.50%	1.40%
<b>78°</b>	5.40%	4.90%	6.40%	4.90%
<b>79°</b>	0.50%	0.20%	0.90%	0.50%
<b>80°</b>	2.50%	2.40%	3.20%	1.70%
<b>81°</b>	0.10%	0.20%	0%	0.20%
<b>82°</b>	0.30%	0.50%	0.30%	0%
<b>84°-90°</b>	0.50%	0.60%	0.70%	0.20%
<b>TOTAL</b>	100%	100%	100%	100%

## Normal Daytime Thermostat Setting in the Summer by High, Medium, and Low Electric Consumption

Fahrenheit	OVERALL	Low Electric	Med Electric	High Electric
40°-60°	0.80%	0.80%	0.70%	0.70%
65°	1%	1.90%	0.90%	0.30%
67°	0.10%	0%	0%	0.20%
68°	2.40%	2.40%	2.20%	2.50%
69°	1%	1.70%	0.90%	0.60%
70°	9.60%	8.50%	9.70%	10.40%
71°	1.30%	1.30%	0.90%	1.60%
72°	15.40%	12.10%	16.30%	17.20%
73°	4.40%	3.40%	4.80%	4.90%
74°	10.20%	8.30%	10.30%	11.70%
75°	16.30%	16.40%	17.20%	15.20%
76°	9.30%	8.70%	9.20%	10%
77°	3.60%	4%	3.40%	3.60%
78°	15.30%	17.10%	14.60%	14.60%
79°	1.50%	1.90%	1.50%	1.30%
80°	6.30%	9%	6%	4.40%
81°	0.10%	0.20%	0%	0.20%
82°	0.70%	0.90%	0.50%	0.60%
83°	0.10%	0.20%	0%	0%
84°	0.20%	0.40%	0.30%	0%
85°	0.20%	0.60%	0.20%	0%
88°-91°	0.40%	0.40%	0.50%	0%
<b>TOTAL</b>	100%	100%	100%	100%

# DEMOGRAPHIC ANALYSES

**NOTE:** Table percentages **bolded in red** denote statistical significance at the .001 level or less.





















# QUESTIONNAIRE



	Electric Consumption			Housing		Type of Housing				Age of Current Residence				Square Footage			Household Size			Work From Home	
	Low	Med	High	Own	Rent	Single Family	Apart-ment	Condo/Duplex	Mobile Home	<10	10-19	20-39	40+	<1300	1300-1999	2000+	1	2	3+	Yes	No
<b>Main Heating Fuel for Home</b>																					
Natural gas	57%	50%	24%	44%	38%	48%	17%	19%	19%	29%	37%	36%	64%	41%	46%	41%	44%	42%	44%	40%	44%
Electricity	24%	35%	64%	40%	52%	37%	82%	77%	49%	58%	49%	48%	19%	44%	40%	44%	41%	43%	40%	38%	42%
Propane	14%	12%	9%	12%	8%	11%	1%	3%	28%	12%	10%	12%	12%	11%	12%	11%	12%	11%	12%	16%	11%
Other	5%	3%	3%	4%	2%	4%	0%	1%	4%	1%	4%	4%	5%	4%	2%	4%	3%	4%	4%	6%	3%
<b>Main Heating System for Home</b>																					
Central forced air	72%	68%	54%	64%	66%	63%	66%	69%	81%	67%	66%	63%	65%	60%	70%	59%	64%	64%	65%	62%	65%
Heat pump	8%	14%	35%	21%	12%	20%	12%	24%	7%	31%	28%	22%	9%	15%	21%	32%	15%	22%	19%	22%	19%
Fireplace/Stove	9%	7%	4%	7%	4%	7%	1%	2%	6%	0%	3%	7%	12%	8%	5%	5%	8%	6%	6%	10%	6%
Room/Space heater	7%	6%	3%	4%	11%	5%	13%	4%	5%	1%	1%	4%	9%	11%	2%	1%	8%	4%	6%	3%	6%
Other	4%	5%	4%	4%	7%	5%	8%	1%	1%	1%	2%	4%	5%	6%	2%	3%	5%	4%	3%	3%	4%
<b>Age of Heating System Equipment</b>																					
≤ 2 years	13%	15%	14%	14%	14%	14%	18%	17%	10%	17%	12%	13%	12%	14%	13%	16%	13%	13%	16%	14%	14%
3-5 years	21%	22%	23%	22%	25%	23%	21%	11%	18%	42%	8%	18%	21%	20%	24%	23%	20%	23%	23%	22%	22%
6-10 years	23%	25%	26%	25%	18%	25%	16%	21%	26%	40%	22%	18%	21%	22%	26%	27%	23%	23%	27%	26%	24%
11-15 years	17%	18%	14%	16%	19%	15%	18%	25%	23%	0%	40%	10%	17%	19%	15%	16%	17%	18%	14%	20%	16%
More than 15 years	26%	20%	23%	23%	24%	23%	27%	26%	23%	1%	18%	41%	29%	25%	22%	18%	27%	23%	20%	18%	24%
<b>Natural Gas Available in Neighborhood</b>																					
Yes	71%	66%	44%	59%	67%	63%	53%	42%	44%	53%	49%	55%	75%	59%	60%	56%	62%	57%	62%	58%	61%
No	29%	34%	56%	41%	33%	37%	47%	58%	56%	47%	51%	45%	25%	41%	40%	44%	38%	43%	38%	42%	39%
<b>Main Cooling System for Home</b>																					
Central air	68%	72%	62%	69%	63%	66%	69%	78%	79%	77%	75%	68%	61%	61%	76%	66%	63%	67%	71%	69%	67%
Room a/c (window unit)	22%	16%	8%	13%	28%	15%	24%	7%	16%	1%	3%	13%	27%	26%	6%	5%	22%	13%	13%	10%	16%
Heat pump	6%	10%	28%	16%	7%	16%	6%	15%	4%	22%	21%	17%	8%	11%	16%	27%	11%	18%	14%	19%	14%
Don't cool home	3%	1%	1%	1%	1%	2%	0%	0%	1%	0%	1%	1%	3%	2%	1%	1%	3%	1%	1%	1%	2%
Other	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	1%	1%	0%	1%	1%	1%	1%	1%	1%	1%

