

**BASIN ELECTRIC  
POWER COOPERATIVE**

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May 25, 2021

Richard Johnson  
CEO/General Manager  
West River Electric Association, Inc  
1200 W Fourth Ave  
PO Box 412  
Wall, SD 57790-0412

Dear Richard Johnson,

Enclosed is the 2019 End Use Survey for West River Electric Association, Inc. The results have been tabulated and historical data is provided when applicable. Basin Electric Power Cooperative coordinated the survey for the distribution cooperative members resulting in 66,412 surveys mailed out in November 2019.

The objective of the 2019 End Use Survey was to prepare a report that statistically represents the entire residential membership. In order to accomplish this, a random selection of consumers from each distribution cooperative or municipality was developed based on the objective of achieving a 5 percent error and a 95 percent confidence level. In general, the sampling process was designed assuming a return rate of 40 percent.

The 2019 End Use Survey realized an approximate return rate of 29 percent for all of Basin Electric's membership.

The following are the survey statistics for West River Electric Association, Inc:

2019 Residential Members	15,518	# of Surveys Returned	231
# of Surveys Mailed	1,088	Rate of Return	21%

If you have any questions concerning your report or need additional assistance please feel free to contact me at (701) 557-5731 or email me at [jlundstrom@bepc.com](mailto:jlundstrom@bepc.com)

Sincerely,

Jay Lundstrom

# 2019 End Use Survey



West River Electric  
Association, Inc

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# Introduction

## **Purpose**

The primary purpose of the 2019 End Use Survey is to obtain a better understanding of how the member consumers utilize the electricity they receive from their electric cooperatives.

This survey concentrates on the residential consumers where typically a large portion of the electrical usage occurs. The questionnaire requests the consumers to provide information about the type of residence, number of residents, energy saving measures, the type of heating and cooling systems installed in their residence, and the major appliances they use.

The information obtained from this survey and previous surveys will enable distribution cooperatives to identify changes in the consumers' electrical usage patterns. The information will also assist the cooperatives in developing their marketing programs and member service activities. Results from this survey will be incorporated into each distribution cooperative's load forecast, which provides a projection of the member's future electrical requirements. Lastly, the survey included a section for comments to provide the cooperatives with additional member feedback.

## **Sampling Procedures**

The objective of the 2019 End Use Survey was to prepare a report that statistically represents the entire residential membership.

In order to accomplish this, a random selection of consumers from each distribution cooperative was developed based on the objective of achieving a 5 percent error and a 95 percent confidence level. The sampling process was designed assuming a return rate of 40 percent. The percentage realized in the 2019 End Use Survey for all of Basin Electric's membership was 35 percent.

## West River Electric Association, Inc

### Survey Data

<b>2019 Estimated Residential Members</b>	<b>15,518</b>
<b>Numer of Surveys Mailed</b>	<b>1,088</b>
<b>Number of Surveys Returned</b>	<b>231</b>
<b>Rate of Return</b>	<b>21%</b>

# Results Explanation

The 2019 End Use Survey contained 13 questions and a section for consumer comments. The following section details each individual question as it appeared on the survey and provides the frequency of responses as well as the percentage of each response.

A graph has been included following each question (except questions 8 and 12) which includes historical information from past end use surveys if available.

## West River Electric Association, Inc

### Residential Data

*Which of the following best describes this account?*

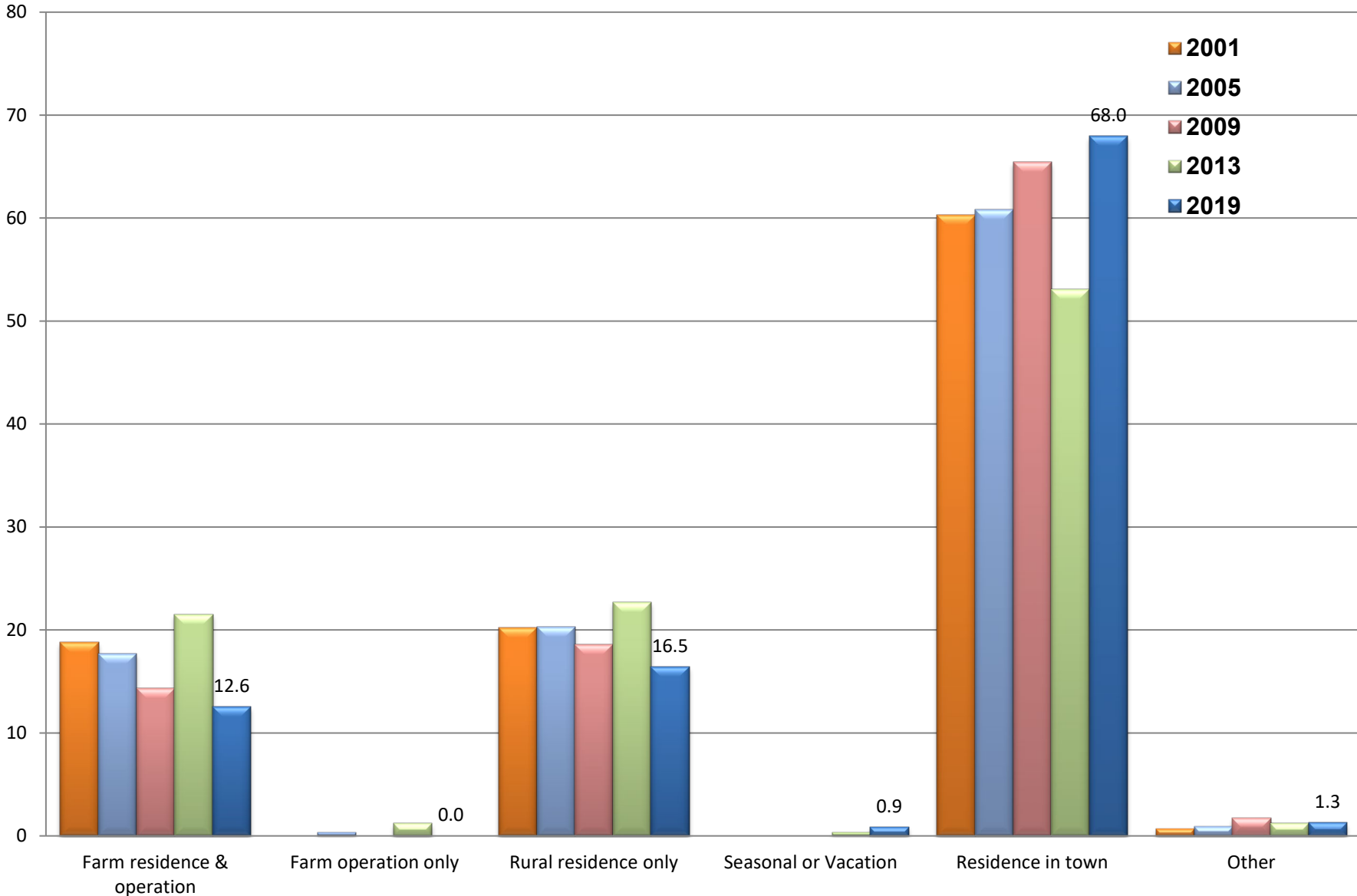
	<u>Frequency</u>	<u>Percent</u>
Residence with a farm or ranch operation	29	12.6%
Farm or ranch operation without a residence	#N/A	0.0%
Rural residence only	38	16.5%
Seasonal or vacation residence	2	0.9%
Residence in a city, town, village or suburb	157	68.0%
Other (please specify)	3	1.3%
	<u>#N/A</u>	



