The answers are here.

State of Florida Consumer Energy Preference and Opinion Study

October 2022

Florida GAS UTILITY

SPARKS RESEARCH

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High Level Study Overview

WHAT: A quantitative energy perception study among Florida residents.

WHO: A total of 502 surveys were completed with residents in the state of Florida who make or share in the decision concerning home energy needs.

WHEN: Surveys were collected in September 2022.

WHY: To capture the voice of residential consumers in relation to their perception of energy.

To inform strategy given the recent “push” by national and state government towards electrification for household energy.

Areas Surveyed

Region I - 54 Completes

- **Panhandle of Florida:** Bay, Calhoun, Escambia, Franklin, Gadsden, Gulf, Holmes, Jackson, Jefferson, Leon, Liberty, Madison, Okaloosa, Santa Rosa, Taylor, Wakulla, Walton, and Washington counties.

Region II - 110 Completes

- **Crown of Florida:** Alachua, Baker, Bradford, Citrus, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Lafayette, Levy, Marion, Nassau, Putnam, St. Johns, Suwannee, and Union counties.

Region III – 100 Completes

- **East Central Florida:** Brevard, Indian River, Lake, Okeechobee, Orange, Osceola, Seminole, St. Lucie, Sumter, and Volusia counties.

Region IV – 111 Completes

- **West Central Florida:** Charlotte, DeSoto, Glades, Hardee, Hernando, Highlands, Hillsborough, Lee, Manatee, Pasco, Pinellas, Polk, and Sarasota counties.

Region V – 127 Completes

- **South Florida:** Broward, Collier, Hendry, Martin, Miami-Dade, Monroe and Palm Beach counties.

Report Usability Guide

Throughout the report, Top 2 Box scores are reported when analyzing responses to questions with a 10-point scale.

- Top 2 Box is the percent giving a “9” or “10” rating on a 10-point scale.
- Middle 3 Box is the percent giving a “6” through “8” rating on a 10-point scale.
- Bottom 5 Box is the percent giving a “1” through “5” rating on a 10-point scale.

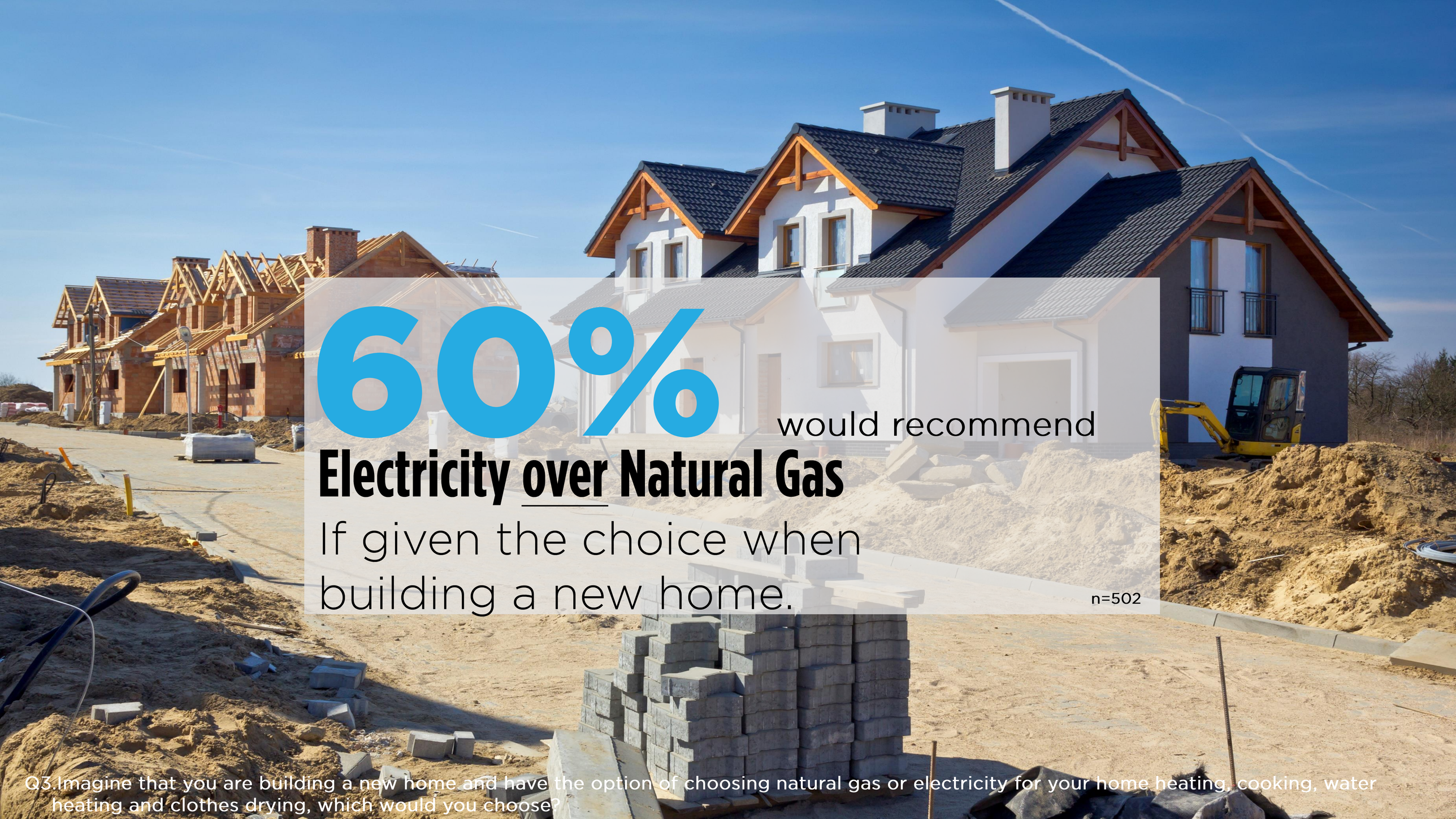
Percentages in graphs and tables in this report may not total to 100% due to rounding or multiple-response items.

Percentages on 10-point rating scales are based to those giving a 1-10 response. “Don’t Know/No Answer/Refused” responses are not included in these calculations.

Supplemental data and demographics can be found in the appendix.

