EECA
TE TARI TIAKI PUNGAO
ENERGY EFFICIENCY & CONSERVATION AUTHORITY

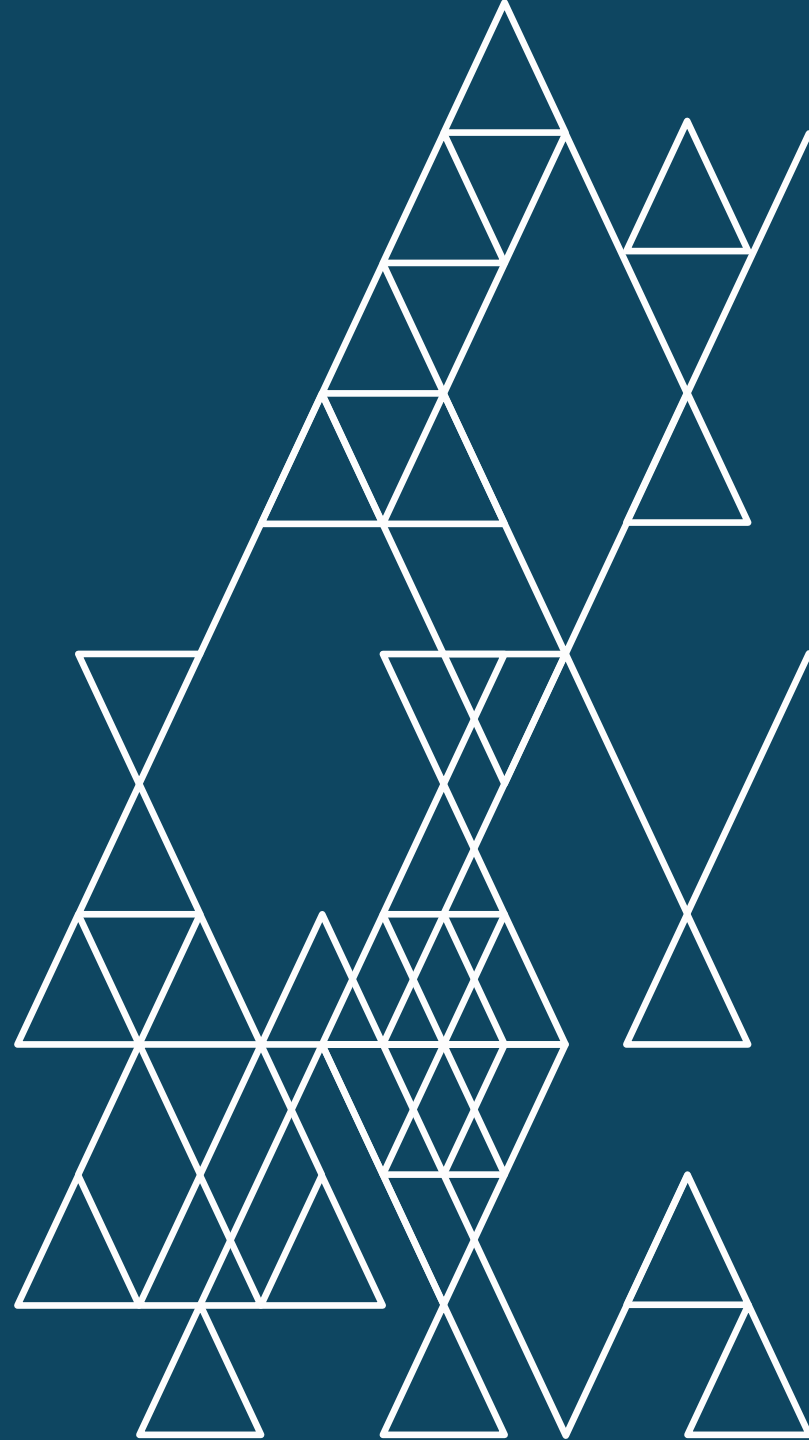
Electrifying Aotearoa:

The consumer perspective

TRA x EECA April 2024

The Big Question:

How electrified are Kiwi homes and how interested are New Zealanders in adopting electric appliances?



Background

EECA recognises that the home is a great intervention point. Focusing on the home and its energy consuming appliances and systems offers an opportunity to support New Zealanders to get cleaner, greener, warmer and healthier homes that result in reduced emissions alongside reduced bills.

To support this ambition, EECA needs an understanding of current electrification penetration in homes and some wider understanding around awareness, motivators and barriers to uptake.

Specific Research Objectives are:

1. Determine the current stock of appliance/systems in the house that have the potential to be electrified in a smart way.
2. Assess awareness and consideration of smart electrification options.
3. Assess triggers and timeframes for change
4. Assess high level motivations and barriers to change
5. Understand general awareness levels of smart/renewable energy

This research is conducted by TRA.
TRA is an insights agency that combines understanding of human behaviour with intelligent data capability to help clients navigate uncertainty and answer complex problems.

Methodology

TRA developed a survey, capturing sample from a nationally representative sample of over 1,400 New Zealand homeowners. The survey ran from 1st to 8th November 2023. During survey design, and prior to launching, the survey was cognitively tested with 5 people who would have qualified to take part in the survey, to ensure optimum comprehension. This report references consumers and New Zealanders throughout – in all cases, we're referring to homeowners.

Only a sample of the total population was surveyed – this means we cannot be certain the figures from this study's sample would be the same, had everyone in the total population been surveyed. However, for any percentage given, we can estimate confidence intervals within which the true values are likely to fall. Using a 95% confidence level, the data for the total homeowner market has a margin of error of +/-2.58% at 50% (ie, where the result is 50%, the actual result may fall between 47.42% and 52.58%). The margin of error reduces to +/-2.06% where the survey result is 20%, and +/-1.55% where the result is 10%.