	Electric Consumption			Housing		Type of Housing				Age of Current Residence				Square Footage			Household Size			Work From Home	
	Low	Med	High	Own	Rent	Single Family	Apartment	Condo/Duplex	Mobile Home	<10	10-19	20-39	40+	<1300	1300-1999	2000+	1	2	3+	Yes	No
<b>Age of Cooling System Equipment</b>																					
≤ 2 years	18%	17%	14%	16%	17%	17%	19%	20%	13%	17%	14%	15%	16%	16%	14%	17%	16%	15%	18%	17%	16%
3-5 years	23%	26%	25%	24%	30%	25%	29%	15%	20%	44%	7%	21%	27%	27%	24%	24%	24%	25%	26%	23%	25%
6-10 years	30%	25%	29%	28%	24%	28%	22%	19%	30%	39%	22%	24%	26%	23%	31%	29%	26%	27%	30%	24%	28%
11-15 years	17%	20%	13%	17%	16%	15%	14%	27%	24%	0%	40%	13%	15%	20%	17%	14%	19%	18%	13%	22%	16%
More than 15 years	12%	12%	19%	15%	13%	15%	16%	19%	13%	0%	17%	27%	16%	14%	14%	16%	15%	15%	13%	14%	15%
<b>Type of Home Thermostat</b>																					
Manually adjusted	70%	65%	66%	65%	76%	64%	87%	76%	77%	63%	67%	71%	66%	69%	65%	63%	74%	68%	60%	55%	68%
Programmable	23%	29%	32%	30%	18%	30%	12%	24%	22%	37%	32%	26%	25%	23%	33%	35%	20%	28%	34%	41%	27%
No thermostat	7%	6%	2%	5%	6%	6%	1%	0%	1%	0%	1%	3%	9%	8%	2%	2%	6%	4%	6%	4%	5%
<b>Normal Daytime Temperature (Median in Degrees Fahrenheit)</b>																					
Winter	70%	72%	71%	70%	71%	70%	72%	72%	70%	70%	70%	72%	70%	71%	71%	70%	70%	70%	71%	70%	70%
Summer	75%	75%	74%	75%	73%	75%	72%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	74%	75%	75%
<b>Main Water Heating Fuel for Home</b>																					
Electricity	38%	50%	79%	55%	60%	50%	77%	84%	85%	66%	66%	64%	34%	58%	52%	60%	55%	58%	54%	56%	56%
Natural gas	53%	43%	16%	37%	37%	42%	23%	16%	7%	25%	28%	31%	56%	34%	41%	33%	39%	35%	38%	33%	38%
Propane	9%	7%	5%	8%	3%	8%	0%	0%	8%	9%	6%	5%	10%	8%	7%	7%	6%	7%	8%	11%	6%
<b>Age of Hot Water Heater</b>																					
≤ 2 years	18%	20%	19%	18%	22%	19%	24%	24%	12%	21%	16%	16%	19%	18%	16%	23%	19%	17%	22%	21%	18%
3-5 years	27%	27%	30%	28%	27%	28%	33%	31%	28%	44%	18%	28%	25%	27%	28%	28%	23%	29%	30%	27%	28%
6-10 years	32%	28%	31%	31%	23%	31%	16%	15%	35%	35%	26%	28%	32%	30%	34%	28%	28%	31%	31%	27%	31%
11-15 years	12%	16%	12%	14%	16%	13%	11%	21%	20%	0%	34%	12%	11%	17%	13%	13%	16%	14%	11%	19%	13%
More than 15 years	11%	9%	8%	9%	12%	9%	16%	9%	5%	0%	7%	16%	13%	8%	9%	8%	14%	9%	6%	6%	10%
<b>Size of Hot Water Heater</b>																					
< 30 gallons	7%	5%	1%	3%	13%	3%	22%	8%	10%	1%	4%	4%	3%	7%	1%	1%	7%	3%	4%	4%	4%
30 gallons	37%	30%	15%	25%	39%	25%	39%	33%	39%	21%	18%	25%	32%	35%	24%	13%	40%	23%	22%	19%	28%
40 gallons	42%	43%	41%	43%	35%	43%	24%	42%	36%	41%	42%	41%	48%	44%	48%	40%	40%	46%	39%	45%	42%
50 gallons	12%	17%	32%	22%	10%	22%	12%	10%	14%	24%	29%	25%	13%	11%	22%	34%	10%	22%	27%	24%	20%
More than 50 gallons	2%	5%	11%	7%	3%	7%	3%	7%	1%	13%	7%	5%	4%	3%	5%	12%	3%	6%	8%	8%	6%