First things first:

Let’s discuss consumer energy usage, recommendations, and preferences…



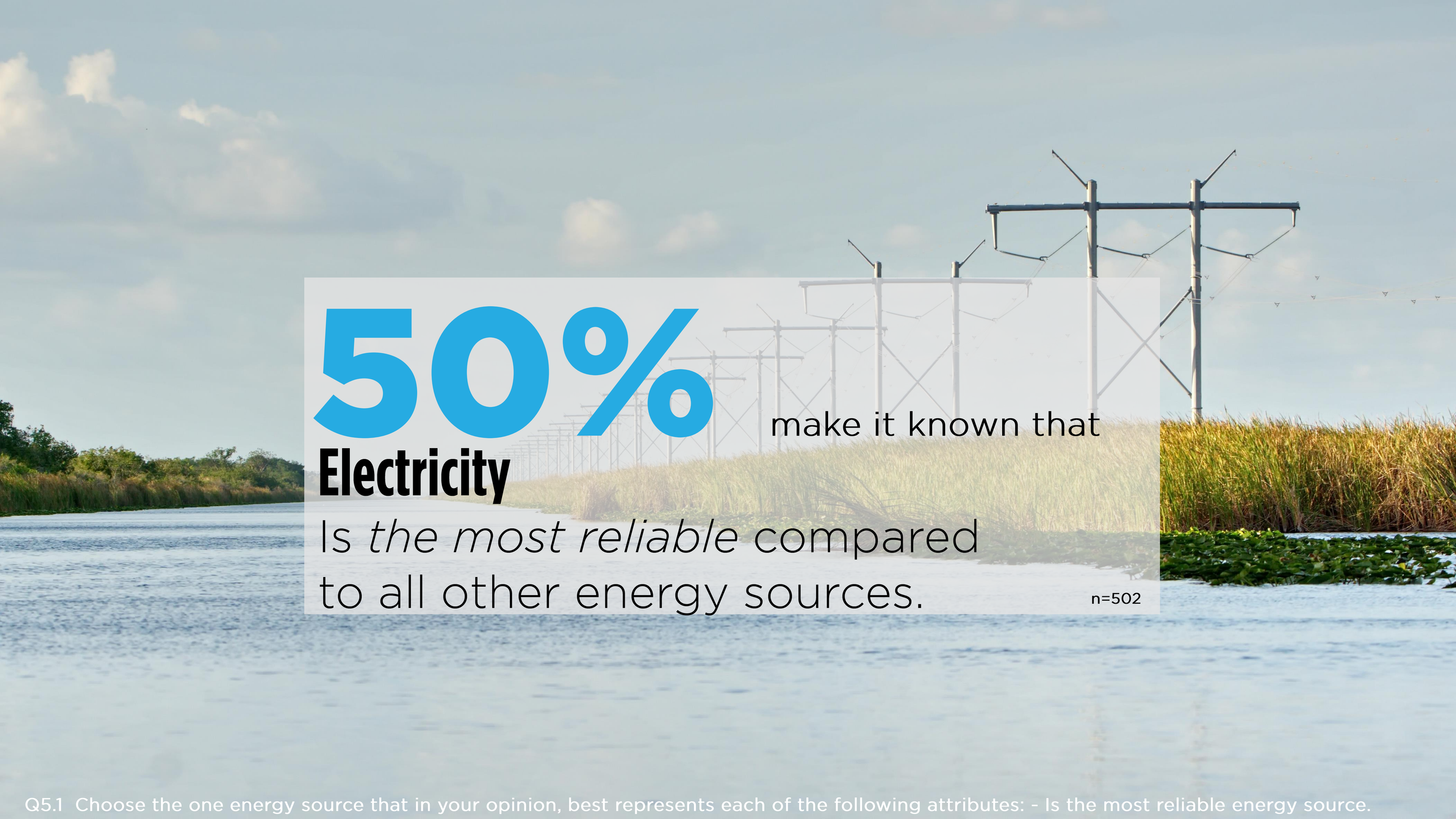
60% would recommend

Electricity over Natural Gas

If given the choice when building a new home.

n=502

Q3.Imagine that you are building a new home and have the option of choosing natural gas or electricity for your home heating, cooking, water heating and clothes drying, which would you choose?



50%

make it known that

Electricity

Is *the most reliable* compared to all other energy sources.

n=502

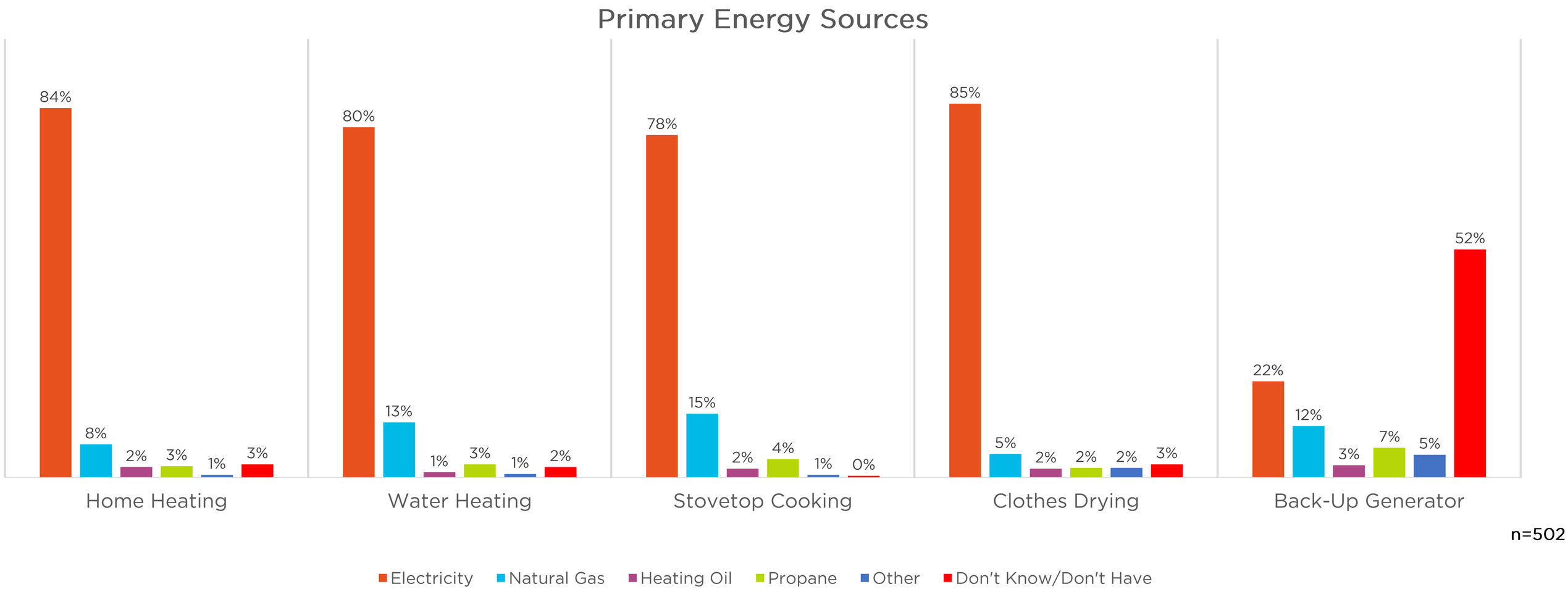
Q5.1 Choose the one energy source that in your opinion, best represents each of the following attributes: - Is the most reliable energy source.

Not really *shocking* (pardon the pun) is it?

Let's observe and dig a little deeper...

