MDC Research

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Avista IRP Clean Energy Research

April 2022

Research Overview

Objectives

Determine willingness to pay for the implementation of clean energy among Avista customers

- Establish baseline of environmental concerns; perceived responsibility of individuals, businesses, and Avista specifically
- Understand customer tradeoffs between bill increases and carbon emission goals
- Explore perceptions associated with Avista should they invest in carbon-neutral or carbon-free emissions
- Gauge perceptions specific to natural gas preferences and tradeoffs
- Quantify differences by state, customer type, green perceptions, and demographic factors

Methodology

Web survey with Avista customers.

- Customers from Washington, Idaho, and Oregon sourced randomly by email
- Survey optimized for both desktop and mobile
- Conducted in April 2022
- Final sample size of n=1,100

Proportional representation of state and service type.

WA	ID	OR	G	GE	E
52%	29%	20%	25%	47%	29%

Respondents screened to ensure appropriate target

- Avista customer age 18+
- Has or shares household finance and utility bill responsibility
- Not employed by a utility company, or in media, advertising, or market research firm

Report Interpretation

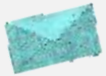
- All significant differences are reported at the 95% confidence level or higher. The total sample size of n=1,100 has a maximum sampling variability of +/-3.0% at the 95% level.
- Some percentages may not add to 100% due to rounding

Analysis Approach

This study incorporates a conjoint exercise to force tradeoffs between various green initiatives and customer willingness to pay.

Respondents review various combinations of **energy goals**, **timeframes for that goal**, **energy sources**, and **potential bill increases**, and select their "most preferred" from a series of options (including an option for "none" each time).

Subsequent analysis produces utility scores for each individual attribute, allowing us to calculate which combination has the broadest appeal.

 **Energy Goal**	Investing in renewables to achieve carbon neutrality Providing 100% carbon-free power by only generating energy through clean energy sources
 **Goal Timeframe**	In the next year In the next 5 years (by 2027) In the next 10 years (by 2032) In the next 25 years (by 2047)
 **Bill Increase**	2% monthly increase 5% monthly increase 10% monthly increase 20% monthly increase 50% monthly increase 100% monthly increase
 **Energy Source**	Sourced locally Sourced regionally Sourced from anywhere

Key Takeaways

Price is Important. 

When faced with tradeoffs, price is the prevailing factor. While the majority of customers find importance in sourcing green or local energy, they are only willing to pay so much. Anything beyond a 10% monthly bill increase shows significant declines in popularity.

If bill increases to invest in carbon-free or carbon-neutral options are kept below 10%, the specific energy goal, timeframe, local vs. regional source are less important.

Some customers see beyond price 

Increases beyond 10% monthly still appeal to a certain subset of customers, particularly those who place great importance on “green,” and/or when the goal can be achieved within the next 10 years.

***Any* increase to invest in “green” energy will alienate some customers** 

Overall, roughly one in five do not find importance in being “green”

When evaluating various green investment options, 17% reject all, including more ambitious outcomes for just a 2% increase

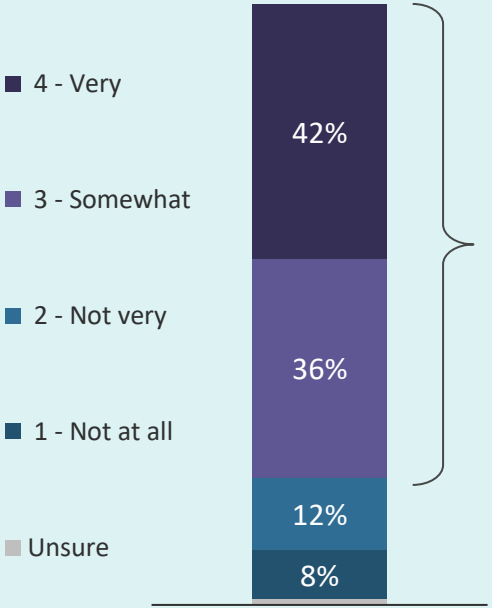
Three in ten say they would be likely to seek bill assistance or consider moving to another state if bill were to increase due to Avista investing in carbon-free or carbon-neutral energy

Detailed Findings:
Green Insights

At a personal level, the concept of being environmentally friendly or “green” is important to nearly eight in ten customers

Personal Importance of “Green”

(n=1,100)



78%
find the concept of being “green” important

Key Differences and Insights

Green importance differs by state.

Customers in **Oregon** and **Washington** are significantly more likely than those in Idaho to find the concept of “green” to be important.

83% **80%** **71%**

Green importance differs by area.

Customers in **urban** areas are significantly more likely than those in rural areas to find the concept important.

urban **84%** | suburban **80%** | rural **75%**

Green importance differs by gender.

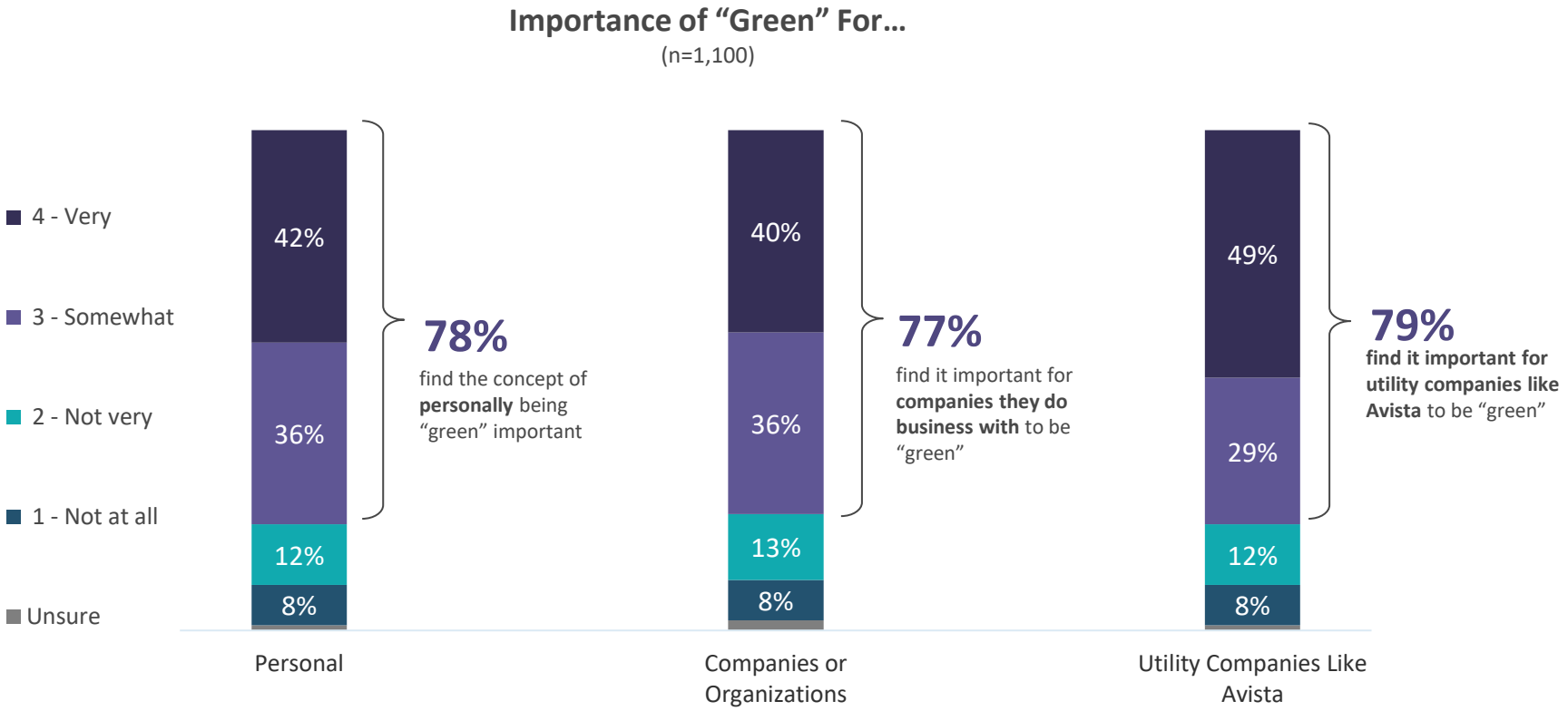
Women are significantly more likely than men to find it important.

85% **73%**

Green importance is consistent across age and income categories.

Q1. How important is the concept of being environmentally friendly or "green" to you personally?