# West River Electric Association, Inc

## *Type of Accounts*

Percent %



## West River Electric Association, Inc

### Residential Data

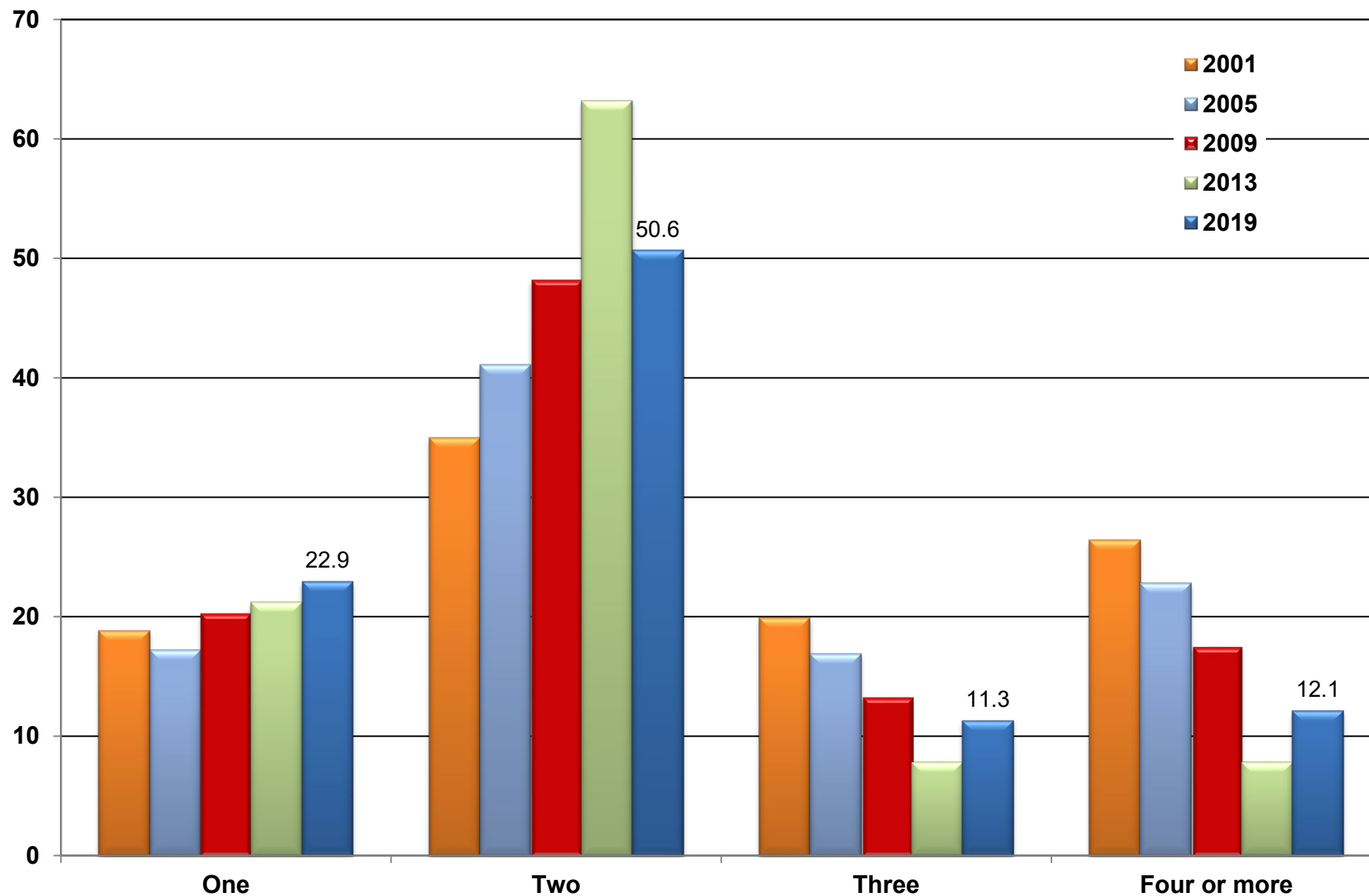
*How many full time residents live at this location?*