Primary Energy Sources…

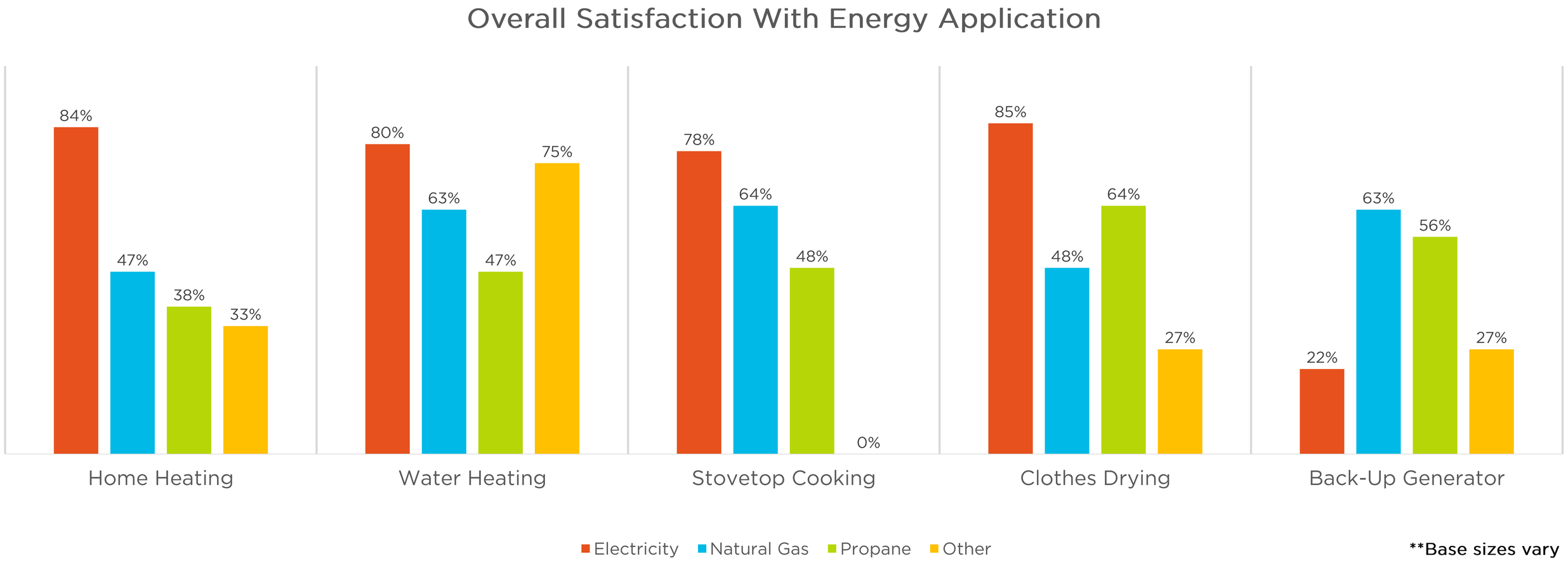
Electricity is overwhelmingly the primary energy source used across all categories as **Natural Gas** is a distant second.



Q1. Which energy type do you primarily use for your…?

Overall Satisfaction With Energy Application

- **Electricity** leads Top 2 Box overall satisfaction scores in all applications, sans **back-up generator (natural gas)**.
- Natural gas realizes its highest ratings in **stovetop cooking**, **water heating**, and **back-up generator**.

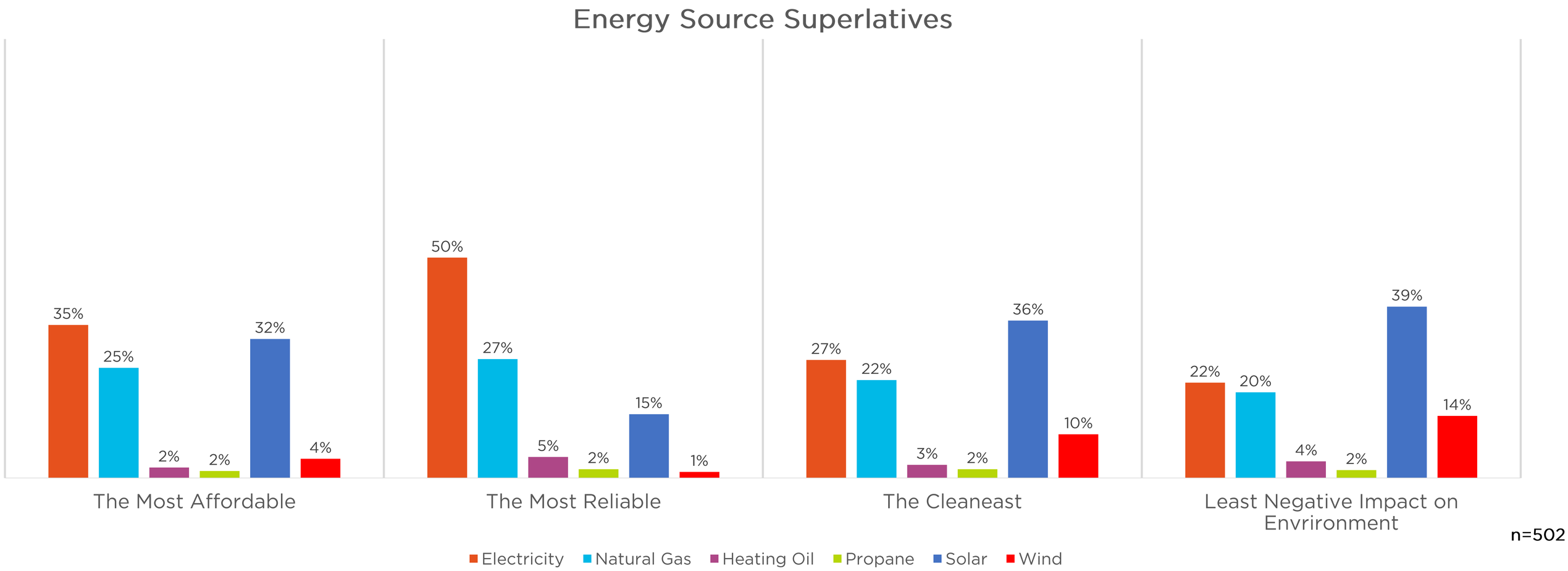


**Base sizes vary

Q2. How would you rate your overall satisfaction with...

Energy Source Superlatives…

Consumers deem **Electricity** as *the most affordable* and *reliable*, while **Solar** is viewed as *the cleanest* while having *the least negative impact on the environment*.