Customers place similar importance on the “green” responsibility of themselves, businesses, and utility companies



Q1. How important is the concept of being environmentally friendly or "green" to you personally?
Q3. How important is it for general companies or organizations you do business with to be environmentally friendly or "green?“
Q4. How important is it specifically for utility companies like Avista to be environmentally friendly or "green?"

Personal importance to be “green” is driven by responsibility to protect the planet; for those believing it is not important to personally be green, cost is the main reason

Why is it Important?

(n=860)

- To protect our planet/environment (38%)
- Good for the future/future generations (24%)
- Responsibility/right thing to do/stewardship (16%)
- To address climate change/global warming (13%)

“If we take care of our planet, it will in turn last for generations to come. If we take care of it, it will always take care of us.”

“Every person has to take responsibility for the environment. We are stewards of the Earth after all. That responsibility cannot, and should, not be abrogated. If we don't stand up and insist on choices that protect that for which we are responsible then no one will and we necessarily choose a very dark alternative for an uncertain and unjust future.”

Why is it NOT Important?

(n=224)

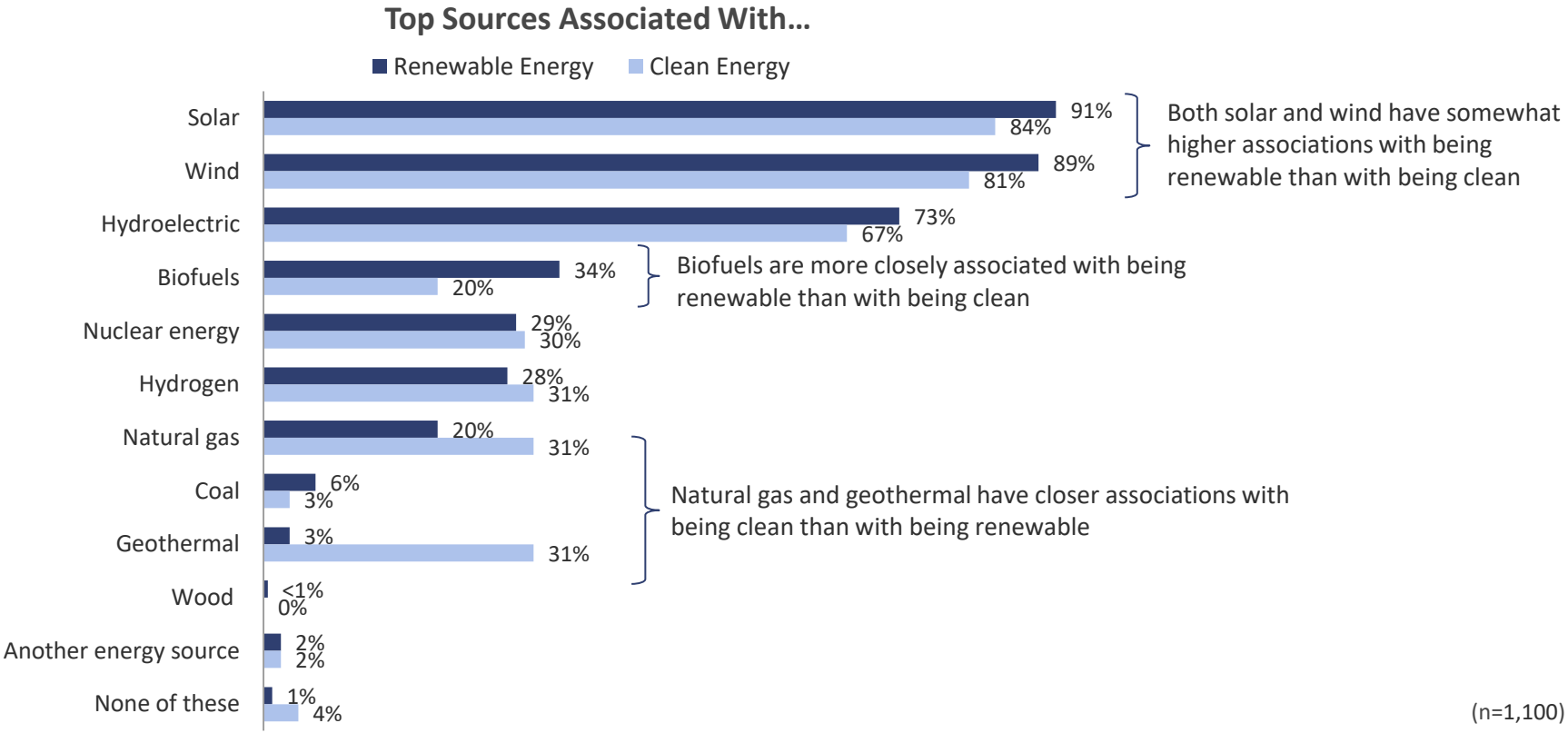
- Cost/it’s expensive (29%)
- Not real/hoax/misinformation (25%)
- “Green” is worse for the environment, not better (20%)
- Politics/Political Agenda (17%)

“In the 60+ years I've been around, the air land and waters have markedly improved. As the current crop of ‘renewables’ are unreliable and expensive, good ol' fossil fuels are the best bang for bucks.”

“Because the terms ‘environmentally friendly’ and ‘green’ have been distorted to the point where they have little relevance to actually protecting the environment.”

Q2A. Why is it [very/somewhat important] to personally be environmentally friendly or "green?“
Q2B. Why is it [not very/not at all important] to personally be environmentally friendly or "green?"

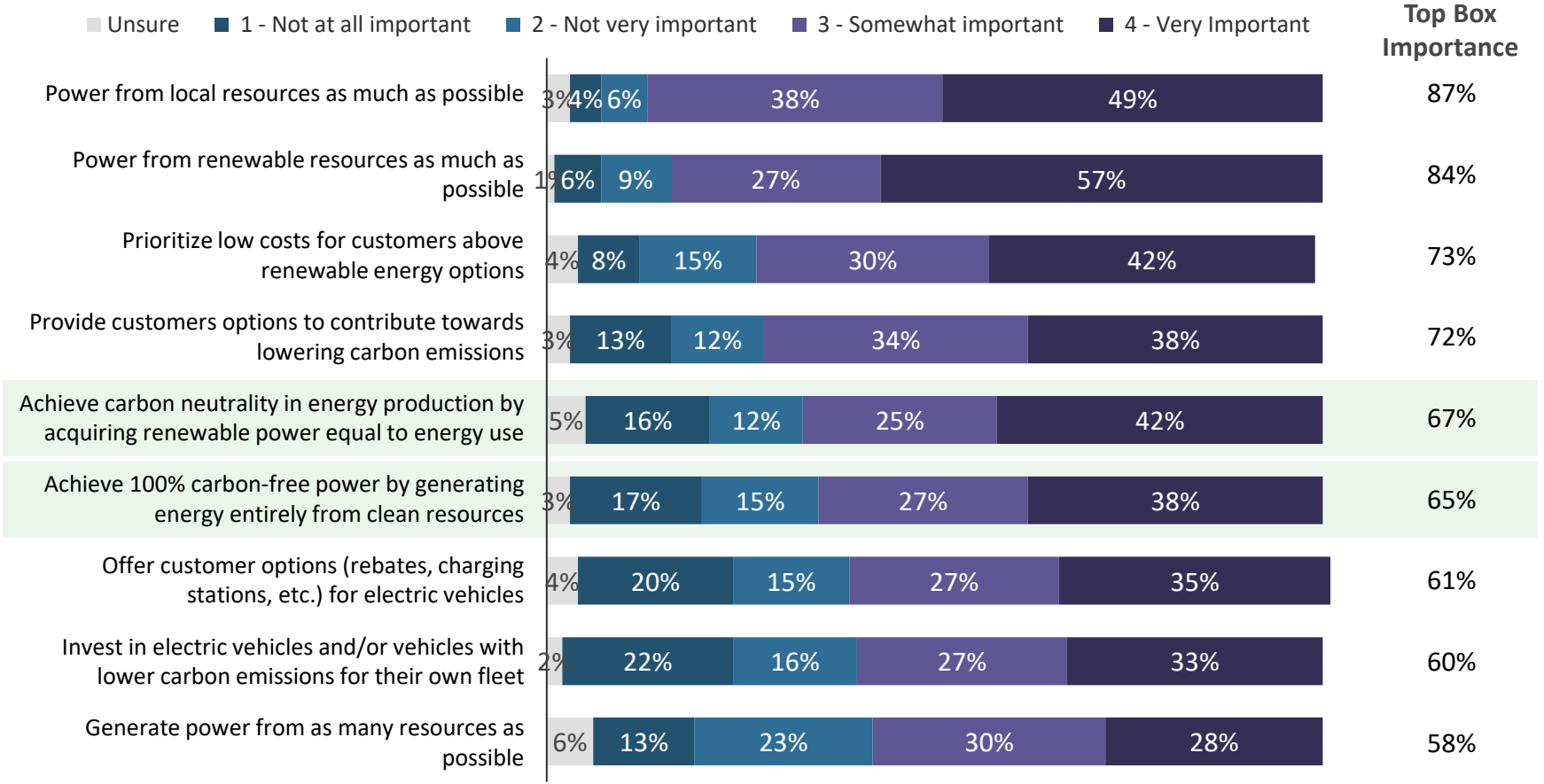
Solar and wind are commonly associated with both renewable and clean energy