	<u>Frequency</u>	<u>Percent</u>
One	53	22.9%
Two	117	50.6%
Three	26	11.3%
Four+	28	12.1%
	<hr/>	
	224	

# West River Electric Association, Inc

## *Number of People per Home*

Percent %



## West River Electric Association, Inc

### Residential Data

*Do you own or rent this home?*

	<u>Frequency</u>	<u>Percent</u>
Own	329	97.9%
Rent	7	2.1%
	<hr/> <u>336</u>	

\* Did Not Ask in 2019 End Use Survey. Data is from 2013 Survey

## West River Electric Association, Inc

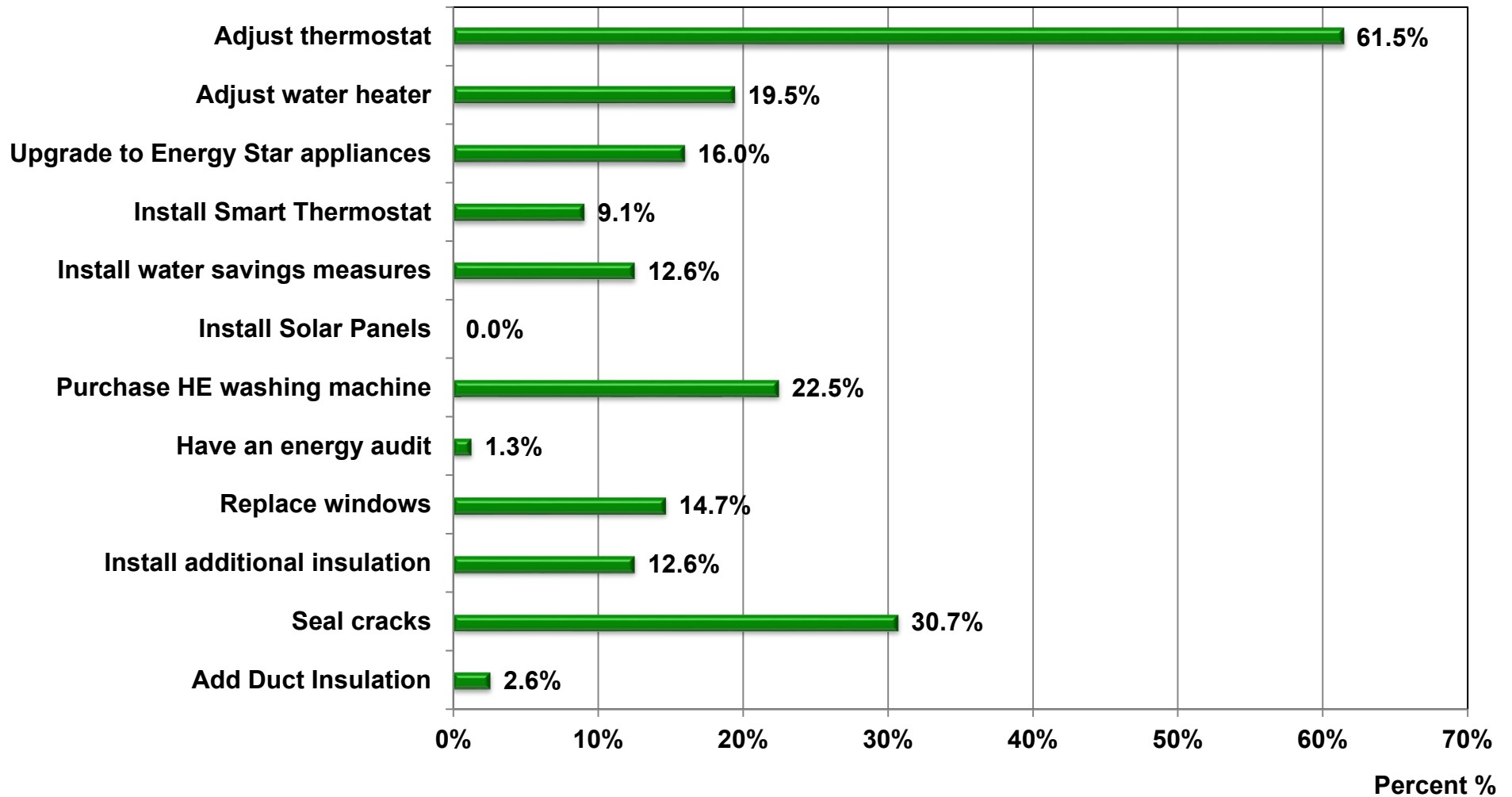
### Energy Saving Measures

*In the past two years have you taken any of the following energy saving measures?*

	<u>Yes</u>	<u>Percent</u>
Adjust thermostat?	142	61.5%
Adjust water heater temperature?	45	19.5%
Upgrade to Energy Star appliances?	37	16.0%
Install water savings measures?	29	12.6%
Install a Smart thermometer?	21	9.1%
Install a Solar Panels?	0	0.0%
Purchase an HE Clothes Washer?	52	22.5%
Replace your windows?	34	14.7%
Have an energy audit?	3	1.3%
Replace windows?	34	14.7%
Add insulation?	29	12.6%
Add weather stripping, seal cracks, etc.	71	30.7%
Add Duct Insulation	6	2.6%