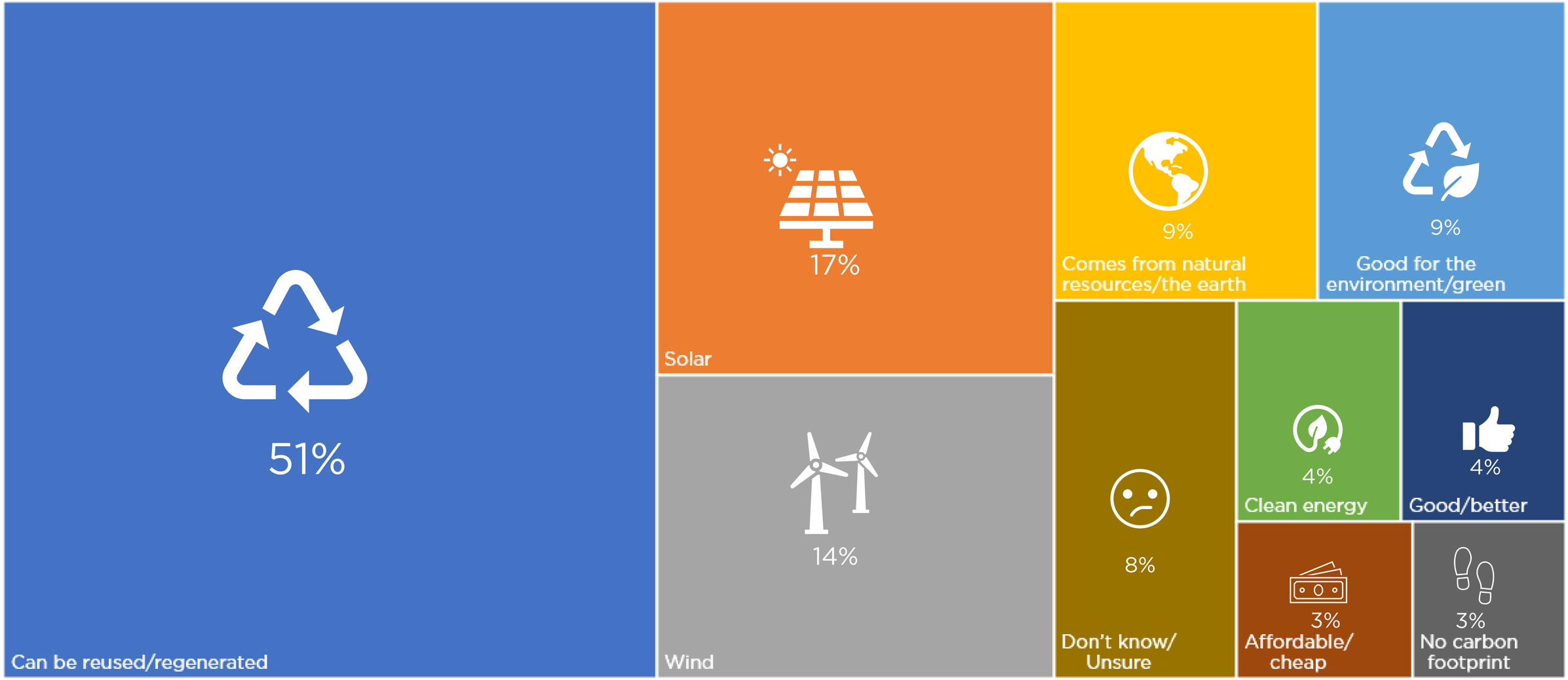


Q5. Choose the <u>one</u> energy source that in your opinion best represents each of the following attributes: (Electricity, Natural Gas, Propane, Heating Oil, Solar, Wind)

Now, let's explore consumer sentiment towards Renewable Energy...

Thoughts on Renewable Energy…

More than half say **Renewable Energy** can *be reused/regenerated*.



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Q6. Please define what Renewable Energy means to you?

Thoughts on Renewable Energy
Select Comments

"*A renewable energy is the kind of energy we can get from a primary source, which can reverse the power source to produce energy.*

Energy that isn't leaving a negative imprint on the environment.

Energy from wind and solar. Both are not able to supply 1/10th of the needed energy to run our economy and business.

Solar and wind are renewable energy.

Solar or wind electric energy that won't run off in the near future, and doesn't cause harm to nature.

It means taking unused or leftover energy and renewing it and using it again.

Energy that you can reuse multiple times and is not bad for the environment.

Energy that you can reuse and is good for the environment.

Renewable energy means that the fuel itself comes from an infinite source.

Renewable energy is the kind of energy you can use, without any form of artificial generator and it replenishes back after usage.

Renewable energy refers to energies that can be resuscitated. Energy that can be recycled or sold to other sources.

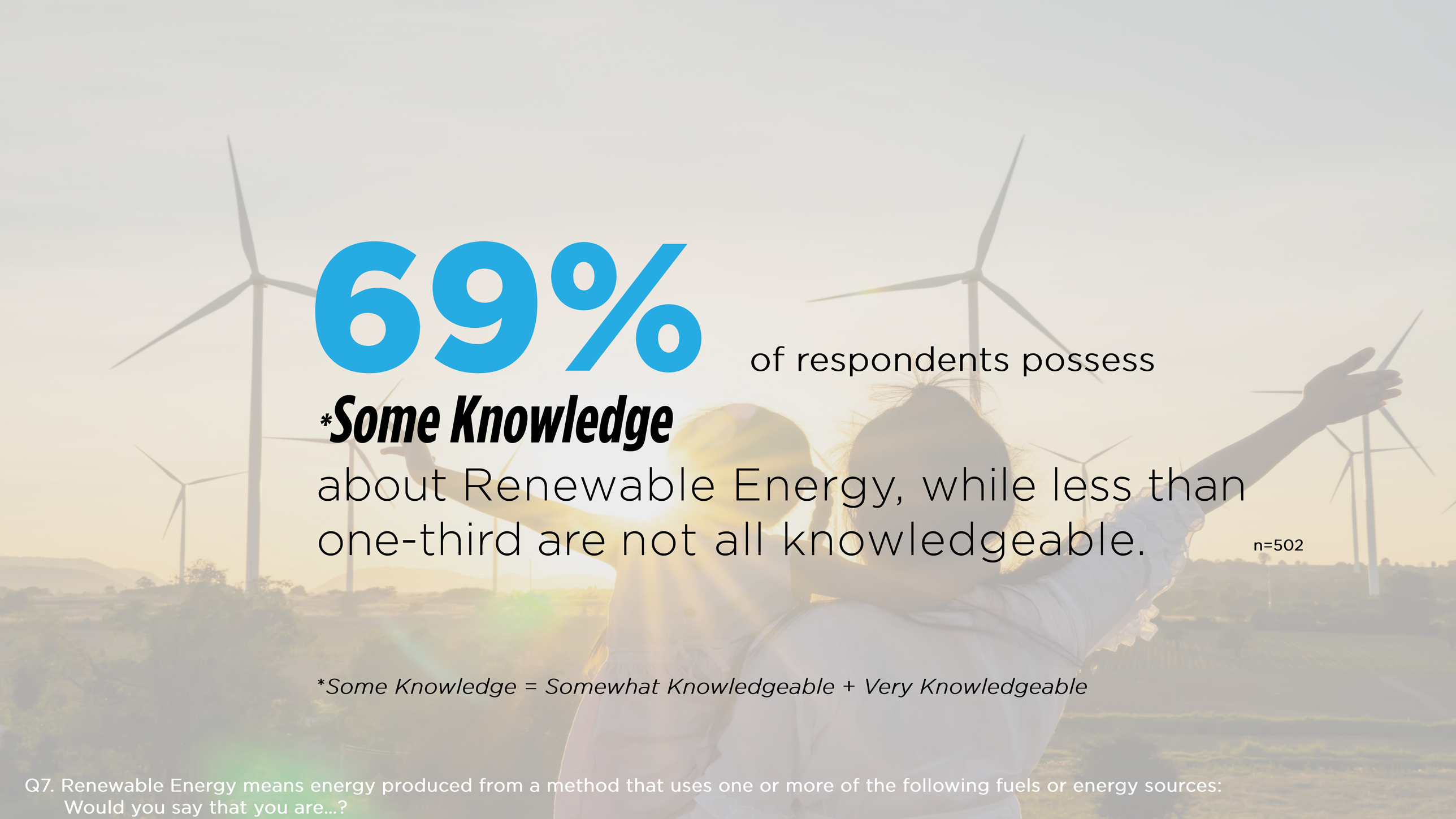
Renewable energy to me means solar energy. Energy that we get from the sun."

n=502

Q6. Please define what Renewable Energy means to you?