(n=1,100)

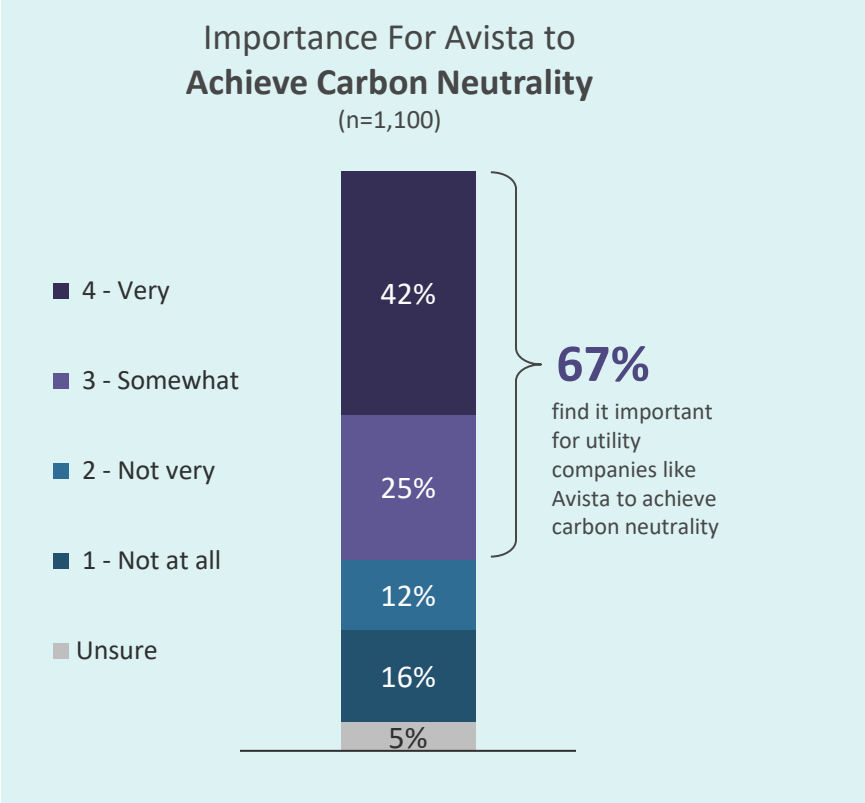
Q6. When you hear the words "renewable energy," what sources come to mind?
Q7. When you hear the words "clean energy," what sources come to mind?

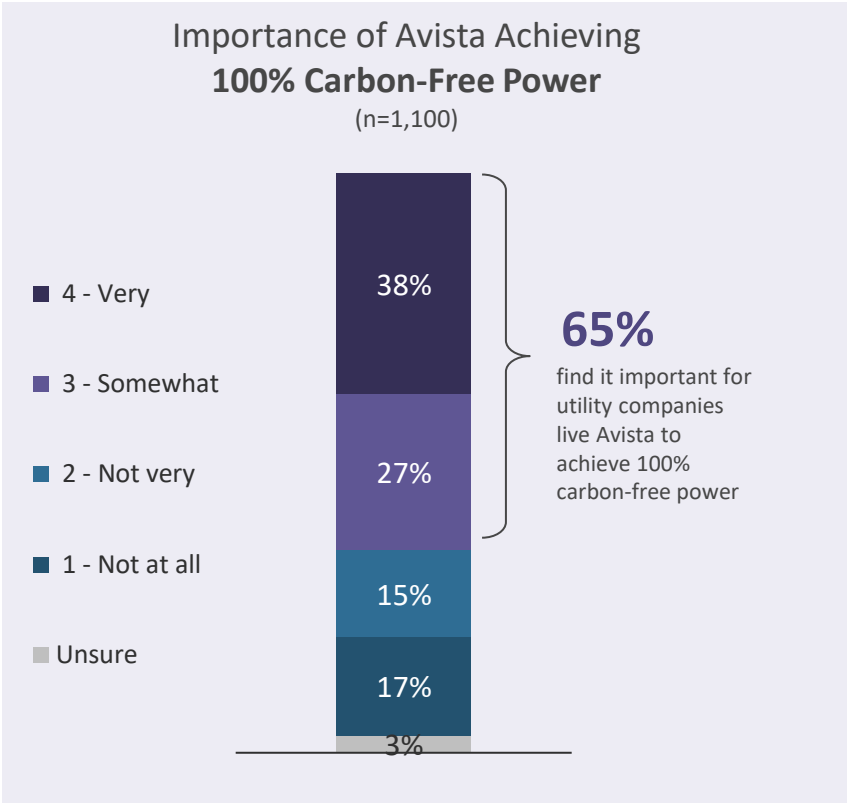
When considering potential utility company initiatives, customers place highest importance on generating power from local and renewable resources



Q5. How important is it for utility companies like Avista to do each of the following?

Customers place near equal importance on Avista achieving carbon neutrality and on achieving 100% carbon-free power





Q5. How important is it for utility companies like Avista to do each of the following?
Achieve carbon neutrality in energy production by acquiring renewable power equal to energy use.
Achieve 100% carbon-free power by generating energy entirely from clean resources.

The importance of Avista achieving these goals differs by certain key audiences

Key Differences and Insights: Carbon Neutrality

Carbon neutrality importance differs by state.

Customers in **Oregon** are significantly more likely than those in Idaho to say it is important for to achieve carbon neutrality.

73% 67% 61%

Carbon neutrality importance differs by area.

Customers in **urban** areas are significantly more likely than those in rural areas to find the achievement important.

urban 72% | suburban 69% | rural 63%

Carbon neutrality importance differs by gender.

Women are significantly more likely than men to find it important.

75% 60%

Importance of carbon neutrality differs by income.

Those making **$150K+ in household income** are significantly more likely than those making less than $60K to say it is important.

<$60K	$150K+
62%	72%

Key Differences and Insights: 100% Carbon-Free

Carbon-free power importance differs by state.

Customers in **Oregon** are significantly more likely than those in Idaho to find an achievement of 100% carbon-free to be important.

69% 66% 60%

Carbon-free power importance differs by area.

Customers in **urban** and **suburban** areas are significantly more likely than those in rural areas to find the achievement important.

urban 74% | suburban 67% | rural 59%

Importance of 100% carbon-free power differs by gender.

Women are significantly more likely than men to find it important.

73% 59%

Importance is consistent across age and income categories.

Q5H. How important is it for utility companies like Avista to do each of the following? *Achieve carbon neutrality in energy production by acquiring renewable power equal to energy use.* | *Achieve 100% carbon-free power by generating energy entirely from clean resources.*

Detailed Findings:
Green Investment

Conjoint Results Summary: Overall Feature Scoring

Category	Attribute	Result	Meaning
 **Energy Goal**	Investing in renewables to achieve carbon neutrality	0.55	If all other factors are held consistent, providing 100% carbon-free energy vs. investing in carbon neutrality has almost no impact
	Providing 100% carbon-free power by only generating energy through clean energy sources	0.59	
 **Goal Timeframe**	In the next year	0.60	There is a drop-off in utility at the 25-year level; however, there is little differentiation between *in the next year*, *five years*, or *ten years* when all other factors are held consistent
	In the next 5 years (by 2027)	0.59	
	In the next 10 years (by 2032)	0.59	
	In the next 25 years (by 2047)	0.52	
 **Bill Increase**	2% monthly increase	0.83	If all other factors are held consistent, the monthly bill increase has the biggest impact; utility drops off considerably with more than a 10% increase
	5% monthly increase	0.78	
	10% monthly increase	0.69	
	20% monthly increase	0.53	It should be noted, however, that those placing high importance on being green demonstrate a willingness to pay beyond the 10% mark
	50% monthly increase	0.36	
	100% monthly increase	0.25	
 **Energy Source**	Sourced locally	0.59	Though 87% find sourcing power locally to be important, ultimately there is little differentiation between *local*, *regional*, and *anywhere*, when considering other factors along with locality
	Sourced regionally	0.58	
	Sourced from anywhere	0.55	
 **None**		0.39	Overall, 17% of respondents said no to all options presented, indicating no willingness to pay for green investments

(n=1,100)

C2. Now, we will present you with a series of 12 screens, each with a set of options for an energy package that could be made available in the future for your home. For each set, please indicate the one you would be most likely to choose. You can always select "none" if you would not select any of the options.