# West River Electric Association, Inc

## Consumer Energy Saving Measures



## West River Electric Association, Inc

### Energy Saving Measures

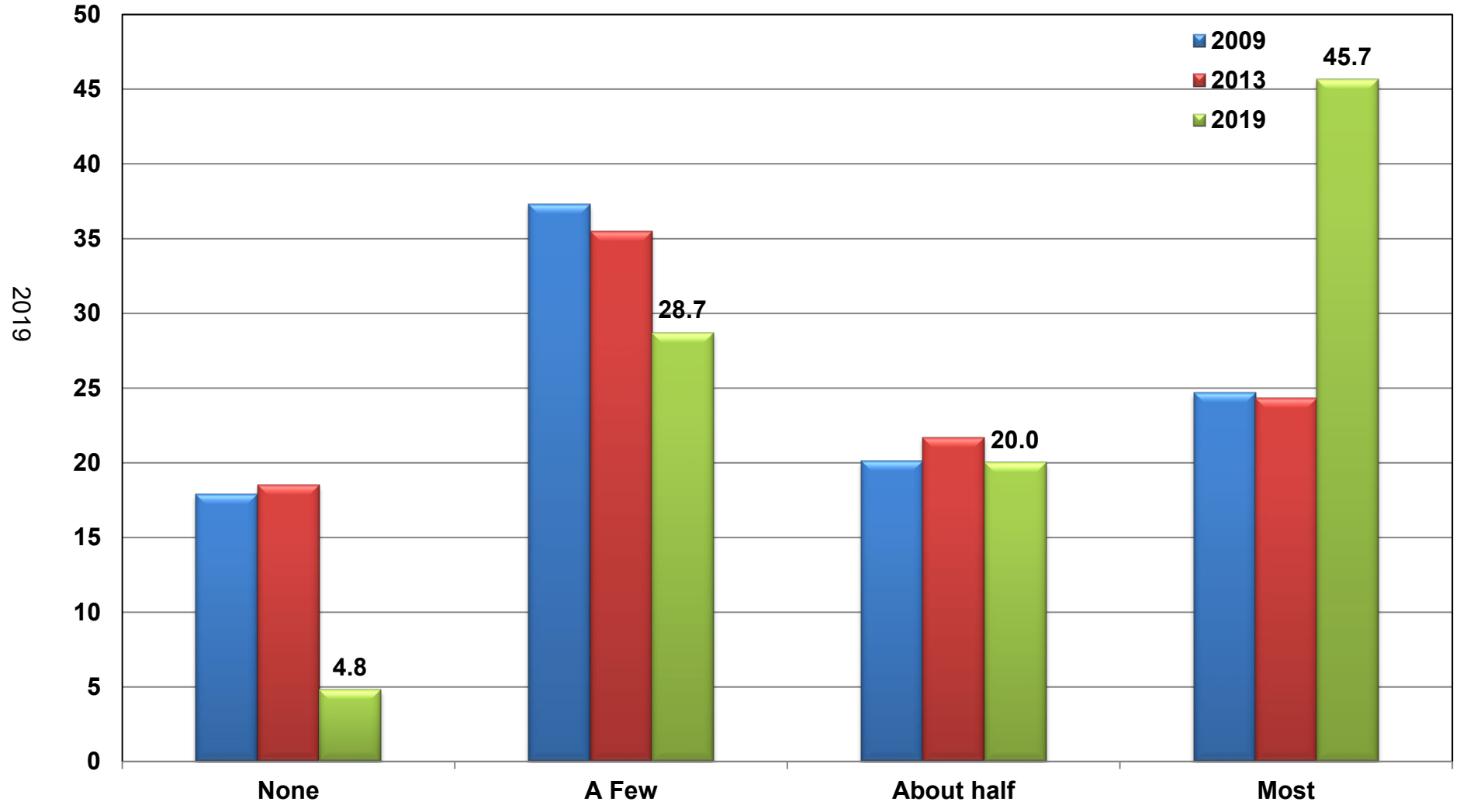
*How many energy efficient light bulbs have you installed in your home?*

	<u>Frequency</u>	<u>Percent</u>
None	11	4.78%
A few of my lights	66	28.7%
About half of my lights	46	20.0%
Most of my lights	105	45.7%
	<hr/>	
	228	
	<hr/>	