After consumers were asked the previous question, we equipped them with the *official* definition of Renewable Energy (below), and then asked a follow-up question pertaining to their knowledgeability…

Renewable Energy means energy produced from a method that uses one or more of the following fuels or energy sources: a) Hydrogen produced or resulting from sources other than fossil fuels, b) Renewable Natural Gas produced from animal and/or food waste, landfill waste, or wastewater treatment waste, c) biomass, d) solar energy, e) geothermal energy, f) wind energy, g) ocean energy, and h) hydroelectric energy.



69%

of respondents possess

***Some Knowledge**

about Renewable Energy, while less than one-third are not all knowledgeable.

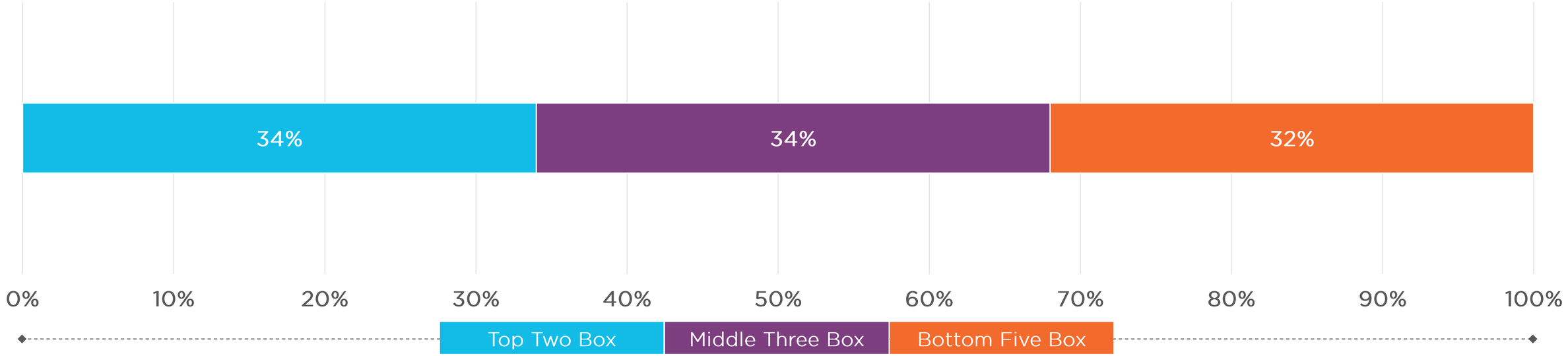
n=502

**Some Knowledge = Somewhat Knowledgeable + Very Knowledgeable*

Q7. Renewable Energy means energy produced from a method that uses one or more of the following fuels or energy sources: Would you say that you are…?

Likelihood to Incorporate Renewable Energy In The Mix…

The field is virtually evenly divided on whether to incorporate **Renewable Energy** into their household over the next two years.



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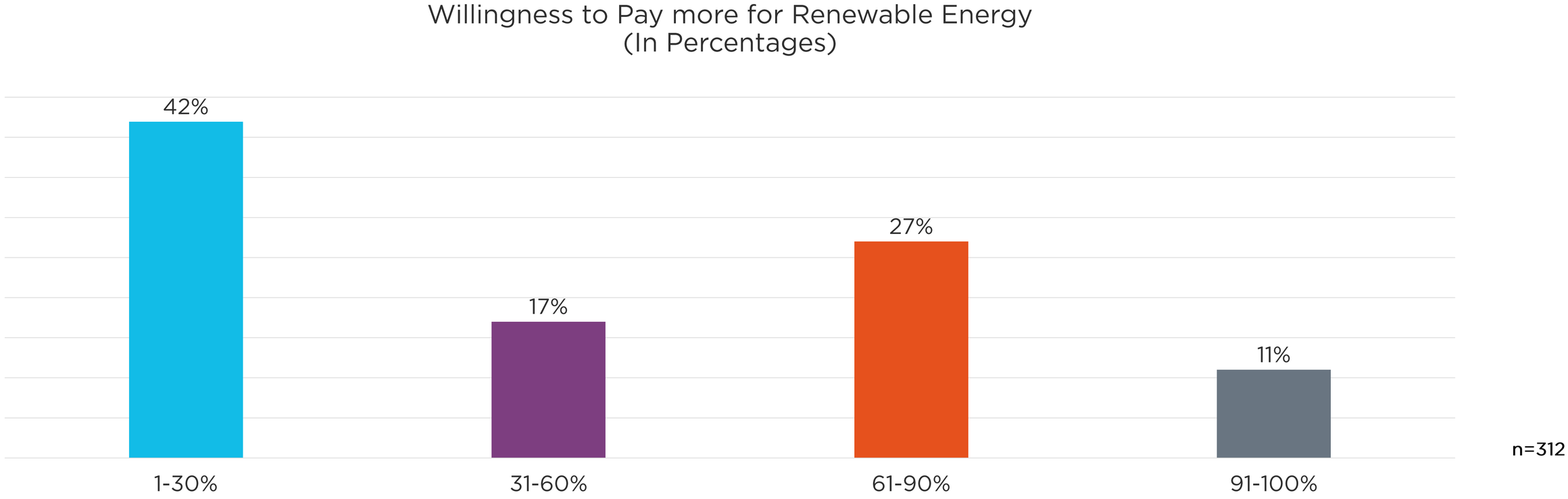
Q8. How likely are you to incorporate renewable energy into your home's energy mix in the next two years?

Willingness to Pay More for Renewable Energy…

- More than two out of five are willing to pay anywhere between **1%-30%** more for **Renewable Energy** than what they are currently paying in energy costs.
- More than one in four are willing to pay anywhere between **61%-90%** more for **Renewable Energy** than what they are currently paying in energy costs.