Conjoint Results Summary: Feature Scores by Personal Green Importance

Category	Attribute	Feature Score by Green Importance		
		Very (n=445)	Somewhat (n=399)	Not (n=331)
Energy Goal	Investing in renewables to achieve carbon neutrality	0.67	0.53	0.38
	Providing 100% carbon-free power by only generating energy through clean energy sources	0.76	0.54	0.35
Goal Timeframe	In the next year	0.79	0.54	0.33
	In the next 5 years (by 2027)	0.76	0.54	0.35
	In the next 10 years (by 2032)	0.72	0.55	0.38
	In the next 25 years (by 2047)	0.59	0.52	0.39
Bill Increase	2% monthly increase	0.87	0.86	0.71
	5% monthly increase	0.88	0.78	0.60
	10% monthly increase	0.85	0.65	0.45
	20% monthly increase	0.74	0.46	0.24
	50% monthly increase	0.53	0.30	0.13
	100% monthly increase	0.42	0.17	0.04
Energy Source	Sourced locally	0.72	0.55	0.39
	Sourced regionally	0.73	0.55	0.37
	Sourced from anywhere	0.69	0.51	0.34
None		0.14	0.43	0.80

C2. Now, we will present you with a series of 12 screens, each with a set of options for an energy package that could be made available in the future for your home. For each set, please indicate the one you would be most likely to choose. You can always select “none” if you would not select any of the options.

Conjoint Results Summary: Feature Scores by Service Type

Category	Attribute	Feature Score by Service Type		
		Gas Only (n=271)	Dual (n=513)	Electric Only (n=316)
Energy Goal	Investing in renewables to achieve carbon neutrality	0.57	0.56	0.54
	Providing 100% carbon-free power by only generating energy through clean energy sources	0.61	0.60	0.58
Goal Timeframe	In the next year	0.63	0.60	0.58
	In the next 5 years (by 2027)	0.62	0.59	0.57
	In the next 10 years (by 2032)	0.61	0.59	0.57
	In the next 25 years (by 2047)	0.52	0.52	0.51
Bill Increase	2% monthly increase	0.83	0.84	0.82
	5% monthly increase	0.79	0.79	0.76
	10% monthly increase	0.71	0.70	0.66
	20% monthly increase	0.56	0.53	0.50
	50% monthly increase	0.39	0.35	0.35
	100% monthly increase	0.28	0.24	0.24
Energy Source	Sourced locally	0.61	0.59	0.57
	Sourced regionally	0.60	0.59	0.56
	Sourced from anywhere	0.57	0.55	0.53
None		0.36	0.38	0.42

C2. Now, we will present you with a series of 12 screens, each with a set of options for an energy package that could be made available in the future for your home. For each set, please indicate the one you would be most likely to choose. You can always select “none” if you would not select any of the options.

Conjoint Results Summary: Optimal Feature Combination

Unsurprisingly, the optimal utility results from customers achieving the most for the lowest cost. While this is not a realistic scenario, it provides a baseline for any changes made to move toward carbon-free or carbon-neutral energy in the future. Subsequent slides show change from optimal should other factors be considered.

Category	Attribute
Energy Goal	Investing in renewables to achieve carbon neutrality
Goal Timeframe	In the next year
Bill Increase	2% monthly increase
Energy Source	Sourced locally

(n=1,100)

C2. Now, we will present you with a series of 12 screens, each with a set of options for an energy package that could be made available in the future for your home. For each set, please indicate the one you would be most likely to choose. You can always select "none" if you would not select any of the options.

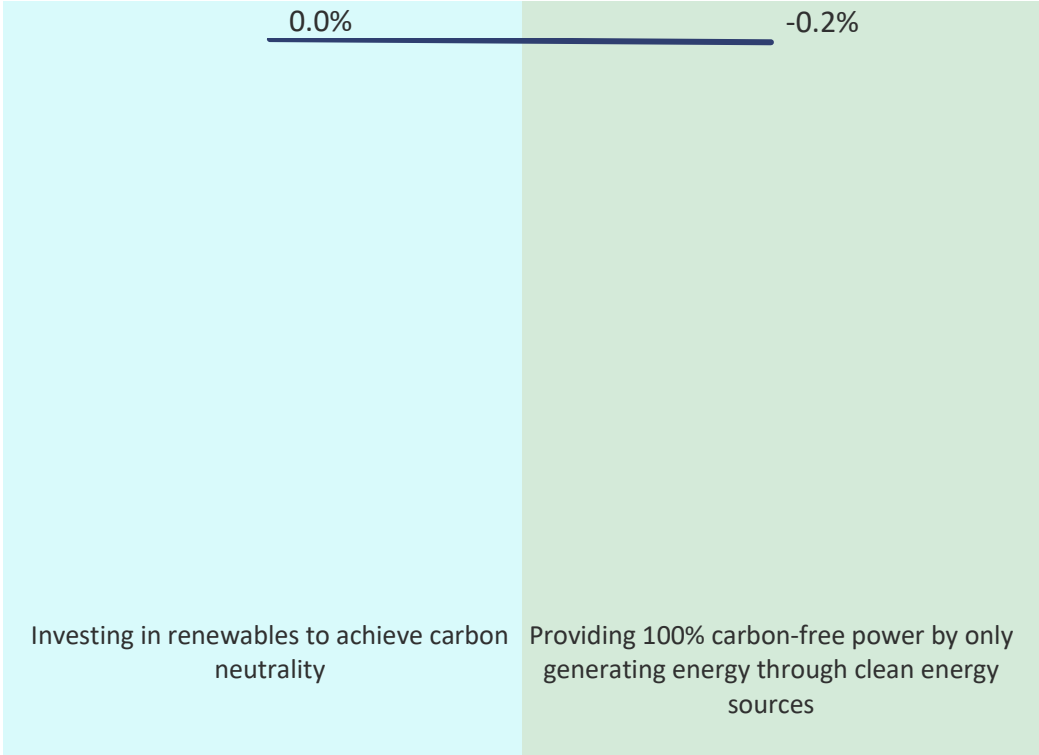
Conjoint Summary: Difference from Optimal Combination (Based on Goal)

Optimal Feature Combination

Energy Goal	Investing in renewables to achieve carbon neutrality
Goal Timeframe	In the next year
Bill Increase	2% monthly increase
Energy Source	Sourced locally

If all other factors are held consistent, providing 100% carbon-free energy vs. investing in carbon neutrality has almost no impact

Change from Optimal Based on **Goal**



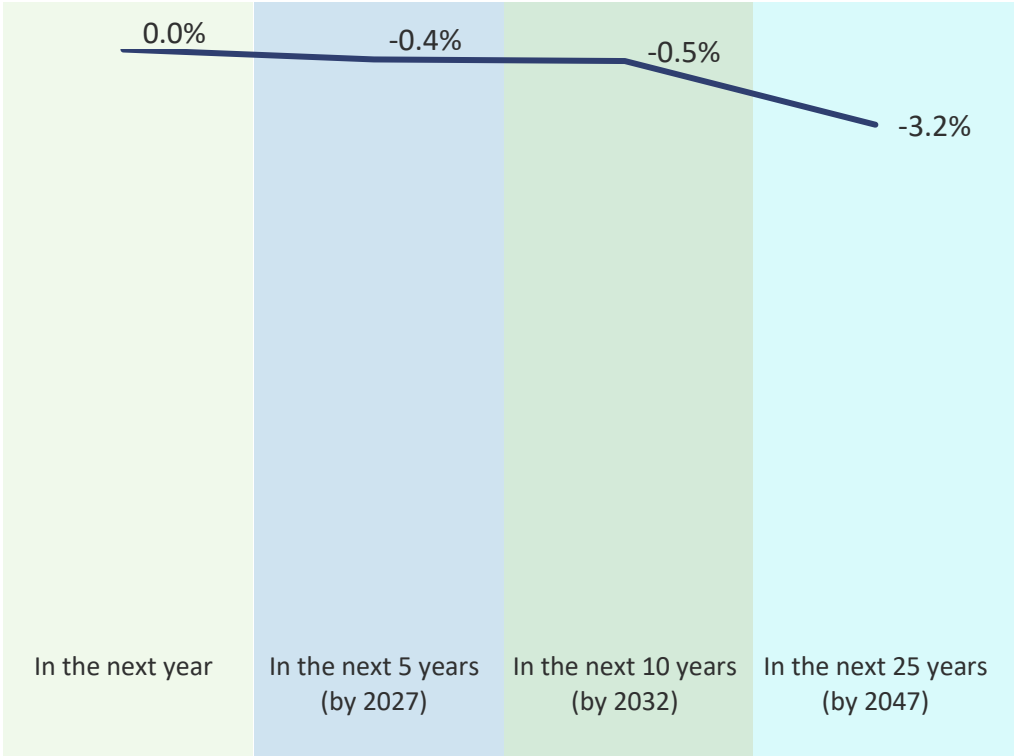
Conjoint Summary: Difference from Optimal Combination (Based on Timeframe)