	Electric Consumption			Housing		Type of Housing				Age of Current Residence				Square Footage			Household Size			Work From Home	
	Low	Med	High	Own	Rent	Single Family	Apartment	Condo/Duplex	Mobile Home	<10	10-19	20-39	40+	<1300	1300-1999	2000+	1	2	3+	Yes	No
<b>Age of Refrigerator</b>																					
≤ 2 years	17%	17%	16%	17%	17%	17%	25%	12%	13%	24%	16%	16%	14%	16%	17%	19%	16%	16%	18%	19%	16%
3-5 years	26%	25%	27%	25%	29%	25%	29%	27%	27%	39%	20%	23%	25%	27%	26%	27%	21%	25%	30%	27%	26%
6-10 years	30%	30%	32%	30%	32%	31%	25%	29%	33%	31%	28%	31%	29%	28%	32%	31%	29%	30%	32%	27%	31%
11-15 years	15%	16%	15%	16%	14%	15%	12%	20%	18%	5%	23%	16%	17%	18%	15%	13%	19%	16%	13%	17%	15%
More than 15 years	12%	12%	10%	12%	8%	12%	9%	12%	9%	1%	13%	14%	15%	11%	10%	10%	15%	13%	7%	10%	12%
<b>Likelihood of Replacing the Following Pieces of Equipment in the Next Year or Two</b>																					
Refrigerator																					
Very likely	7%	7%	7%	7%	7%	7%	7%	6%	5%	5%	6%	7%	8%	8%	7%	6%	7%	6%	7%	6%	7%
Somewhat likely	17%	19%	20%	19%	16%	20%	13%	15%	12%	11%	23%	22%	18%	19%	18%	21%	18%	19%	19%	19%	19%
Not too likely	76%	74%	73%	74%	77%	73%	80%	79%	83%	84%	71%	71%	74%	73%	75%	73%	75%	75%	74%	75%	74%
Hot Water Heater																					
Very likely	7%	6%	6%	6%	6%	7%	6%	1%	5%	2%	6%	9%	8%	9%	7%	7%	7%	6%	7%	9%	6%
Somewhat likely	15%	18%	20%	20%	8%	18%	9%	12%	18%	9%	25%	22%	18%	16%	20%	19%	16%	18%	17%	20%	18%
Not too likely	78%	76%	74%	74%	86%	75%	85%	87%	77%	89%	69%	69%	74%	75%	73%	74%	77%	76%	75%	71%	76%
Cooling Unit/Equipment																					
Very likely	6%	4%	5%	5%	6%	5%	5%	1%	7%	2%	5%	8%	5%	7%	4%	5%	5%	5%	6%	6%	5%
Somewhat likely	14%	15%	16%	15%	13%	16%	10%	15%	12%	3%	20%	17%	18%	16%	14%	16%	15%	14%	16%	17%	15%
Not too likely	80%	81%	79%	80%	81%	79%	85%	84%	81%	95%	75%	75%	77%	77%	82%	79%	80%	81%	78%	77%	80%
Heating Unit/Equipment																					
Very likely	6%	4%	4%	5%	4%	5%	4%	1%	5%	2%	4%	6%	6%	7%	3%	4%	4%	5%	4%	6%	4%
Somewhat likely	12%	15%	14%	14%	10%	14%	6%	13%	16%	3%	19%	16%	16%	16%	14%	14%	14%	13%	15%	15%	14%
Not too likely	82%	81%	82%	81%	86%	81%	90%	86%	79%	95%	77%	78%	78%	77%	83%	82%	82%	82%	81%	79%	82%
<b>Number of Appliances in the Home</b>																					
Refrigerator																					
Two or more	14%	18%	38%	26%	6%	27%	0%	10%	12%	28%	28%	28%	20%	12%	22%	46%	12%	27%	28%	33%	22%
One	86%	82%	62%	73%	94%	73%	100%	90%	87%	72%	72%	72%	79%	87%	78%	54%	87%	73%	72%	66%	78%
Zero	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%	1%	1%	0%	0%	1%	0%	0%	1%	0%