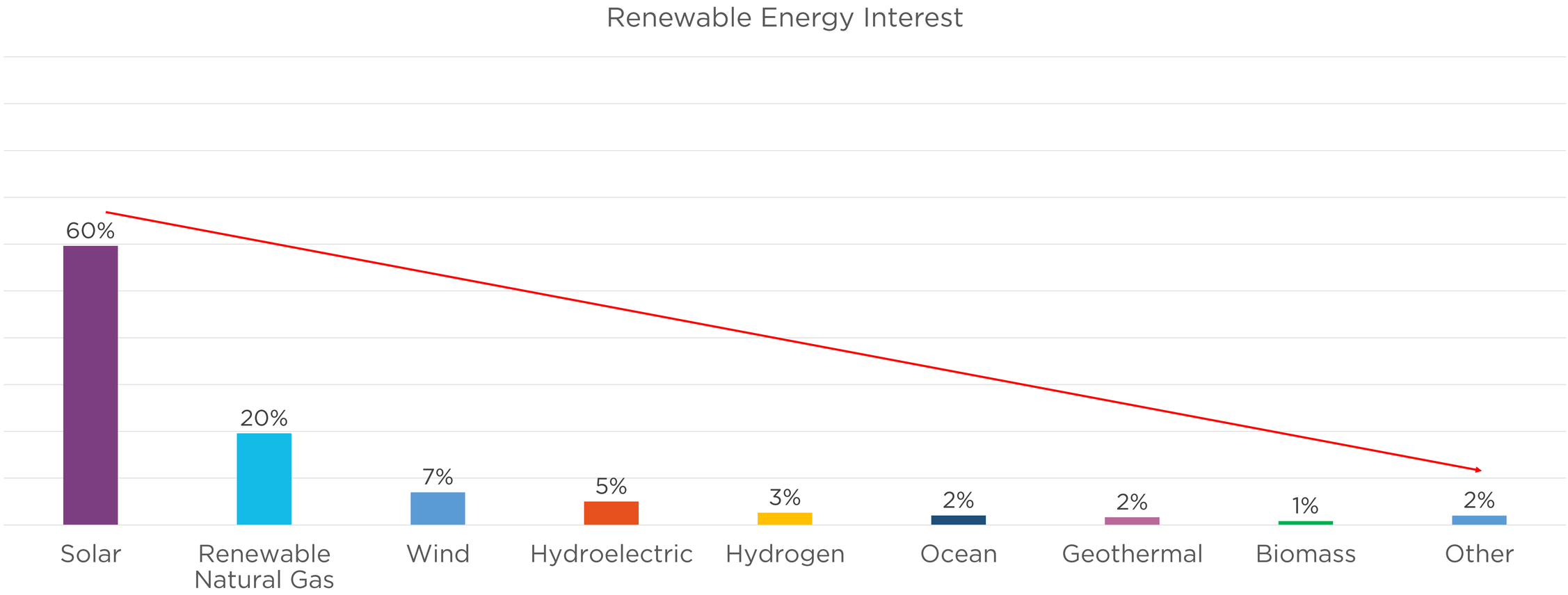
***On average, consumers are willing to pay **45%** more for **Renewable Energy** than what they are currently paying in energy costs.



Q9. How much more are you willing to pay for Renewable Energy?

Renewable Energy Interest…

- **Solar** and **Renewable Natural Gas** generate the **most interest** to have installed in consumers' households.
- **Hydrogen**, **Ocean**, **Geothermal**, and **Biomass** generate the **least amount of interest** to have installed in consumers' households.



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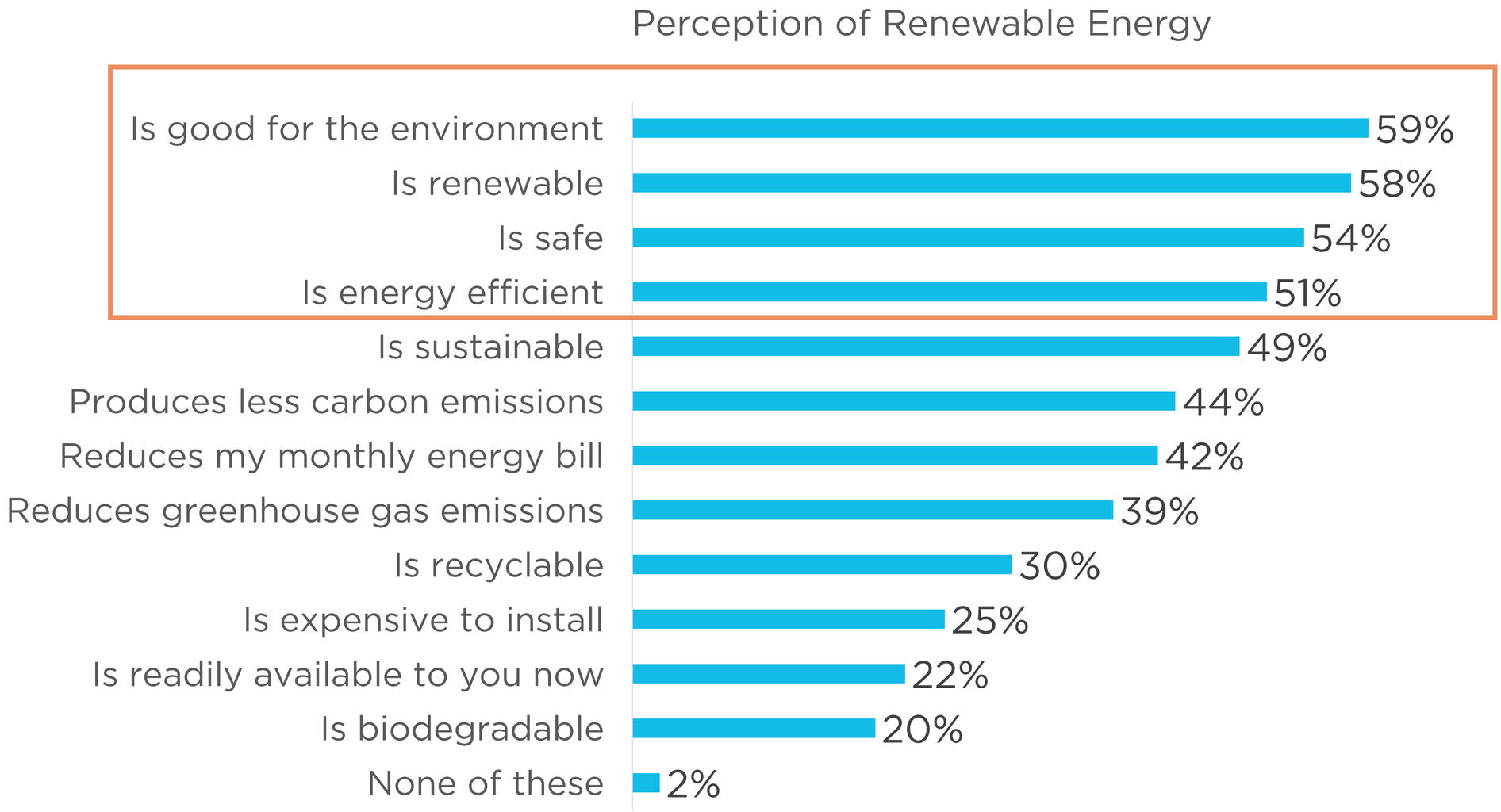
Q10. What type of renewable energy would you be most interested to have in your home if it was available?

Perception of Renewable Energy...

More than half associate **Renewable Energy** with being *good for the environment*, *renewable*, *safe*, and *efficient*.