Optimal Feature Combination

Energy Goal	Investing in renewables to achieve carbon neutrality
Goal Timeframe	In the next year
Bill Increase	2% monthly increase
Energy Source	Sourced locally

If all other factors are held consistent, a shorter timeline has minimal impact; utility drops off after 10 years

Change from Optimal Based on **Timeframe**



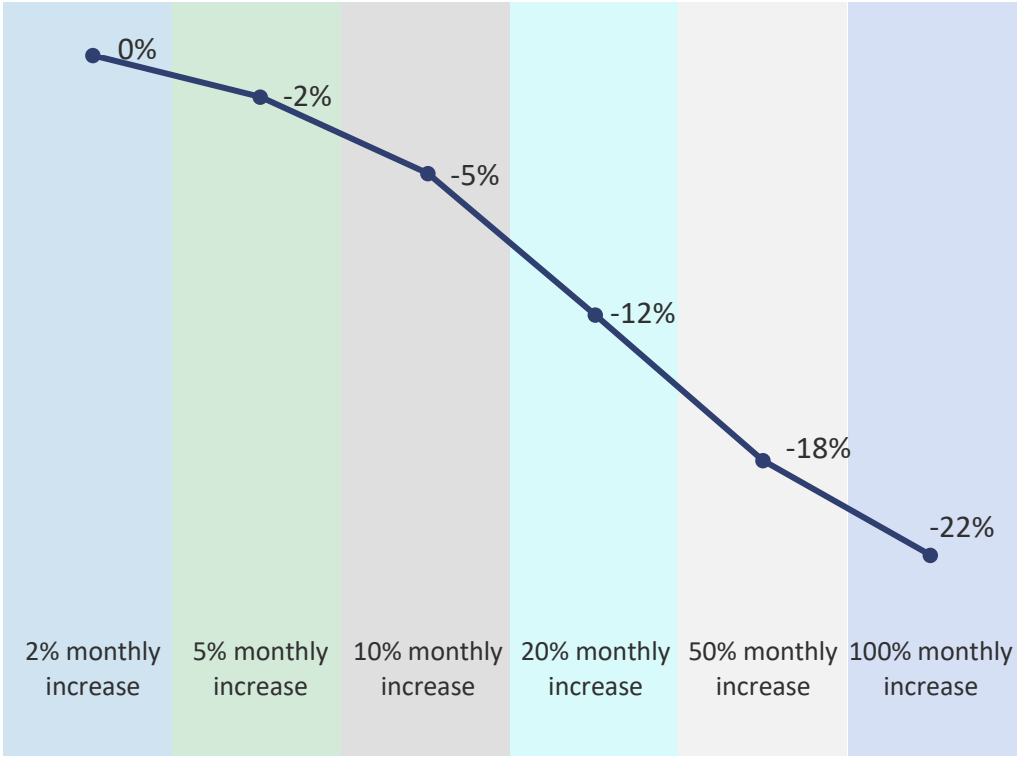
Conjoint Summary: Difference from Optimal Combination (Based on Bill Increase)

Optimal Feature Combination

Energy Goal	Investing in renewables to achieve carbon neutrality
Goal Timeframe	In the next year
Bill Increase	2% monthly increase
Energy Source	Sourced locally

If all other factors are held consistent, the monthly bill increase has the biggest impact; utility drops off considerably with more than a 10% increase

Change from Optimal Based on **Monthly Bill Increase**



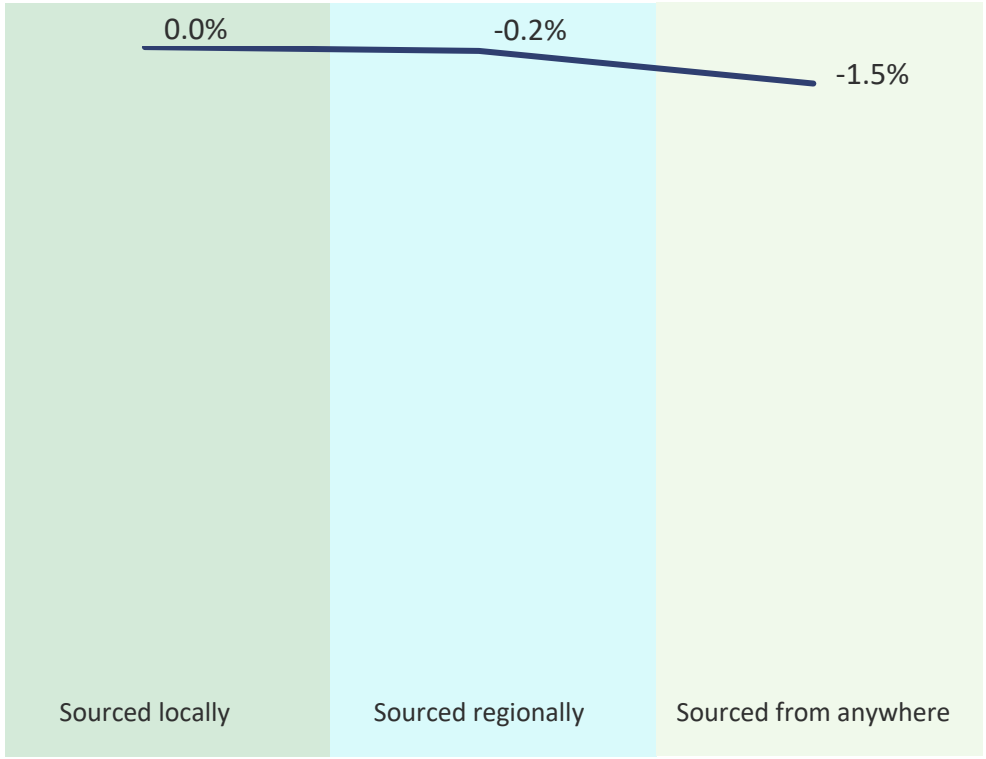
Conjoint Summary: Difference from Optimal Combination (Based on Source)

Optimal Feature Combination

Energy Goal	Investing in renewables to achieve carbon neutrality
Goal Timeframe	In the next year
Bill Increase	2% monthly increase
Energy Source	Sourced locally

If all other factors are held consistent, the source of energy has almost no impact; energy sourced locally or regionally is only slightly more preferred

Change from Optimal Based on **Source**

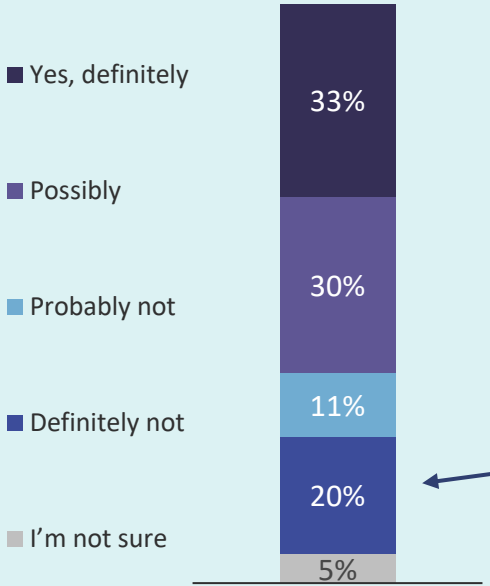


Detailed Findings:
Investment Support

Three in five customers say Avista should invest in carbon-neutral energy even if it involves a rate increase for customers

Should Avista invest in carbon-neutral or carbon-free energy, even if it involves a rate increase for customers?

(n=1,100)



Key Differences and Insights

Investment sentiment differs by income.

Those with **higher household incomes** are significantly more likely than those making $60K or less to agree Avista definitely should invest, even if it involves a rate increase.

<$60K	$60K+
28%	42%

Investment sentiment differs by area.

Customers in **urban** areas are significantly more likely than those in rural areas to believe Avista should definitely invest.

urban	suburban	rural
40%	36%	29%

Lack of investment support differs by gender.