# West River Electric Association, Inc

## *Percent of CFL/LED Light Bulbs Installed*

Percent %





## West River Electric Association, Inc

### Heating and Cooling

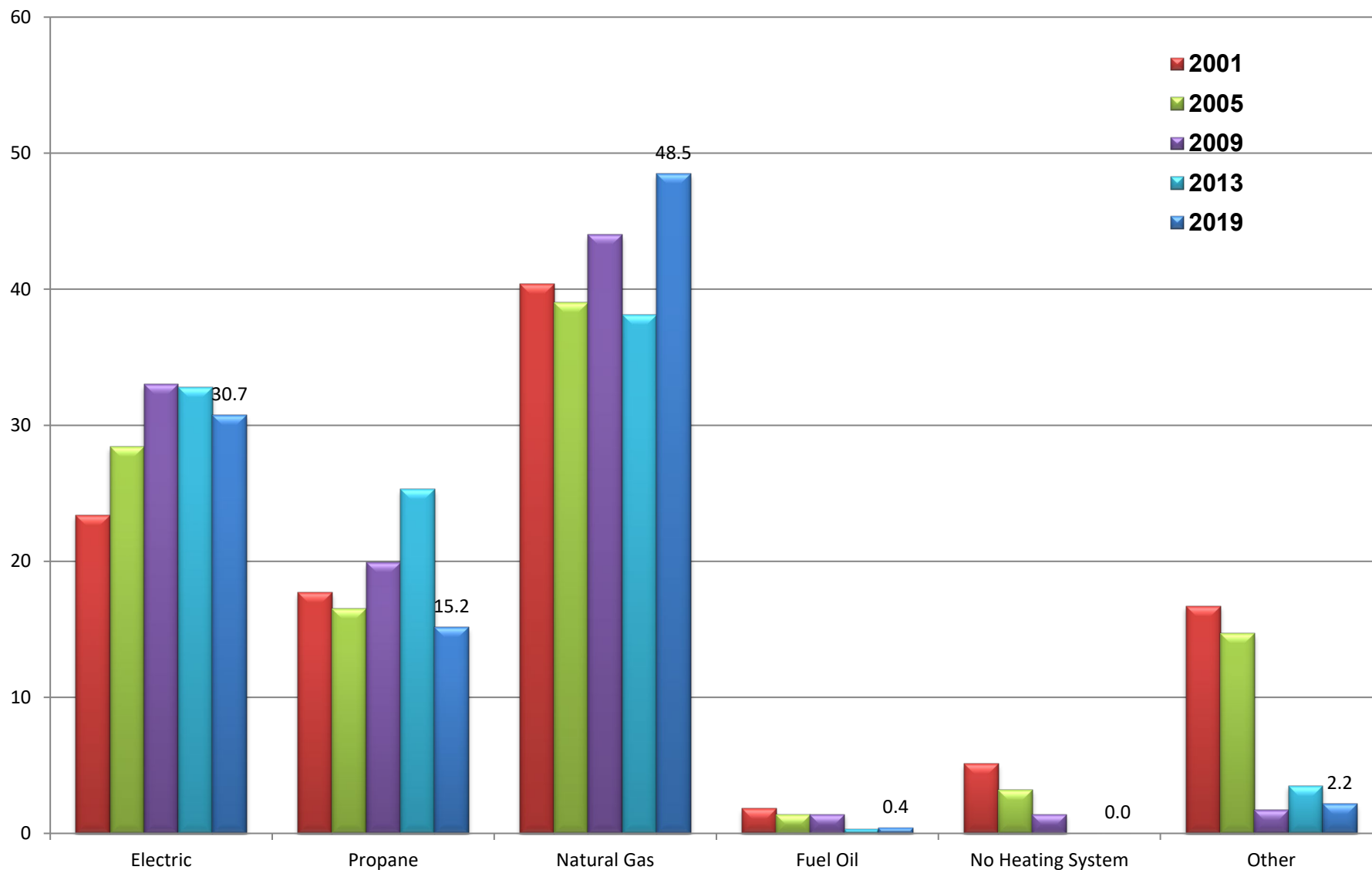
*What type of fuel is used by the primary heating system for this residence?*

	<u>Frequency</u>	<u>Percent</u>
Electricity	71	30.7%
Propane (LP or bottle gas)	35	15.2%
Natural Gas	112	48.5%
Fuel Oil	1	0.4%
No Heating System	#N/A	0.0%
Other (please specify)	5	2.2%
	<hr/> <u>#N/A</u>	