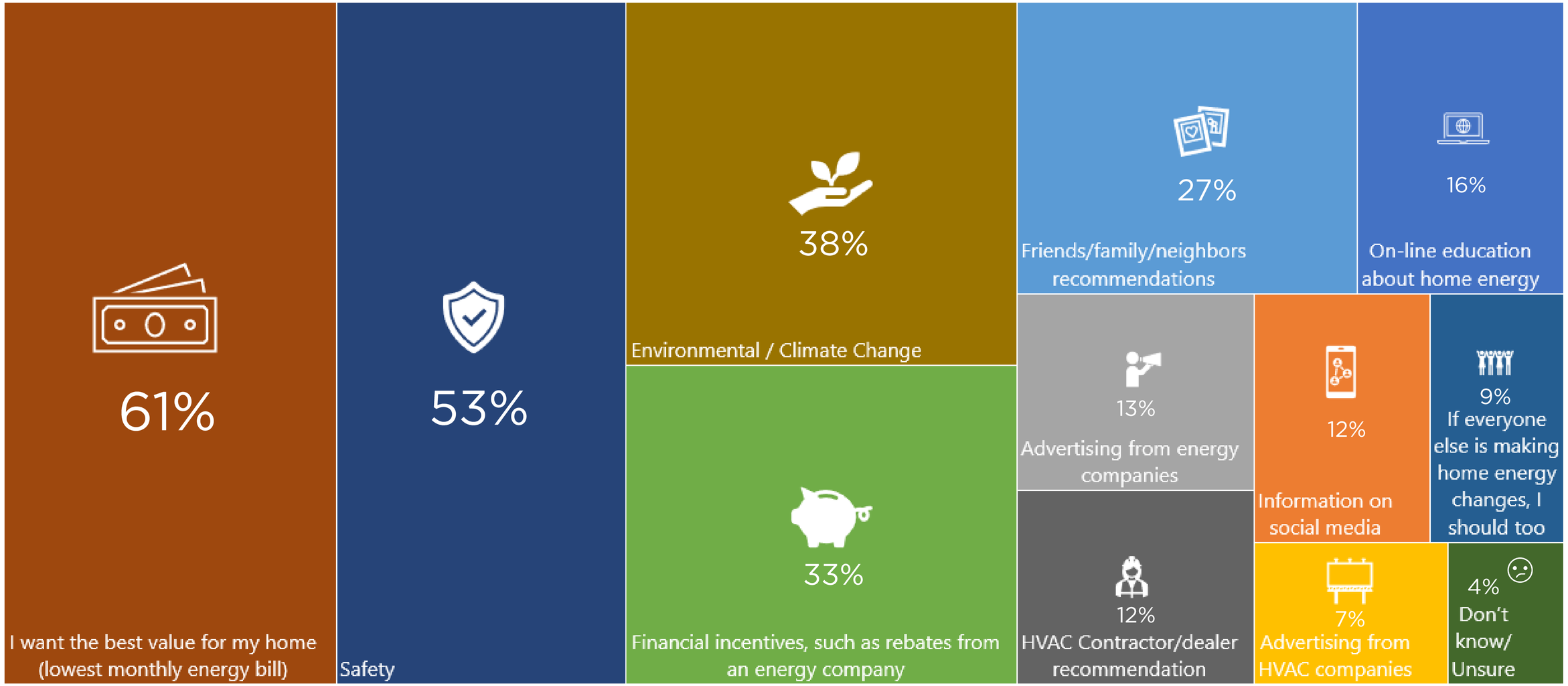
n=502

Q11. Which of the following attributes align with your understanding and perception of renewable energy?

Messaging and education opportunities...

Areas of Influence…

The dominant theme has ties to **financial implications** as six out of ten seek the *lowest monthly energy bill*, while a third mentioned *rebates and incentives*.



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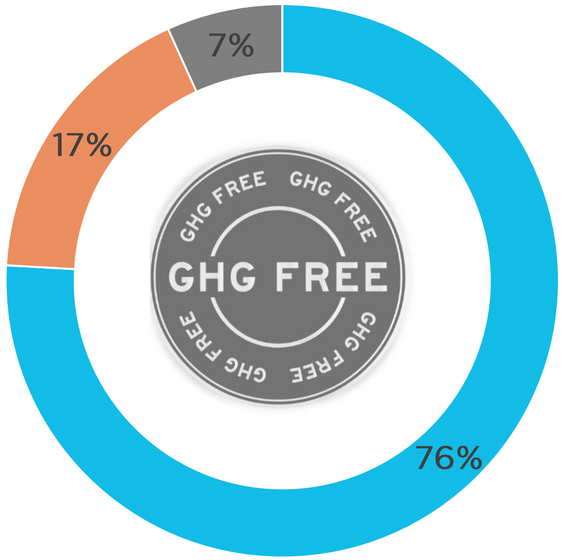
Q4. Which of the following reasons would influence your home energy decisions for your primary residence?

Thoughts on Government Policies and Regulations…

Do you support state government policies and regulations that work to reduce greenhouse gas (GHG) and emissions from home energy?

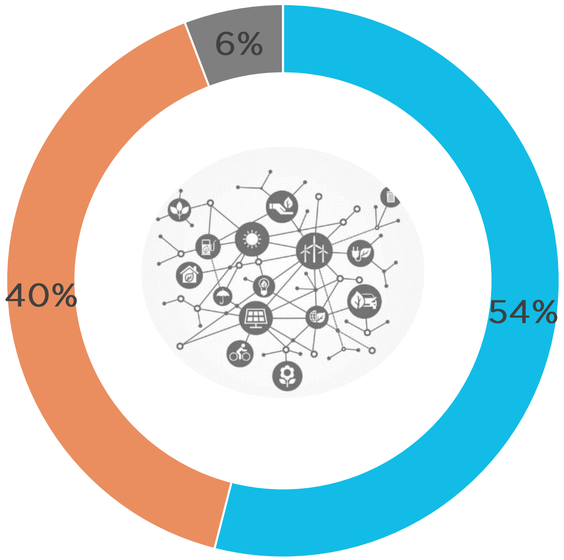


n=502

Yes No Prefer not to Answer

Q12. Do you support state government policies and regulations that work to reduce greenhouse gas (GHG) and emissions from home energy?

Do you support state government policies and regulations that mandate the type of home energy sources that are available to homeowners?



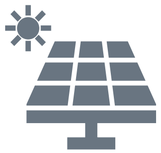
n=502

Yes No Prefer not to Answer

Q13. Do you support state government policies and regulations that mandate the type of home energy sources that are available to homeowners?

Floridian Knowledgeability…

- One-third are aware that **natural gas** is the primary fuel used to generate **Electricity** in the state of Florida.
- ***Note:** 37% of those asked *don't know* which fuel is used to generate **Electricity** in the state of Florida.

Natural Gas	Nuclear	Solar	Wind	Biomass	I Don't Know
					
32%	16%	12%	2%	2%	37%

n=502

Q14. What is the **primary** fuel used to generate electricity in the state of Florida?

Environmental Box Score…

- Consumers view **Solar** and **Wind** as the **most environmentally friendly** energy sources.
- **Coal** and **Oil** are the **most unpopular** energy sources among consumers concerning *mining waste*, *pollution*, *loss of natural habitat*, and a *general negative impact on the environment*.

	Coal	Oil	Natural Gas	Solar	Wind	Nuclear
Mining Waste	**32%**	**11%**	**9%**	**5%**	**6%**	**10%**
Acid Rain	**12%**	**13%**	**11%**	**8%**	**9%**	**23%**
Tainted Ground Water/Pollution	**13%**	**25%**	**18%**	**9%**	**8%**	**20%**
Carbon Emissions in the Atmosphere	**20%**	**23%**	**25%**	**10%**	**10%**	**14%**
Loss of Natural Habitat	**18%**	**21%**	**19%**	**14%**	**18%**	**19%**
Has No Impact	**6%**	**8%**	**17%**	**54%**	**49%**	**16%**

n=502

Q15. Which of the following environmental impacts do you associate with: Coal, Oil, Natural Gas, Solar, Wind, Nuclear?

Now, let's break for a knowledge test...

First, we gave consumers a list of generic statements and asked them to rate their level of believability with each.