While those **supporting** investment is consistent across gender**, men** are significantly more likely than women to **definitely not** support investment.

♀	♂
15%	23%

Support is consistent across age and state.

C3. Should Avista invest in carbon-neutral or carbon-free energy, even if it involves a rate increase for customers?

Supporters say the main reason Avista should invest in carbon-neutral energy is to “save the planet,” while the main reason to not invest among detractors is “consumer cost”

What is the main reason to invest?

(n=697)

- To save the planet (21%)
- For a cleaner environment (19%)
- For cleaner air (16%)
- To fight climate change (16%)
- Depends on cost effectiveness (16%)
- It’s the right thing to do (16%)

“Finite resources are finite. It doesn't matter that you save money today but have fewer or no energy sources later.”

What is the main reason to NOT invest?

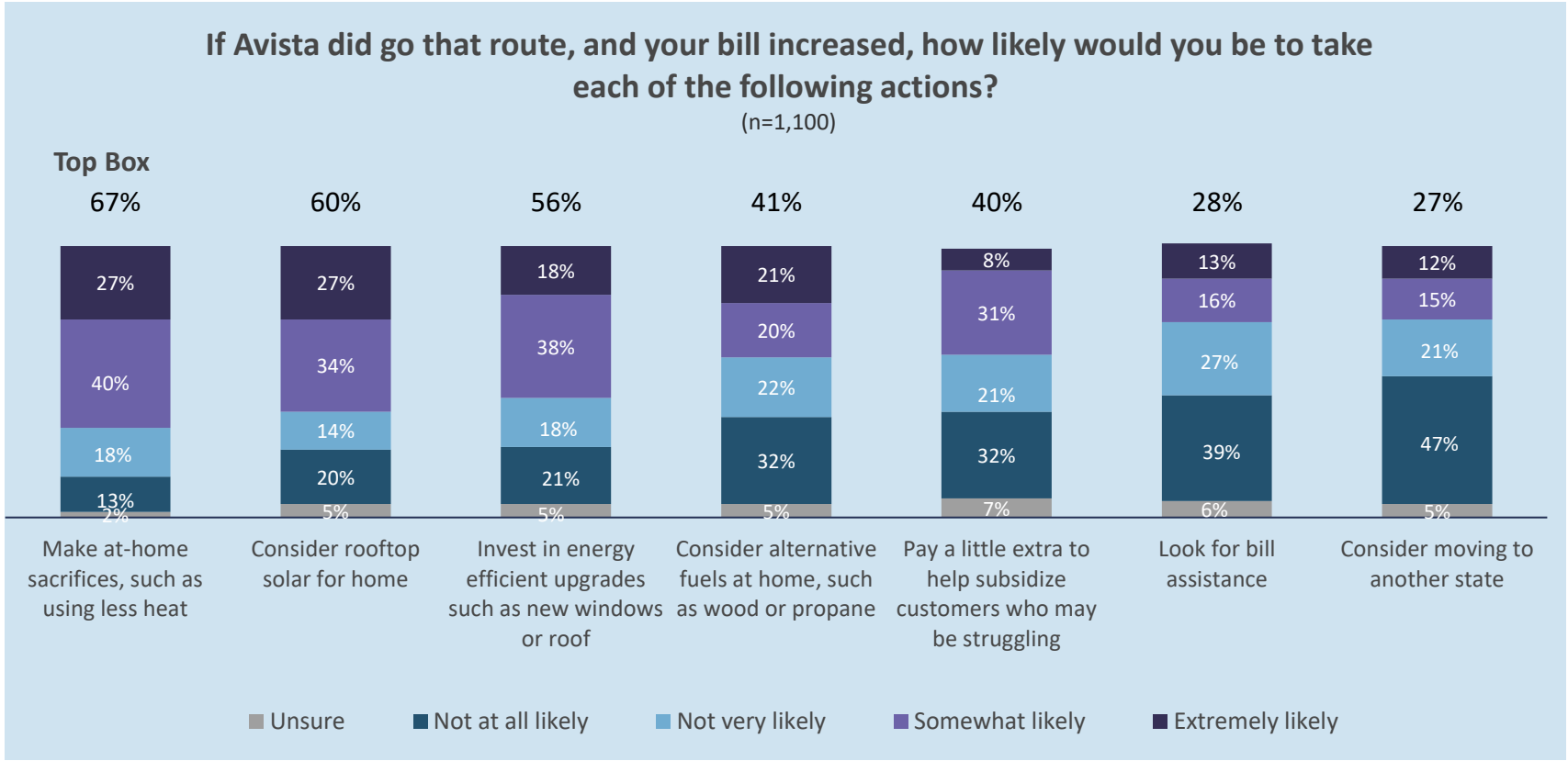
(n=345)

- Consumer costs/expensive (57%)
- Don’t believe in it/hoax/impossible (17%)
- Unnecessary/will not change anything (16%)
- Politics/political agenda (10%)

“Carbon neutral and carbon free energy are ridiculous ideas that only increase the cost of energy for everyone.”

C3A. In your opinion, what is the main reason Avista should invest in carbon-neutral or carbon-free energy, even if it involves a rate increase for customers?
C3B. In your opinion, what is the main reason or reasons Avista should not invest in carbon-neutral or carbon-free energy?

Nearly seven in ten customers would be likely to “make at home-sacrifices” if their bill increased due to Avista’s investment in carbon-neutral energy

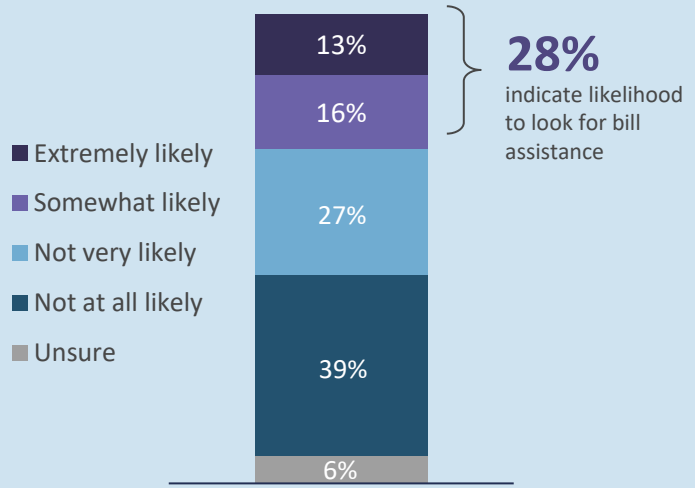


C4. If Avista did go that route, and your bill increased, how likely would you be to take each of the following actions?

Just over a quarter indicate they'd seek bill assistance should rates rise due to Avista pursuing carbon-neutral or carbon-free options; for over half, this would take a 10% increase or more

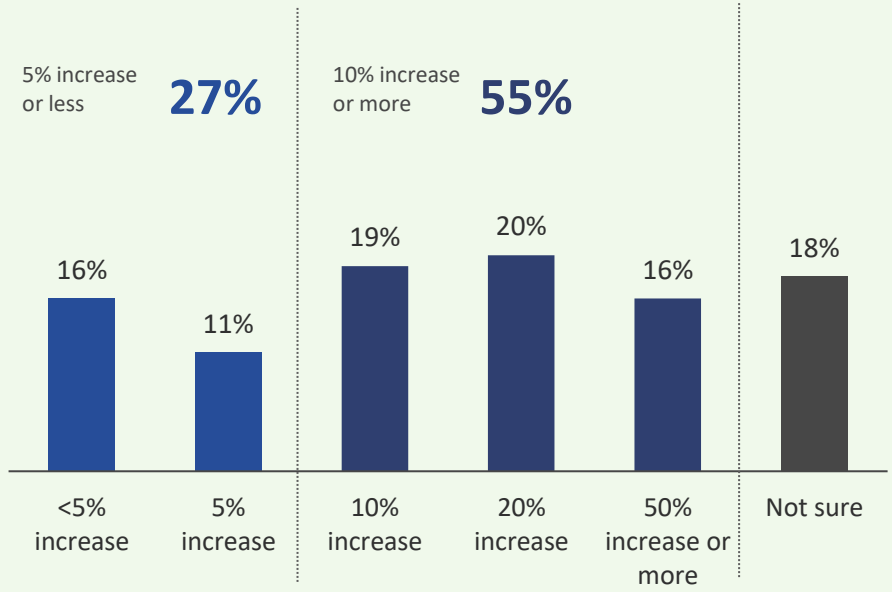
Likelihood to Seek Bill Assistance if Bill Increased

(n=1,100)



Level of Bill Increase That Would Drive Seeking Assistance

(Among Those Likely to Seek Assistance; n=313)

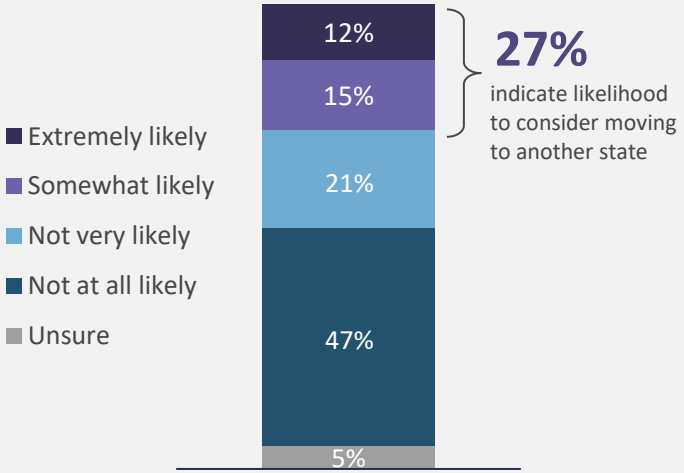


C4. If Avista did go that route, and your bill increased, how likely would you be to take each of the following actions? *Look for bill assistance*
C5. What level of bill increase would you envision driving you to seek bill assistance?