# West River Electric Association, Inc

## *Primary Heat Saturation*

Percent %



## West River Electric Association, Inc

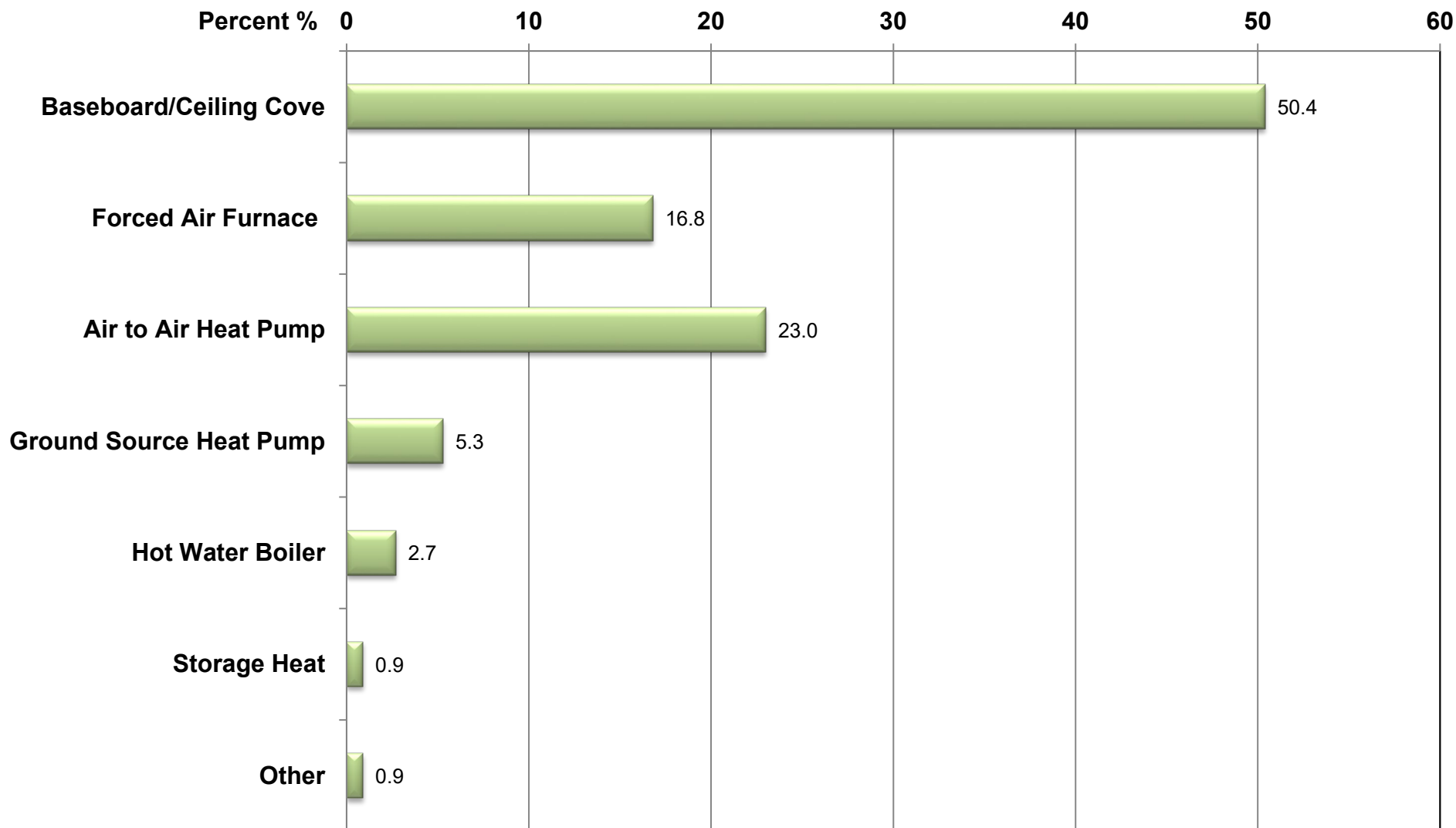
### Heating and Cooling

*If electric heating system, which of the following best describes the primary heating system for your residence?*

	<u>Frequency</u>	<u>Percent</u>
Electric baseboard/ceiling cove	30	30.0%
Electric forced air furnace	33	33.0%
Electric air to air heat pump	23	23.0%
Electric ground source heat pump	3	3.0%
Electric hot water boiler	3	3.0%
Electric storage heat	0	0.0%
Other (please specify)	8	8.0%
	<hr/> 100 <hr/>	

# West River Electric Association, Inc

## *Primary Heat Electric Saturation Type*



## West River Electric Association, Inc

### Heating and Cooling

*Do you have a separate heating system for a shop, garage, etc.?*

	<u>Frequency</u>	<u>Percent</u>
Yes	59	0.3%
No	168	0.7%
	<hr/> <u>227</u>	

## West River Electric Association, Inc

### Heating and Cooling

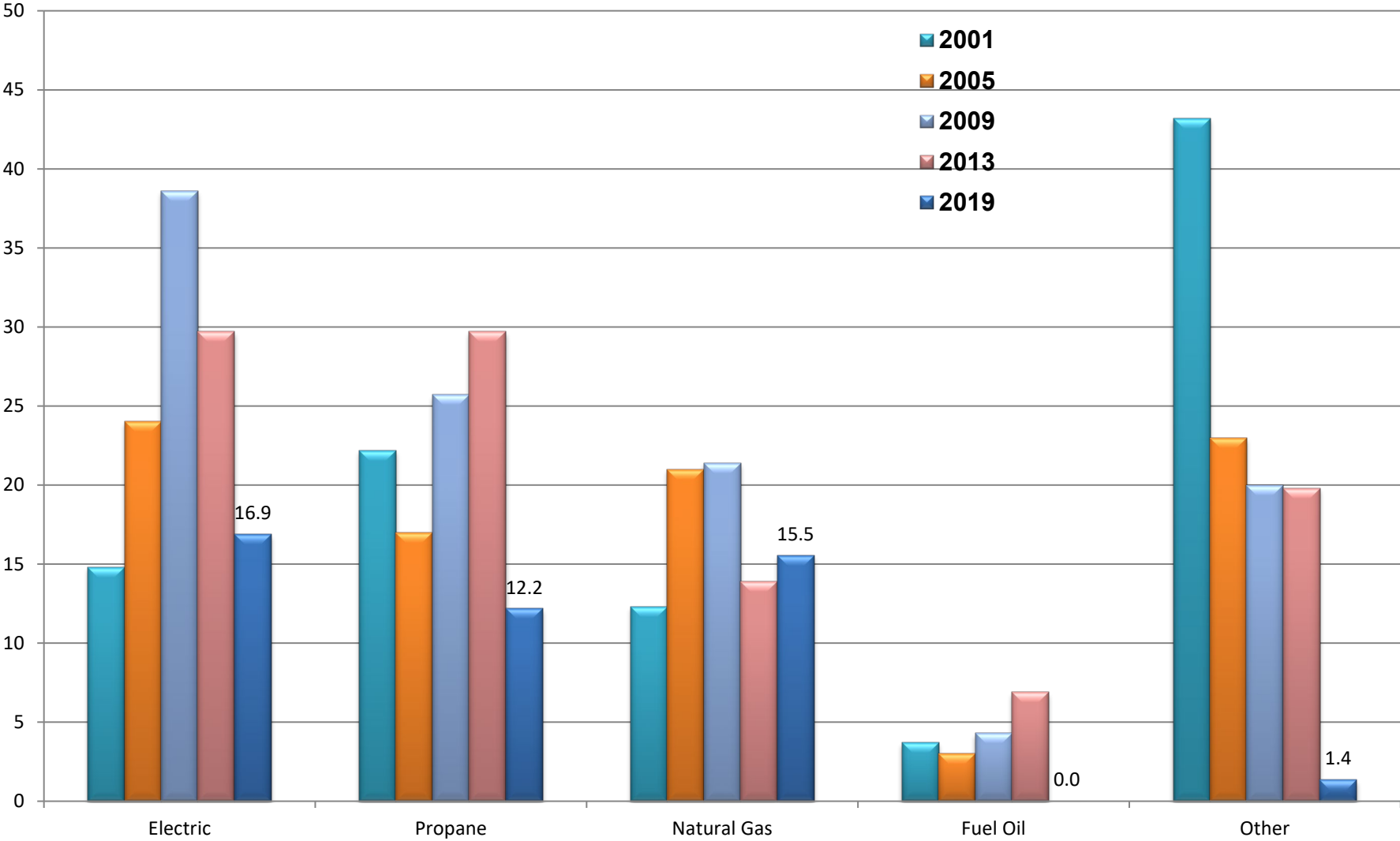
*If yes (question 8), what type of heating system do you use?*