Here is what came out of the data...

Believe it or Not…

- On average, two out of five have a **high believability** that *natural gas is efficient for household appliances* and *Florida has available resources for wind energy*.
- **Low believability** centers around *rare earth metals being required for solar panels and wind turbines*, *the mining of rare earth metals produces radioactive waste*, and *more renewable energy resources will result in higher monthly energy bills.*

	%Very Believable	%Low Believability Score (*Very/Somewhat Unbelievable*)	%Not Sure
In Florida, electricity is primarily generated by natural gas	**32%**	**52%**	**16%**
Rare earth metals are required for solar panels and wind turbines	**25%**	**55%**	**21%**
Rare earth metals come from other countries – China/Africa	**38%**	**46%**	**16%**
The mining of rare earth metals produces radioactive waste	**26%**	**54%**	**20%**
The USA has an unlimited supply of natural gas	**28%**	**62%**	**10%**
Florida consumes more energy than it produces	**37%**	**49%**	**15%**
Florida utilities have reduced CO2 emissions in the last 10 years	**29%**	**59%**	**12%**
Solar panel farms utilize a small amount of acreage to operate effectively	**34%**	**58%**	**8%**
Natural gas is efficient for household appliances	**46%**	**49%**	**5%**
Florida has available resources for wind energy	**42%**	**47%**	**11%**
More renewable energy resources will result in higher monthly energy bills	**26%**	**62%**	**12%**

n=502

Q16. How believable are the following statements?

Then we supplied some cold hard facts (see below), and re-asked consumers those same questions that they seemed to *struggle* with believing.

Here is what came out of the data...

- 75% of electricity in Florida is generated by natural gas.
- 12% of electricity in Florida is generated by Nuclear.
- 3% electricity in Florida is generated by solar.
- 2% electricity in Florida is generated by biomass.
- Rare earth metals are required for solar panels and wind turbines. 97% of rare earth metals come from China.
- For every pound of rare earth metals mined, a pound of radioactive waste is produced and dumped into a holding pond.
- The USA has more natural gas in the ground than the middle east has oil.
- Florida consumes almost 8 times more energy than it produces.
- Florida utilities have reduced CO2 emissions 35% since 2005 via natural gas.
- If solar provides all of Florida's electricity, , over 65% of Florida would be covered in solar panels to meet the demand.
- Natural gas is 92% efficient when used directly; only 33% efficient when used to generate electricity to produce the same amount of energy.

The More You Know…

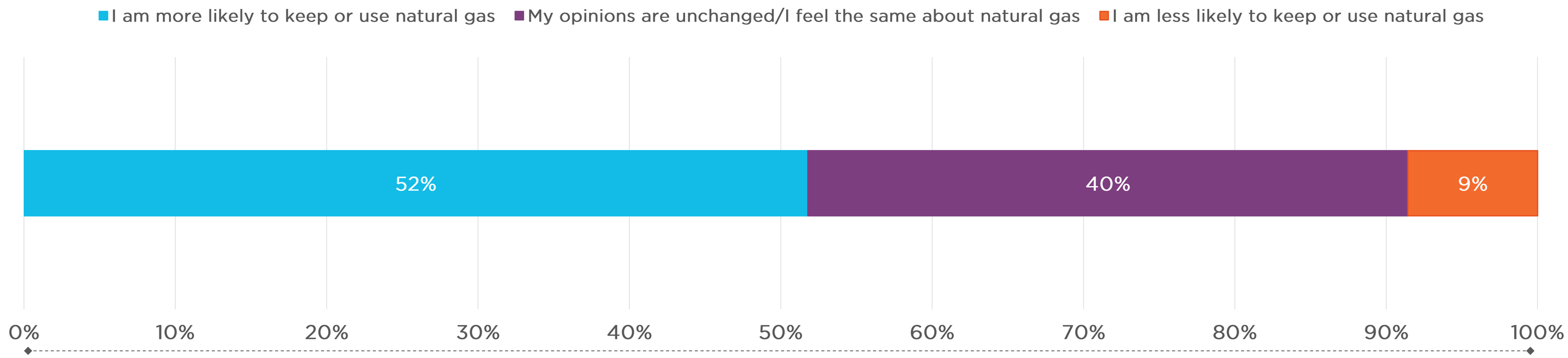
- After reading the facts, most **limited believers** changed their opinion regarding **where electricity is produced** and **natural gas' household efficiency**.
- Virtually half were **unmoved** by the facts regarding **renewable energy resources** and **solar panel farms**.

		%Limited Believability Score *Very/Somewhat Unbelievable + Not Sure)*	%More Believable	%Opinion Unchanged
In Florida, electricity is primarily generated by natural gas	(n=260)	**68%**	**86%**	**14%**
Rare earth metals are required for solar panels and wind turbines	(n=275)	**75%**	**71%**	**29%**
Rare earth metals come from other countries – China/Africa	(n=230)	**62%**	**70%**	**30%**
The mining of rare earth metals produces radioactive waste	(n=269)	**74%**	**69%**	**31%**
The USA has an unlimited supply of natural gas	(n=311)	**72%**	**49%**	**51%**
Florida consumes more energy than it produces	(n=244)	**63%**	**66%**	**34%**
Florida utilities have reduced CO2 emissions in the last 10 years	(n=297)	**71%**	**69%**	**31%**
Solar panel farms utilize a small amount of acreage to operate effectively	(n=292)	**66%**	**47%**	**53%**
Natural gas is efficient for household appliances	(n=246)	**54%**	**72%**	**28%**
Florida has available resources for wind energy	(n=236)	**58%**	**52%**	**48%**
More renewable energy resources will result in higher monthly energy bills	(n=309)	**74%**	**42%**	**58%**

Q17. Based on the previous information shared with you, is this claim more believable or is your opinion unchanged?

Final Thoughts on Natural Gas…

- Half are **more likely to keep or use natural gas.**
- Two out of five have **an unchanged opinion of natural gas.**
- Less than one in ten are **less likely to keep or use natural gas.**



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Q18. Finally – now how do you feel about natural gas <u>for your home energy solutions</u>?

APPENDIX

Demographics

EDUCATION	
Less than high school	1%
Some high school	3%
High school diploma or equivalent (e.g., GED)	18%
Some college, but no degree	26%
College degree (e.g., B.A., B.S.)	34%
Graduate school, but no degree	3%
Graduate school (e.g., M.A. M.S. M.D. Ph.D.)	15%
ETHNICITY	
White	78%
Black or African American	14%
Hispanic or Latino	5%
Asian or Pacific Islander	2%
Native American or American Indian	0%
Other	0%
Prefer not to answer	0%
HOME CLASSIFICATION	
Single family home	68%
Apartment	19%
Duplex or townhome	7%
Condominium	6%

Demographics

AGE	
Under 25	5%
25 to 34	16%
35 to 44	27%
45 to 54	16%
55 to 64	14%
65 or older	23%
INCOME	
Less than $50,000	39%
$50,000 but less than $75,000	25%
$75,000 but less than $100,000	12%
$100,000 but less than $150,000	13%
$150,000 but less than $250,000	7%
$250,000 or more	4%
Prefer not to answer	1%
GENDER	
Male	49%
Female	51%

Thank You

Florida GAS UTILITY

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