	Electric Consumption			Housing		Type of Housing				Age of Current Residence				Square Footage			Household Size			Work From Home		
	Low	Med	High	Own	Rent	Single Family	Apartment	Condo/Duplex	Mobile Home	<10	10-19	20-39	40+	<1300	1300-1999	2000+	1	2	3+	Yes	No	
Number of Appliances in the Home (cont'd)																						
Detached Freezer																						
	Two or more	6%	5%	9%	8%	2%	8%	0%	1%	4%	4%	5%	7%	9%	5%	6%	10%	4%	9%	6%	12%	6%
	One	40%	52%	59%	54%	31%	55%	16%	19%	44%	47%	54%	55%	52%	43%	54%	59%	41%	53%	54%	52%	50%
	Zero	54%	43%	32%	38%	67%	37%	84%	80%	52%	49%	41%	38%	39%	52%	40%	31%	55%	38%	40%	36%	44%
Microwave Oven																						
	Two or more	3%	3%	9%	6%	2%	6%	2%	3%	3%	7%	7%	6%	3%	2%	3%	13%	1%	6%	7%	9%	5%
	One	93%	95%	90%	92%	94%	92%	88%	94%	96%	92%	91%	91%	94%	94%	96%	85%	94%	92%	91%	87%	93%
	Zero	4%	2%	1%	2%	4%	2%	10%	3%	1%	1%	2%	3%	4%	1%	2%	5%	2%	2%	4%	2%	
Clothes Washer																						
	Two or more	2%	1%	2%	2%	2%	2%	3%	2%	1%	1%	2%	2%	2%	1%	1%	3%	1%	1%	3%	3%	2%
	One	88%	96%	97%	96%	79%	96%	48%	96%	94%	97%	97%	94%	95%	92%	98%	96%	90%	96%	95%	95%	94%
	Zero	10%	3%	1%	2%	19%	2%	49%	2%	5%	2%	1%	4%	3%	7%	1%	1%	9%	3%	2%	2%	4%
Electric Clothes Dryer																						
	Two or more	2%	1%	3%	2%	2%	2%	2%	2%	1%	1%	2%	2%	2%	1%	1%	5%	1%	2%	3%	3%	2%
	One	80%	88%	94%	89%	77%	89%	47%	93%	92%	95%	94%	88%	82%	86%	91%	90%	83%	90%	89%	87%	88%
	Zero	18%	11%	3%	9%	21%	9%	51%	5%	7%	4%	4%	10%	16%	13%	8%	5%	16%	8%	8%	10%	10%
Electric Range																						
	Two or more	1%	1%	3%	2%	1%	2%	0%	1%	1%	1%	2%	3%	1%	1%	1%	4%	1%	2%	2%	3%	1%
	One	70%	75%	84%	77%	77%	76%	88%	92%	60%	89%	85%	80%	64%	71%	83%	82%	75%	78%	75%	77%	77%
	Zero	29%	24%	13%	21%	22%	22%	12%	7%	39%	10%	13%	17%	35%	28%	16%	14%	24%	20%	23%	20%	22%
Dishwasher																						
	Two or more	1%	1%	1%	1%	1%	1%	1%	2%	0%	1%	2%	1%	1%	0%	1%	3%	0%	1%	2%	2%	1%
	One	60%	75%	87%	78%	52%	76%	50%	89%	61%	94%	90%	76%	62%	59%	88%	90%	62%	79%	78%	85%	73%
	Zero	39%	24%	12%	21%	47%	23%	49%	9%	39%	5%	8%	23%	37%	41%	11%	7%	38%	20%	20%	13%	26%

	Electric Consumption			Housing		Type of Housing				Age of Current Residence				Square Footage			Household Size			Work From Home		
	Low	Med	High	Own	Rent	Single Family	Apartment	Condo/Duplex	Mobile Home	<10	10-19	20-39	40+	<1300	1300-1999	2000+	1	2	3+	Yes	No	
<b>Number of Appliances in the Home (cont'd)</b>																						
Dehumidifier																						
	Two or more	1%	0%	2%	1%	1%	1%	0%	1%	0%	1%	1%	2%	1%	1%	1%	3%	1%	1%	1%	3%	1%
	One	10%	12%	14%	13%	6%	14%	5%	5%	3%	11%	9%	15%	14%	8%	11%	20%	11%	12%	13%	20%	11%
	Zero	89%	88%	84%	86%	93%	85%	95%	94%	97%	88%	90%	83%	85%	91%	88%	77%	88%	87%	86%	77%	88%
Gas/Propane Range																						
	Two or more	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	1%	1%	0%	1%	1%	0%	0%	1%	1%	0%
	One	31%	25%	13%	22%	24%	22%	12%	39%	8%	10%	14%	18%	36%	29%	17%	16%	26%	20%	22%	22%	23%
	Zero	68%	75%	87%	77%	76%	77%	88%	61%	92%	90%	86%	81%	63%	71%	82%	83%	74%	80%	77%	77%	77%
Gas/Propane Dryer																						
	Two or more	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	1%	0%	1%
	One	9%	9%	2%	7%	3%	7%	1%	1%	1%	3%	4%	5%	14%	6%	8%	5%	7%	7%	6%	8%	6%
	Zero	91%	91%	97%	92%	96%	92%	99%	99%	99%	97%	96%	94%	86%	93%	92%	95%	93%	93%	93%	92%	93%
Sauna/Hot Tub																						
	Two or more	0%	0%	1%	1%	0%	1%	0%	0%	0%	1%	0%	1%	0%	0%	0%	1%	1%	1%	0%	1%	0%
	One	4%	4%	10%	6%	1%	6%	0%	7%	3%	10%	7%	6%	4%	2%	7%	12%	3%	7%	6%	7%	6%
	Zero	96%	96%	89%	93%	99%	93%	100%	93%	97%	89%	93%	93%	96%	98%	93%	87%	96%	92%	94%	92%	94%
<b>Number of Entertainment Devices in the Home</b>																						
Tube-Type Television																						
	Two or more	41%	49%	56%	51%	40%	52%	20%	43%	41%	51%	54%	52%	48%	45%	53%	59%	36%	47%	62%	53%	49%
	One	39%	29%	19%	27%	40%	26%	56%	39%	35%	28%	23%	26%	31%	32%	26%	20%	43%	27%	21%	27%	29%
	Zero	20%	22%	25%	22%	20%	22%	24%	18%	24%	21%	23%	22%	21%	23%	21%	21%	21%	26%	17%	20%	22%
VCR/DVD Player																						
	Two or more	34%	47%	61%	49%	42%	50%	29%	34%	42%	55%	55%	45%	45%	38%	50%	63%	23%	44%	70%	54%	47%
	One	55%	46%	35%	44%	47%	43%	57%	53%	51%	39%	39%	48%	46%	53%	44%	33%	62%	50%	27%	42%	45%
	Zero	11%	7%	4%	7%	11%	7%	14%	13%	7%	6%	6%	7%	9%	9%	6%	4%	15%	6%	3%	4%	8%