	<u>Frequency</u>	<u>Percent</u>
Electricity	25	#N/A
Propane (LP or bottle gas)	18	#N/A
Natural Gas	23	#N/A
Fuel Oil	0	#N/A
Other (please specify)	2	#N/A
	<hr/>	
	68	
	<hr/>	

# West River Electric Association, Inc

## Main Heating System for Separate Building

Percent %



## West River Electric Association, Inc

### Heating and Cooling

*What type of cooling system is installed in your residence?*

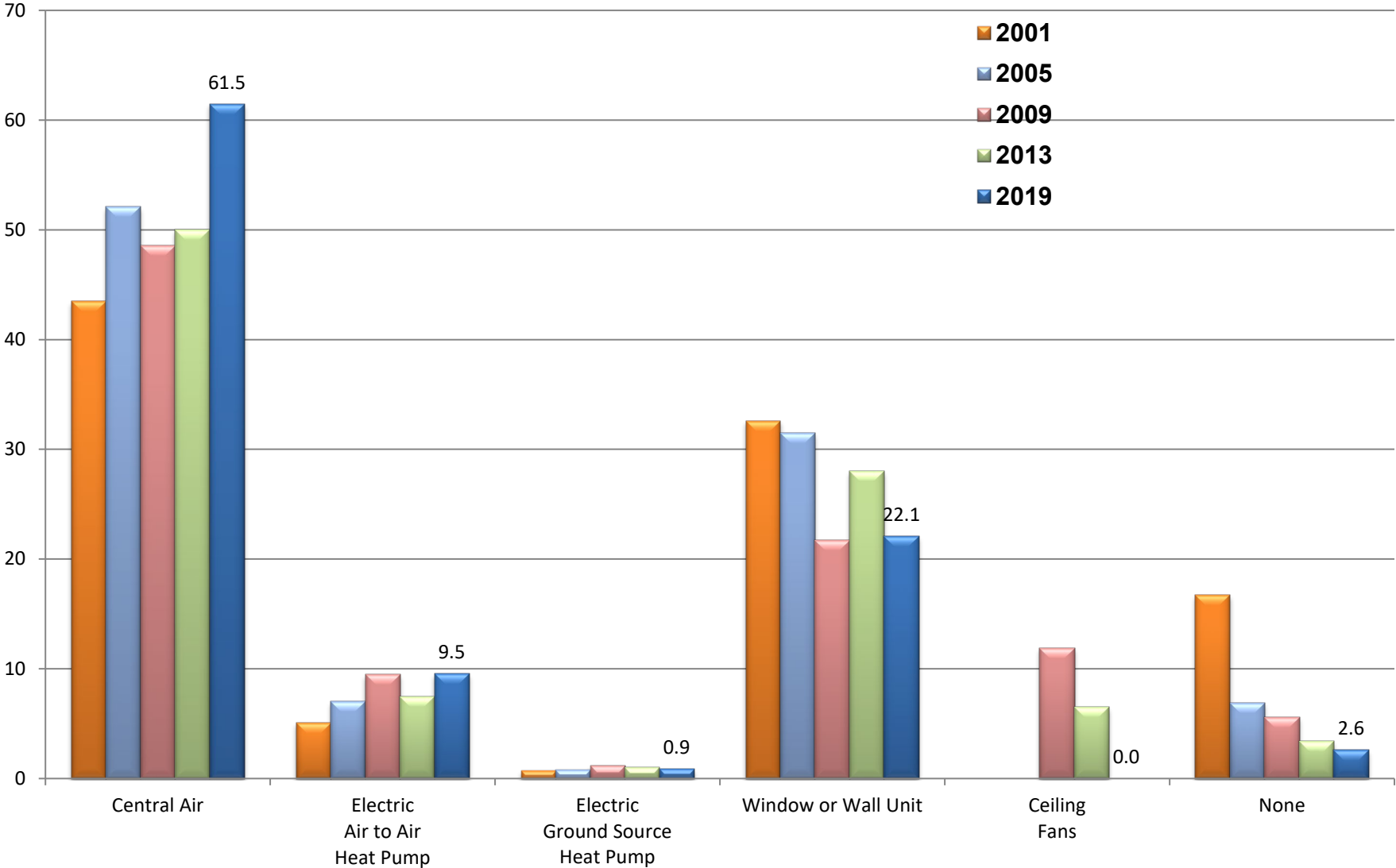
	<u>Frequency</u>	<u>Percent</u>
Central air conditioner	142	61.5%
Electric air to air heat pump	22	9.5%
Electric ground source heat pump	2	0.9%
Window or wall unit air conditioner	51	22.1%
Ceiling fans only	0	0.0%
None	6	2.6%
Other	4	1.7%
	<hr/>	
	227	
	<hr/>	