Roughly a third indicate they'd consider moving to another state should rates rise; however, there is uncertainty around what threshold of increase would drive this decision

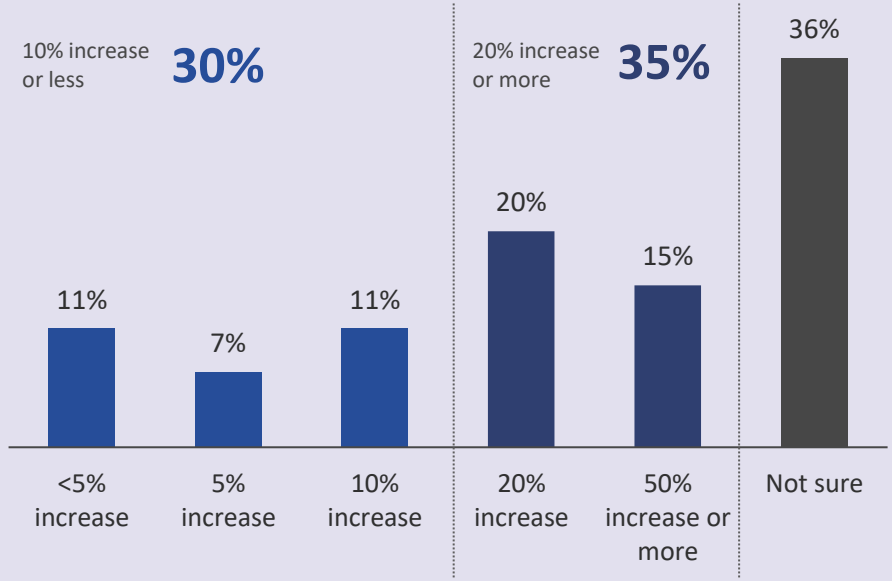
Likelihood to Move Out of State if Bill Increased

(n=1,100)



Level of Bill Increase That Would Drive Moving Out of State

(Among Those Likely to Consider Moving; n=299)

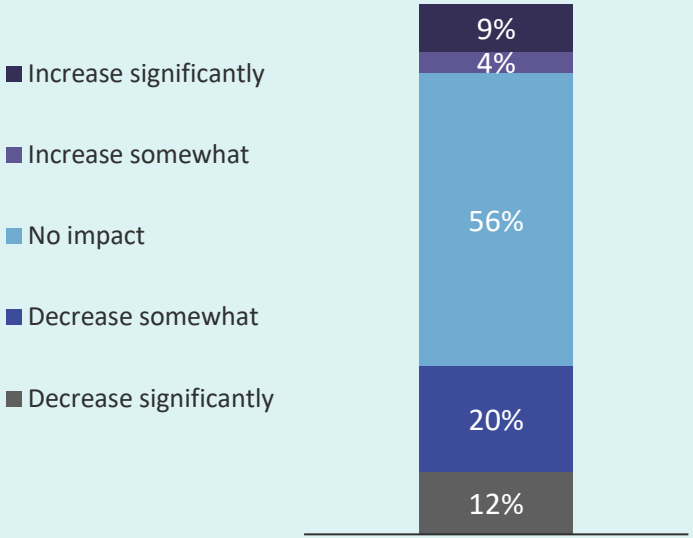


C4. If Avista did go that route, and your bill increased, how likely would you be to take each of the following actions? *Consider moving to another state*
C6. What level of bill increase would you envision driving you to consider moving to another state?

Over half of customers say their favorability would not be impacted if Avista does not achieve carbon neutrality by 2027

Favorability of the Company if Avista is not able to Achieve Carbon Neutrality by 2027

(n=1,100)



Potential decreased favorability differs by age.

Younger participants are significantly more likely than older participants to say their favorability of Avista would decrease significantly if Avista is not able to achieve carbon neutrality by 2027.

18-54	55+
15%	**10%**

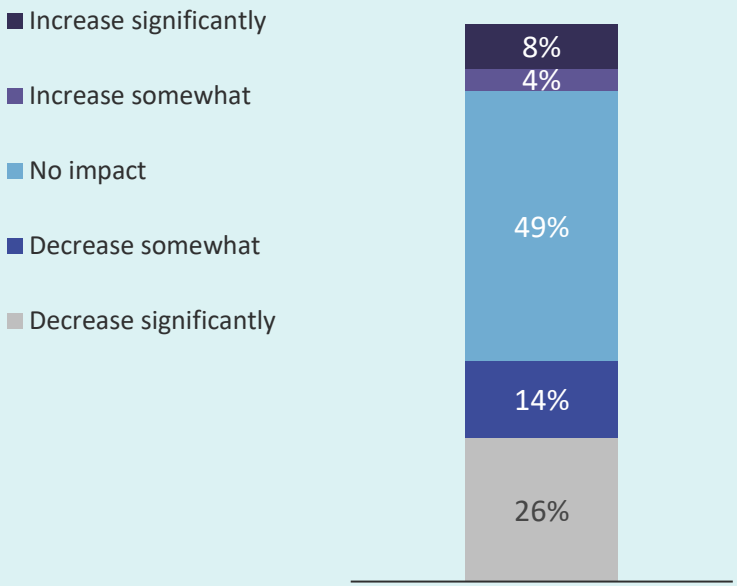
Potential decreased favorability is consistent across state, gender, area of residence, and income categories.

C7. If Avista is not able to achieve carbon neutrality by 2027, how would this affect your favorability of the company?

Nearly half say their favorability would not change if Avista does not achieve carbon free by 2045

Favorability of the Company if Avista is not able to Provide 100% Carbon-Free Power by 2045

(n=1,100)



Potential favorability differs by state.

Customers in **Oregon** and **Washington** are significantly more likely than those in Idaho say their favorability of Avista would decrease significantly.

29% **27%** **21%**

Potential favorability differs by area.

Customers in **urban** and **suburban** areas are significantly more likely than those in rural areas to decrease favorability.

urban **32%** | suburban **28%** | rural **21%**

Potential favorability differs by household income

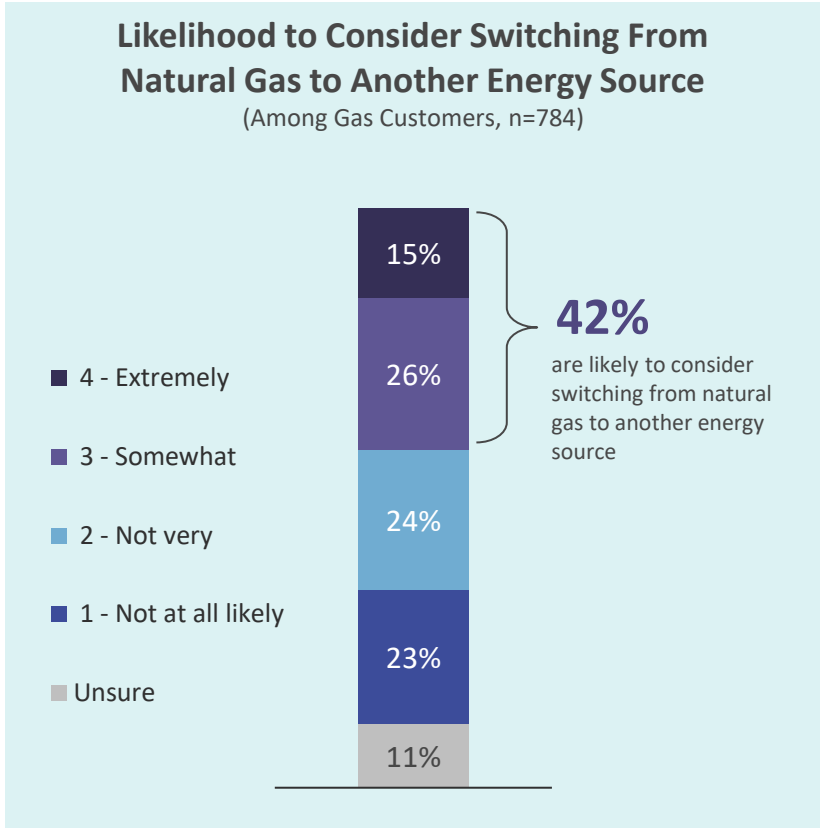
Those with **higher household incomes** are significantly more likely than those making $80K or less to decrease favorability.