	Electric Consumption			Housing		Type of Housing				Age of Current Residence				Square Footage			Household Size			Work From Home		
	Low	Med	High	Own	Rent	Single Family	Apartment	Condo/Duplex	Mobile Home	<10	10-19	20-39	40+	<1300	1300-1999	2000+	1	2	3+	Yes	No	
Number of Entertainment Devices in the Home (cont'd)																						
Stereo																						
	Two or more	10%	13%	22%	15%	15%	16%	10%	9%	16%	18%	19%	14%	12%	12%	13%	22%	7%	10%	27%	19%	14%
	One	50%	54%	49%	51%	52%	51%	51%	51%	53%	56%	47%	54%	52%	51%	52%	52%	46%	54%	51%	50%	51%
	Zero	40%	33%	29%	34%	33%	33%	39%	40%	31%	26%	34%	32%	36%	37%	35%	26%	47%	36%	22%	31%	35%
Video Game Console																						
	Two or more	7%	11%	17%	11%	15%	12%	9%	10%	9%	15%	14%	12%	8%	7%	13%	15%	2%	4%	29%	16%	11%
	One	17%	22%	26%	21%	30%	23%	18%	18%	20%	29%	22%	20%	20%	22%	23%	23%	6%	16%	41%	29%	21%
	Zero	76%	67%	57%	68%	55%	65%	73%	72%	71%	56%	64%	68%	72%	71%	64%	62%	92%	80%	30%	55%	68%
LCD Television																						
	Two or more	6%	11%	16%	12%	7%	12%	1%	6%	7%	12%	15%	10%	10%	6%	10%	18%	7%	13%	12%	15%	11%
	One	22%	22%	23%	22%	21%	22%	21%	21%	23%	27%	23%	18%	23%	25%	22%	24%	18%	24%	23%	23%	22%
	Zero	72%	67%	61%	66%	72%	66%	78%	73%	70%	61%	62%	72%	67%	69%	68%	58%	75%	63%	65%	62%	67%
DVR (digital recorder)																						
	Two or more	3%	7%	7%	6%	3%	7%	1%	5%	2%	8%	7%	5%	6%	4%	7%	10%	2%	5%	9%	7%	6%
	One	21%	24%	34%	28%	21%	28%	19%	21%	23%	33%	35%	23%	25%	24%	28%	35%	18%	29%	30%	34%	26%
	Zero	76%	69%	59%	66%	76%	65%	80%	74%	75%	59%	58%	72%	69%	72%	65%	55%	80%	66%	61%	59%	68%
Home Theater																						
	Two or more	1%	2%	2%	2%	2%	2%	1%	1%	3%	4%	1%	1%	2%	1%	1%	4%	1%	1%	3%	3%	2%
	One	11%	15%	21%	16%	15%	17%	9%	11%	16%	24%	19%	13%	13%	16%	17%	22%	8%	12%	26%	22%	15%
	Zero	88%	83%	77%	82%	83%	81%	90%	88%	81%	72%	80%	86%	85%	83%	82%	74%	91%	87%	71%	75%	83%
Plasma Television																						
	Two or more	1%	3%	4%	3%	1%	3%	1%	1%	3%	5%	3%	3%	1%	2%	2%	4%	2%	3%	2%	3%	2%
	One	8%	13%	13%	12%	9%	12%	8%	13%	10%	15%	12%	13%	9%	9%	13%	15%	9%	13%	12%	11%	12%
	Zero	91%	84%	83%	85%	90%	85%	91%	86%	87%	80%	85%	84%	90%	89%	85%	81%	89%	84%	86%	86%	86%

	Electric Consumption			Housing		Type of Housing				Age of Current Residence				Square Footage			Household Size			Work From Home		
	Low	Med	High	Own	Rent	Single Family	Apart-ment	Condo/ Duplex	Mobile Home	<10	10-19	20-39	40+	<1300	1300-1999	2000+	1	2	3+	Yes	No	
<b>Number of Computer/Communication Devices in the Home</b>																						
Cell Phone																						
	Two or more	36%	49%	71%	54%	47%	55%	30%	44%	46%	66%	61%	53%	44%	43%	58%	73%	9%	56%	81%	66%	51%
	One	40%	40%	23%	34%	33%	33%	41%	42%	37%	28%	30%	35%	38%	40%	36%	22%	63%	32%	16%	29%	35%
	Zero	24%	11%	6%	12%	20%	12%	29%	14%	17%	6%	9%	12%	18%	17%	6%	5%	28%	12%	3%	5%	14%
Cordless Phone																						
	Two or more	27%	39%	55%	45%	20%	45%	8%	28%	27%	47%	51%	44%	37%	28%	45%	61%	26%	44%	48%	54%	39%
	One	45%	38%	31%	37%	41%	37%	54%	31%	38%	32%	31%	37%	44%	42%	38%	27%	48%	37%	32%	35%	38%
	Zero	28%	23%	14%	18%	39%	18%	38%	41%	35%	21%	18%	19%	19%	30%	17%	12%	26%	19%	20%	11%	23%
Personal Computer																						
	Two or more	14%	19%	35%	24%	17%	25%	8%	18%	12%	30%	32%	24%	18%	15%	25%	42%	7%	22%	37%	43%	21%
	One	44%	60%	51%	53%	48%	53%	45%	49%	49%	58%	47%	51%	54%	54%	57%	50%	45%	57%	51%	51%	52%
	Zero	42%	21%	14%	23%	35%	22%	47%	33%	39%	12%	21%	25%	28%	31%	18%	8%	48%	21%	12%	6%	27%
Printer																						
	Two or more	6%	11%	20%	14%	8%	14%	4%	8%	8%	14%	17%	13%	10%	8%	13%	25%	4%	13%	19%	29%	10%
	One	47%	62%	62%	59%	49%	60%	40%	51%	47%	69%	57%	57%	58%	55%	65%	64%	43%	61%	62%	62%	57%
	Zero	47%	27%	18%	27%	43%	26%	56%	41%	45%	17%	26%	30%	32%	37%	22%	11%	53%	26%	19%	9%	33%
iPod/MP3 Player																						
	Two or more	6%	11%	18%	12%	10%	13%	5%	9%	5%	20%	15%	11%	9%	6%	12%	21%	1%	4%	29%	18%	11%
	One	11%	18%	20%	16%	20%	18%	17%	7%	13%	21%	19%	16%	14%	16%	19%	19%	8%	12%	29%	22%	16%
	Zero	83%	71%	62%	72%	70%	69%	78%	84%	82%	59%	66%	73%	77%	78%	69%	60%	91%	84%	42%	60%	73%
Organizer (PDA)																						
	Two or more	1%	1%	3%	2%	1%	2%	1%	0%	1%	3%	3%	2%	1%	1%	2%	4%	0%	1%	3%	4%	2%
	One	4%	8%	9%	7%	5%	8%	4%	7%	3%	12%	8%	6%	5%	6%	9%	11%	3%	6%	12%	13%	6%
	Zero	95%	91%	88%	91%	94%	90%	95%	93%	96%	85%	89%	92%	94%	93%	89%	85%	97%	93%	85%	83%	92%
Fax Machine																						
	Two or more	1%	1%	2%	1%	2%	1%	1%	1%	1%	2%	1%	1%	1%	1%	1%	2%	1%	1%	1%	2%	1%
	One	15%	18%	29%	23%	13%	23%	6%	18%	11%	25%	26%	24%	19%	19%	21%	36%	11%	23%	26%	50%	17%
	Zero	84%	81%	69%	76%	85%	76%	93%	81%	88%	73%	73%	75%	80%	80%	78%	62%	88%	76%	73%	48%	82%