# West River Electric Association, Inc

## Cooling Systems Saturation

Percent %



## West River Electric Association, Inc

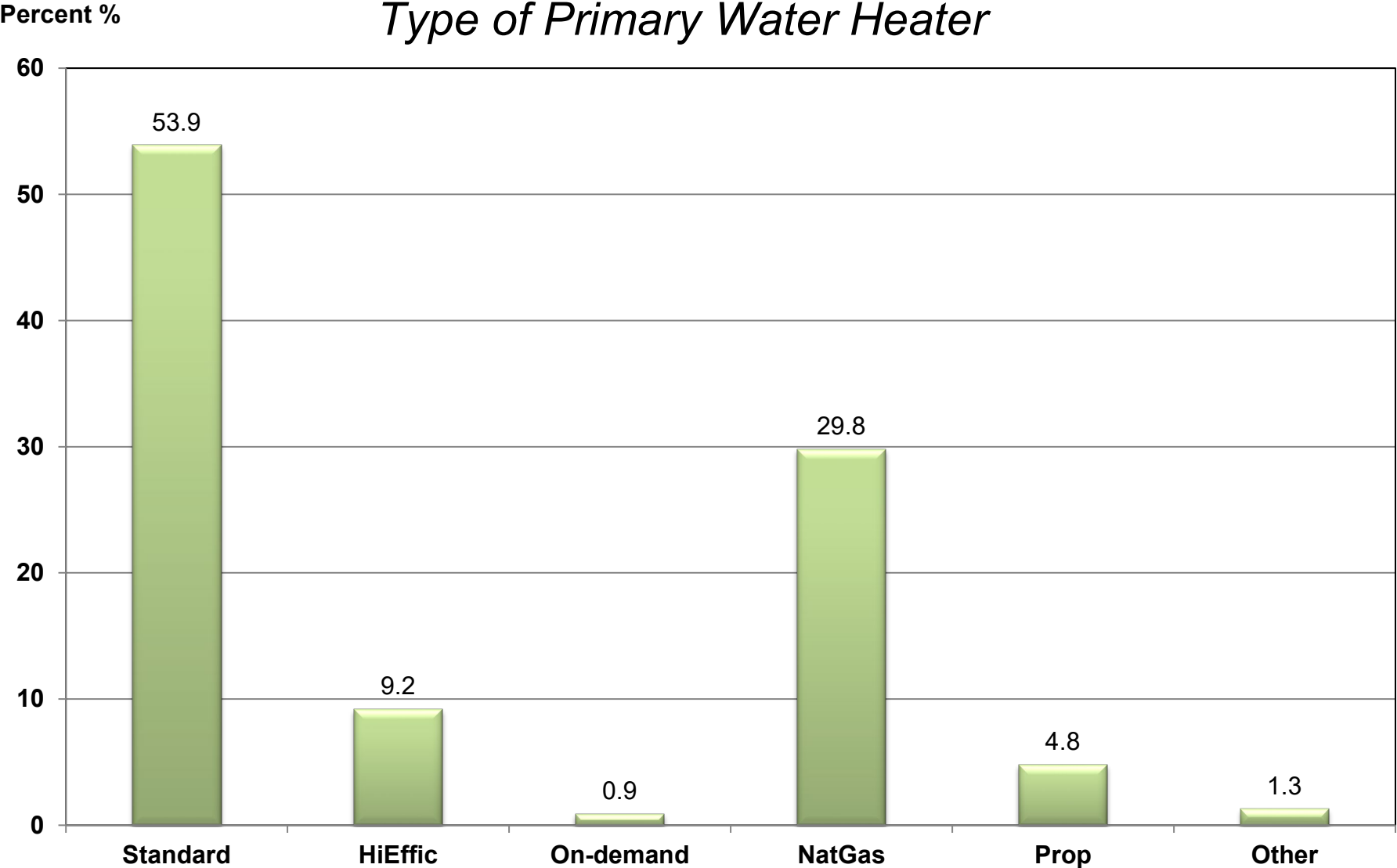
### Water Heater

*Which of the following best describes the primary water heater for this residence?*

	<u>Frequency</u>	<u>Percent</u>
Standard Electric	123	53.9%
High efficiency electric (e.g. heat pump water heater, co-op water heater program)	21	9.2%
On-demand/instant water heater	2	0.9%
Natural gas	68	29.8%
Propane gas (LP or bottle gas)	11	4.8%
Other	3	1.3%
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	228	
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# West River Electric Association, Inc

*Type of Primary Water Heater*



## West River Electric Association, Inc

### Water Heater

*If the primary water heater is electric, is it "off peak" or controlled?*

	<u>Frequency</u>	<u>Percent</u>
Yes	47	34.8%
No	88	65.2%
	<hr/>	
	135	

## West River Electric Association, Inc

### Appliances

*Please indicate which of the following household items used in this residence.*

Responses of 1 or more.

	<u>Response</u>	<u>Percent</u>
Dehumidifier	34	14.7%
<i>Energy Star</i>	3	1.3%
Refrigerator	217	93.9%
<i>Energy Star</i>	45	19.5%
Separate freezer	173	74.9%
<i>Energy Star</i>	19	8.2%
Television	217	94.3%
<i>Energy Star</i>	37	16.1%
Electric clothes dryer	211	91.3%
Gas clothes dryer	12	5.2%
Air exchanger	17	7.4%
Electric range	137	59.3%
Gas range	91	39.4%
Hot tub/Spa/Sauna	14	6.1%
Battery Electric Vehicle	8	3.5%
Plug in Hybrid Vehicle	1	0.4%
<b>Total Responses</b>	<b><u>1236</u></b>	

# West River Electric Association, Inc

## *Appliance Saturation*