<$80K	$80K+
23%	**33%**

C8. If Avista is not able to provide 100% carbon-free power by 2045, how would this affect your favorability of the company?

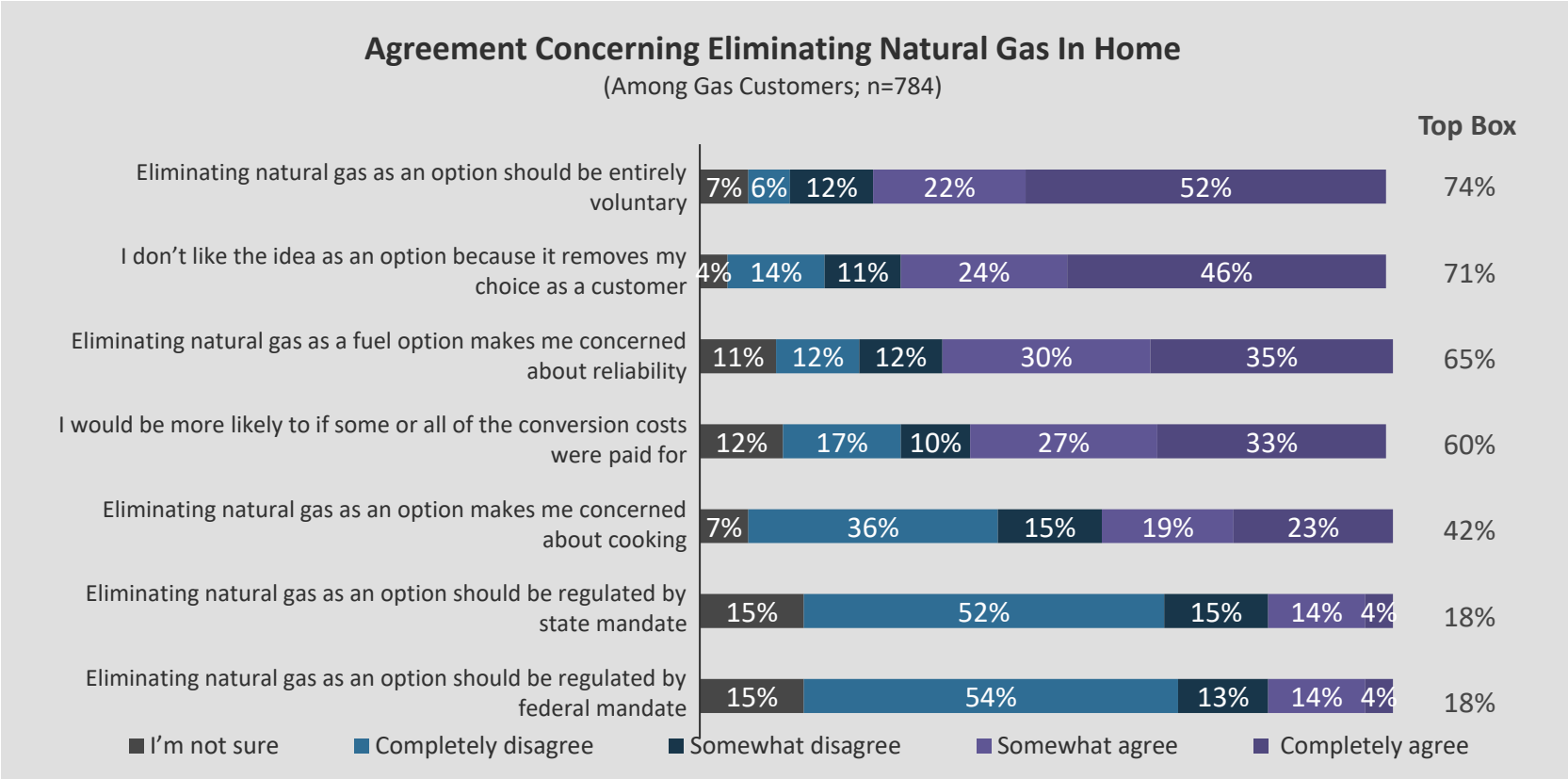
Detailed Findings:
Natural Gas Insights

Nearly half of customers would **not** consider switching from natural gas to help reduce carbon emissions



N1. How likely would you be to consider switching from natural gas to another energy source to help reduce carbon emissions?

Three-quarters gas customers agree eliminating natural gas should be entirely voluntary

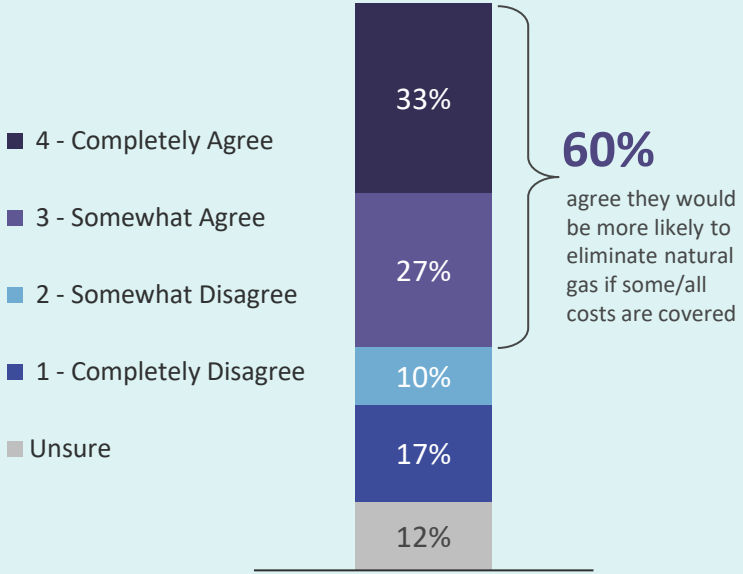


N2. How much do you agree or disagree with the following statements concerning natural gas in your home?

Six in ten would be more likely to convert from natural gas if some or all conversion costs were covered; of these, 59% would be willing to pay under $1000

Would be More Likely to Convert if Some or All Conversion Costs are Covered

(Among Gas Customers, n=784)



Maximum Personal Contribution

(Among Gas Customers More Likely to Convert If Some/All Costs Are Covered; n=473)

N2. How much do you agree or disagree with the following statements concerning natural gas in your home?

I would be more likely to eliminate natural gas as an option in my home if some or all of the conversion costs were paid for by the electric utility and/or government incentives

N3. If you did have to contribute some costs towards converting from natural gas in your home, how much would you consider your max level of contribution?

Customer Demographics

Demographics

Education	Total (n=1,100)	WA (n=569)	ID (n=316)	OR (n=215)
High school or less	7%	5%	10%	7%
Trade or Technical School	6%	6%	9%	4%
Some college	20%	20%	20%	21%
Graduated college	36%	37%	35%	33%
Graduate/professional school	26%	28%	22%	30%
Age				
18-24	1%	<1%	2%	--
25-34	5%	4%	9%	4%
35-44	13%	15%	14%	9%
45-54	14%	14%	14%	12%
55-64	23%	21%	26%	22%
65-74	25%	24%	24%	31%
75+	12%	16%	4%	16%
Refused	6%	5%	7%	7%

Home Type	Total (n=1,100)	WA (n=569)	ID (n=316)	OR (n=215)
Single family dwelling	83%	92%	64%	87%
A duplex or triplex	4%	2%	7%	3%
In a building with 4 or more units	6%	2%	16%	2%
Income				
Median	~$70K	~$78K	~$62K	~$66K
Household				
Mean # of people	2.4	2.5	2.2	2.2
Gender				
Women	46%	44%	47%	53%
Men	46%	49%	45%	40%
Non-binary or Other	<1%	1%	1%	--
Prefer not to say	7%	7%	7%	8%