	Electric Consumption			Housing		Type of Housing				Age of Current Residence				Square Footage			Household Size			Work From Home	
	Low	Med	High	Own	Rent	Single Family	Apartment	Condo/Duplex	Mobile Home	<10	10-19	20-39	40+	<1300	1300-1999	2000+	1	2	3+	Yes	No
Frequency of Heating/Cooling System Checked by Licensed Service Company																					
Seasonally (2+ times a year)	7%	6%	9%	7%	10%	7%	14%	11%	2%	5%	11%	6%	6%	4%	8%	10%	10%	8%	4%	6%	7%
Annually (once a year)	20%	23%	25%	24%	20%	22%	24%	30%	26%	21%	22%	24%	25%	21%	23%	25%	22%	24%	22%	27%	22%
Once every two years	17%	15%	19%	18%	7%	18%	1%	10%	17%	17%	20%	18%	15%	13%	18%	20%	14%	17%	17%	18%	16%
Seldom	31%	31%	31%	32%	25%	32%	19%	29%	29%	34%	34%	33%	30%	32%	34%	31%	30%	32%	32%	29%	32%
Never	25%	25%	16%	19%	38%	21%	42%	20%	26%	23%	13%	19%	24%	30%	17%	14%	24%	19%	25%	20%	23%
Rebates/Incentives to Encourage Energy Efficient Purchases/Upgrades Residential Customers Would be Likely to Use if Offered by Empire Electric (% "Yes" Responses)																					
Lighting	44%	46%	52%	46%	54%	48%	47%	43%	41%	54%	48%	44%	47%	47%	49%	52%	36%	45%	59%	55%	46%
Duct cleaning	39%	43%	55%	47%	40%	48%	27%	39%	43%	54%	51%	49%	44%	38%	52%	53%	36%	44%	57%	51%	45%
Weatherization materials	42%	46%	45%	44%	46%	46%	33%	31%	48%	39%	41%	46%	52%	49%	45%	45%	36%	40%	57%	52%	44%
Central A/C service tune-up	39%	43%	50%	46%	32%	45%	25%	42%	48%	55%	51%	45%	40%	40%	54%	50%	35%	42%	54%	52%	43%
Refrigerators	39%	42%	47%	43%	39%	43%	37%	41%	39%	41%	46%	46%	41%	44%	45%	45%	34%	44%	47%	46%	42%
Water heater blankets	34%	36%	41%	38%	34%	38%	27%	36%	34%	39%	40%	40%	38%	36%	41%	45%	32%	36%	42%	43%	37%
Washing machines	33%	37%	39%	36%	40%	37%	29%	41%	33%	39%	38%	37%	35%	34%	40%	38%	28%	36%	43%	42%	36%
Programmable thermostats	30%	32%	40%	35%	33%	35%	26%	32%	33%	41%	39%	38%	29%	33%	38%	42%	25%	34%	41%	44%	33%
Central air-conditioners	32%	31%	37%	34%	27%	33%	24%	36%	42%	28%	41%	38%	34%	32%	36%	37%	29%	32%	39%	38%	33%
Insulation upgrades	32%	35%	33%	35%	24%	36%	12%	20%	29%	31%	27%	37%	43%	35%	38%	36%	26%	32%	41%	43%	32%
Heat pumps	12%	13%	28%	19%	9%	19%	8%	13%	15%	18%	24%	23%	15%	17%	21%	27%	12%	20%	20%	23%	17%
Window air-conditioners	15%	10%	9%	10%	18%	11%	14%	3%	12%	5%	5%	10%	15%	12%	6%	7%	12%	8%	13%	13%	10%
Energy Efficiency Services Likely to Use if Offered by Empire Electric																					
On-site home energy audit	43%	43%	52%	48%	39%	48%	43%	41%	35%	54%	50%	48%	43%	44%	51%	57%	40%	44%	53%	58%	45%
Energy efficiency info online	29%	37%	47%	38%	37%	40%	27%	32%	29%	47%	43%	38%	36%	35%	43%	50%	22%	39%	50%	50%	37%
Low interest loans	29%	35%	37%	34%	35%	34%	27%	30%	42%	30%	33%	38%	35%	36%	36%	32%	23%	30%	48%	37%	34%
Self-ad Internet energy audit	21%	27%	36%	29%	23%	30%	13%	20%	22%	35%	31%	32%	26%	24%	33%	38%	16%	28%	38%	40%	27%
Willing to Let Empire Electric Automatically Cycle Central A/C On and Off in 15 Minute Intervals																					
Yes	34%	30%	28%	30%	36%	29%	41%	42%	30%	31%	29%	34%	29%	29%	34%	30%	36%	30%	28%	32%	30%
No	66%	70%	72%	70%	64%	71%	59%	58%	70%	69%	71%	66%	71%	71%	66%	70%	64%	70%	72%	68%	70%



	Electric Consumption			Housing		Type of Housing				Age of Current Residence				Square Footage			Household Size			Work From Home	
	Low	Med	High	Own	Rent	Single Family	Apartment	Condo/Duplex	Mobile Home	<10	10-19	20-39	40+	<1300	1300-1999	2000+	1	2	3+	Yes	No
Weatherization/Insulation Measures Respondents Have Installed in Their Homes Over the Past Five Years (% "Yes" Responses)																					
Caulking windows/doors	31%	32%	33%	34%	24%	35%	16%	19%	24%	27%	27%	36%	39%	37%	36%	33%	27%	32%	36%	38%	31%
Sealing other air leaks	30%	29%	29%	31%	23%	31%	16%	19%	33%	22%	27%	29%	36%	36%	31%	30%	25%	29%	33%	38%	28%
Weatherstripping win/doors	26%	29%	31%	29%	27%	30%	18%	24%	29%	25%	26%	30%	32%	32%	29%	29%	24%	27%	34%	34%	28%
Storm doors	23%	24%	24%	25%	16%	25%	10%	19%	17%	22%	20%	25%	28%	26%	28%	24%	22%	25%	23%	22%	24%
Double/Triple paned windows	20%	21%	25%	24%	10%	25%	15%	12%	9%	24%	17%	25%	28%	18%	28%	28%	20%	24%	23%	28%	21%
Ceiling/Attic Insulation	22%	21%	23%	24%	9%	25%	7%	19%	7%	29%	15%	19%	28%	23%	26%	27%	20%	23%	22%	29%	21%
Exterior wall insulation	16%	14%	16%	17%	8%	17%	9%	11%	7%	23%	9%	13%	19%	15%	18%	18%	16%	14%	16%	21%	15%
Storm windows	14%	13%	10%	12%	14%	13%	11%	6%	12%	10%	6%	12%	15%	15%	11%	9%	14%	12%	13%	13%	12%
Floor insulation	5%	7%	8%	7%	5%	7%	4%	6%	9%	11%	6%	8%	6%	6%	7%	8%	5%	7%	8%	10%	6%
Foundation insulation/wrap	2%	4%	4%	3%	3%	3%	1%	6%	4%	9%	4%	1%	1%	2%	4%	4%	3%	2%	5%	4%	3%

# ENERGY MANAGEMENT SURVEY – 2008

## HEATING & COOLING YOUR HOME

1. Which of the following is the MAIN heating fuel for your home? Check [✓] one box only.  
41% Electricity                      12% Propane                      3% Other  
43% Natural Gas                      1% Fuel Oil                      <1% Don't Heat Home
2. Which of the following best describes your MAIN heating system? Check [✓] one box only.  
19% Heat Pump                                      6% Room or Space Heater                      4% Other  
64% Central Forced Air Furnace                      7% Fireplace or Stove                      <1% Don't Heat Home
3. Approximately how old is your heating system equipment?  
14% 2 years or less                      25% 6-10 years                      23% Over 15  
22% 3-5 years                      16% 11-15 years                      (11% Not Sure)
4. Is natural gas available in your neighborhood?                      60% Yes                      40% No
5. Which of the following best describes your MAIN cooling system? Check [✓] one box only.  
15% Heat Pump                                      14% Room Air Conditioning (window unit)  
68% Central Air Conditioning                      2% Don't Cool Home                      1% Other
6. Approximately how old is your cooling system equipment?  
16% 2 years or less                      28% 6-10 years                      14% Over 15  
25% 3-5 years                      17% 11-15 years                      (10% Not Sure)
7. Which of the following best describes your home's thermostat? Check [✓] one box only.  
67% Manually Adjusted                      28% Programmable                      5% No Thermostat
8. What is your normal daytime temperature thermostat setting in the:  
**a. Winter?** Mean=71; Median=70; Range: 50-90 (°F) **b. Summer?** Mean=74.5; Md=75; R=40-91 (°F)
9. Which of the following is the MAIN water heating fuel for your home? Check [✓] one box only.  
56% Electricity                      7% Propane                      <1% None  
37% Natural Gas                      <1% Other                      <1% Don't Know
10. Approximately how old is your hot water heater?  
19% 2 years or less                      30% 6-10 years                      9% Over 15  
28% 3-5 years                      14% 11-15 years                      (12% Not Sure)

## HEATING & COOLING YOUR HOME (Cont'd)

11. What is the approximate size of your hot water heater in gallons?

4% Under 30 gallons	42% 40 gallons	6% More than 50 gallons
27% 30 gallons	21% 50 gallons	(11% Not Sure)

12. Approximately how old is your refrigerator?

17% 2 years or less	31% 6-10 years	11% Over 15
26% 3-5 years	15% 11-15 years	(6% Not Sure)

13. How likely are you to replace each of the following pieces of equipment in the next year or two?

	Not Too Likely	Somewhat Likely	Very Likely
a. Heating Unit/Equipment	82%	14%	4%
b. Cooling Unit/Equipment	80%	15%	5%
c. Refrigerator	74%	19%	7%
d. Hot Water Heater	76%	18%	6%

## APPLIANCES

14. For each appliance below, please indicate how many are in your home.

	0	1	2+		0	1	2+
a. Refrigerator	0%	76%	24%	g. Electric Range	22%	76%	2%
b. Detached Freezer	43%	50%	7%	h. Gas or Propane Range	77%	22%	1%
c. Clothes Washer	4%	94%	2%	i. Microwave Oven	3%	92%	5%
d. Electric Clothes Dryer	10%	88%	2%	j. Dehumidifier	87%	12%	1%
e. Gas or Propane Dryer	93%	6%	<1%	k. Sauna/Hot Tub	93%	6%	1%
f. Dishwasher	25%	74%	1%				

15. For each entertainment device below, please indicate how many are in your home.

	0	1	2+		0	1	2+
a. Tube-Type Television	22%	29%	49%	e. DVR (digital recorder)	67%	27%	6%
b. Plasma Television	86%	12%	2%	f. Video Game Console	66%	22%	12%
c. LCD Television	67%	22%	11%	g. Stereo	34%	51%	15%
d. VCR/DVD Player	7%	45%	48%	h. Home Theater	82%	16%	2%

## APPLIANCES (Cont'd)

16. For each computer / communication device below, please indicate how many are in your home.

	0	1	2+		0	1	2+
a. Personal Computer	25%	52%	23%	e. Organizer (PDA)	91%	7%	2%
b. Printer	30%	57%	13%	f. Cell Phone	13%	34%	53%
c. Fax Machine	78%	21%	1%	g. Cordless Phone	21%	38%	41%
d. iPod/MP3 Player	71%	17%	12%				

## ENERGY MANAGEMENT & CONSERVATION

17. How often do you have your heating or cooling system checked by a licensed service company?

7% Seasonally (2 or more times a year)	17% Once every Two Years	22% Never
23% Annually (once a year)	31% Seldom	

18. If Empire Electric were to offer rebates and incentives to its **residential** customers to encourage energy efficient purchases and upgrades, which of the following rebates and incentives would you be likely to use? Check [✓] all that apply.

43% Refrigerators	44% Weatherization materials
33% Central air-conditioners	37% Water heater insulation blankets
11% Window air-conditioners	34% Programmable thermostats
18% Heat pumps	33% Insulation upgrade incentives
37% Washing machines	44% Central air-conditioner service tune-ups
47% Lighting	46% Heating/Cooling duct cleaning

19. If Empire Electric were to offer the following energy efficiency services to its **residential** customers, which services would you be likely to use? Check [✓] all that apply.

46% Residential energy audits (on-site evaluation of your home's energy efficiency)
28% Residential energy audits (self-administered Internet based energy audits)
34% Low interest loans for energy efficient upgrades or appliances
38% Energy efficiency information online

## ENERGY MANAGEMENT & CONSERVATION (Cont'd)

20. To help reduce the demand for electricity, would you be willing to let Empire Electric automatically cycle your central air-conditioner on and off in 15 minute intervals during peak usage days in the summer?      31% Yes      69% No

21. Which of the following weatherization and/or insulation measures have you installed in your home over the past five years? Check [✓] all that apply.

15% Exterior Wall Insulation

13% Storm Windows

7% Floor Insulation

24% Storm Doors

22% Ceiling/Attic Insulation

29% Weatherstripping Doors and Windows

3% Foundation Insulation/Wrap

32% Caulking of Windows and Door Frames

22% Double or Triple Paned Windows

29% Sealing Other Air Leaks

## YOUR CURRENT RESIDENCE/HOME

22. Do you own or rent your current residence?      85% Own      15% Rent

23. Which of the following categories best describes your current residence?

5% Apartment

8% Mobile home

83% Single-Family home

4% Condo/Townhouse/Duplex

24. Approximately how old is your current residence? Mean=30 yrs; Median=22 yrs; Range: 1-208

25. What is the approximate square footage of living space in your current residence?

Mn=1877; Md=1650; Range: 224-11,035 (*DO NOT include garage, unfinished basement or attic.*)

If Not Sure

a. Number of bedrooms in current residence: Mean=2.75; Median=3; Range=1-6

b. Number of rooms in current residence other than bedrooms: (4.25; 4; 1-20)

26. Including yourself, how many people currently live at your residence? Mn=2.4; Md=2; R=1-12

27. Do you operate a home-based business or regularly work from home?      12% Yes      88% No

## THANK YOU FOR YOUR PARTICIPATION!

Please return your completed questionnaire by **Friday, July 18**, in the postage-paid envelope provided. To receive your free energy efficient compact fluorescent light bulb, please print your name and address on the enclosed postcard and mail back separately.