A note on the research method:
Outside of face-to-face surveying, online surveying is the most representative form of surveying due to a higher proportion of New Zealanders having an internet connection than a landline connection and skewed samples from postal surveys. From previous work we have seen a very high crossover between having an internet connection, a land line connection and responding to a postal survey. This gives us confidence that figures are the most representative view of New Zealand homeowners and market penetration for different technology / household appliances.

We spoke to

The sample (n=1,422) presented in this report represents:

1. Homeowners.

2. Joint or main decision maker for appliances, vehicles and utilities.

3. Identified as being connected to the national grid for power supply (the data does not include those who identified as solely living off solar electricity / wind generation / generators).

The data presented in the following tables is weighted. See appendix for the equivalent unweighted results.

Age	
18-34	15%
35-54	34%
55+	52%

Gender	
Male	47%
Female	52%
Another gender / Prefer not to say	<1%

Household Income	
Up to $50,000	26%
$50,001-$100,000	25%
$100,001-$150,000	20%
$150,001 or more	19%
Rather not say	11%

Homeowner status	
Own home with mortgage	52%
Own home outright	48%

Ethnicity	
NZ European or Pākehā	76%
New Zealand Māori	7%
NET Pasifika	2%
NET Asian	11%
Other	12%

Region	
Northland	3%
Auckland	33%
Waikato	7%
Bay of Plenty	6%
Gisborne	0%
Hawke's Bay	4%
Taranaki	2%
Manawatū – Whanganui	6%
Wellington	12%
Tasman	1%
Nelson	1%
Marlborough	0%
West Coast	1%
Canterbury	14%
Otago	6%
Southland	2%

Agenda

1 The Big Picture

2 Cooking

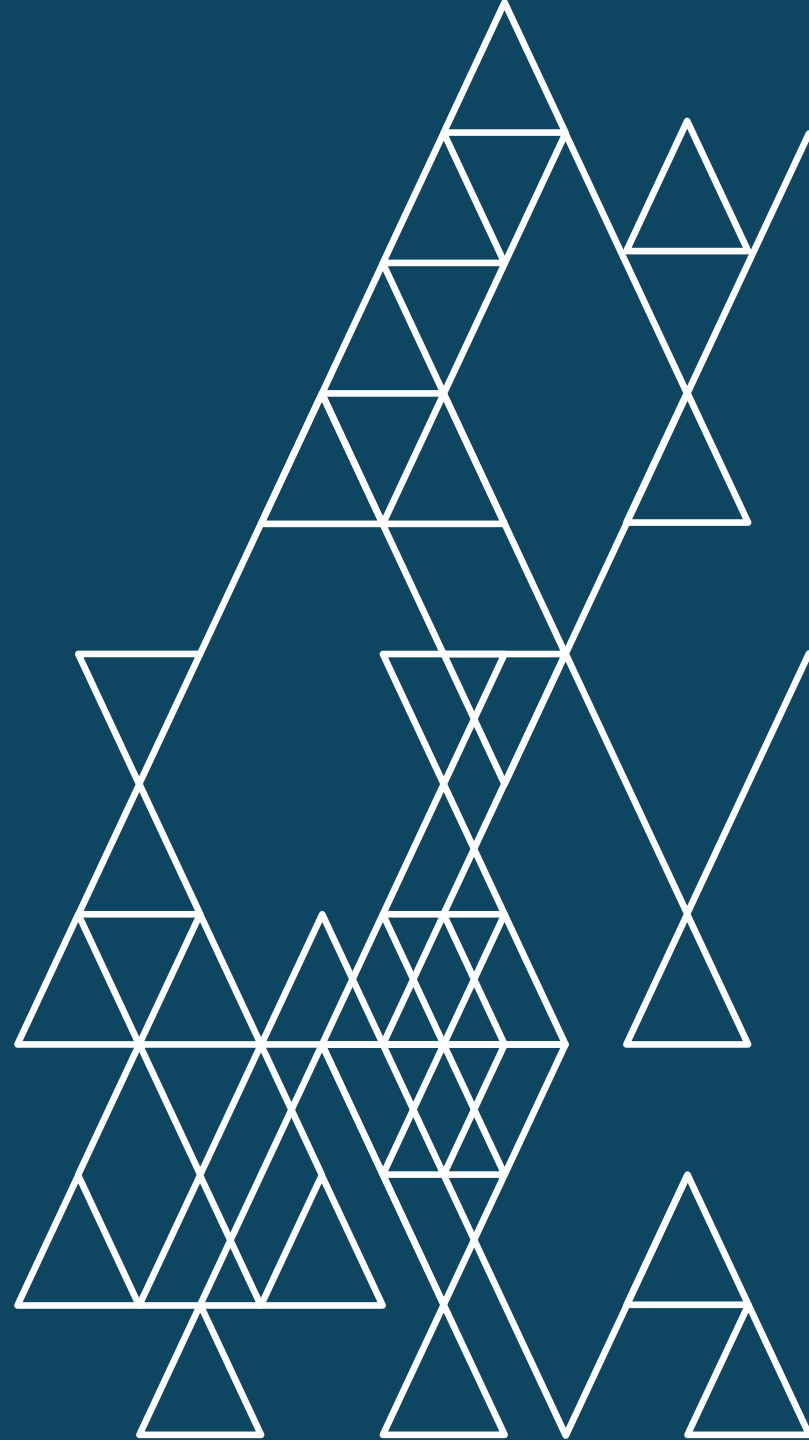
3 Heating

4 Hot Water

5 Solar and Solar Batteries

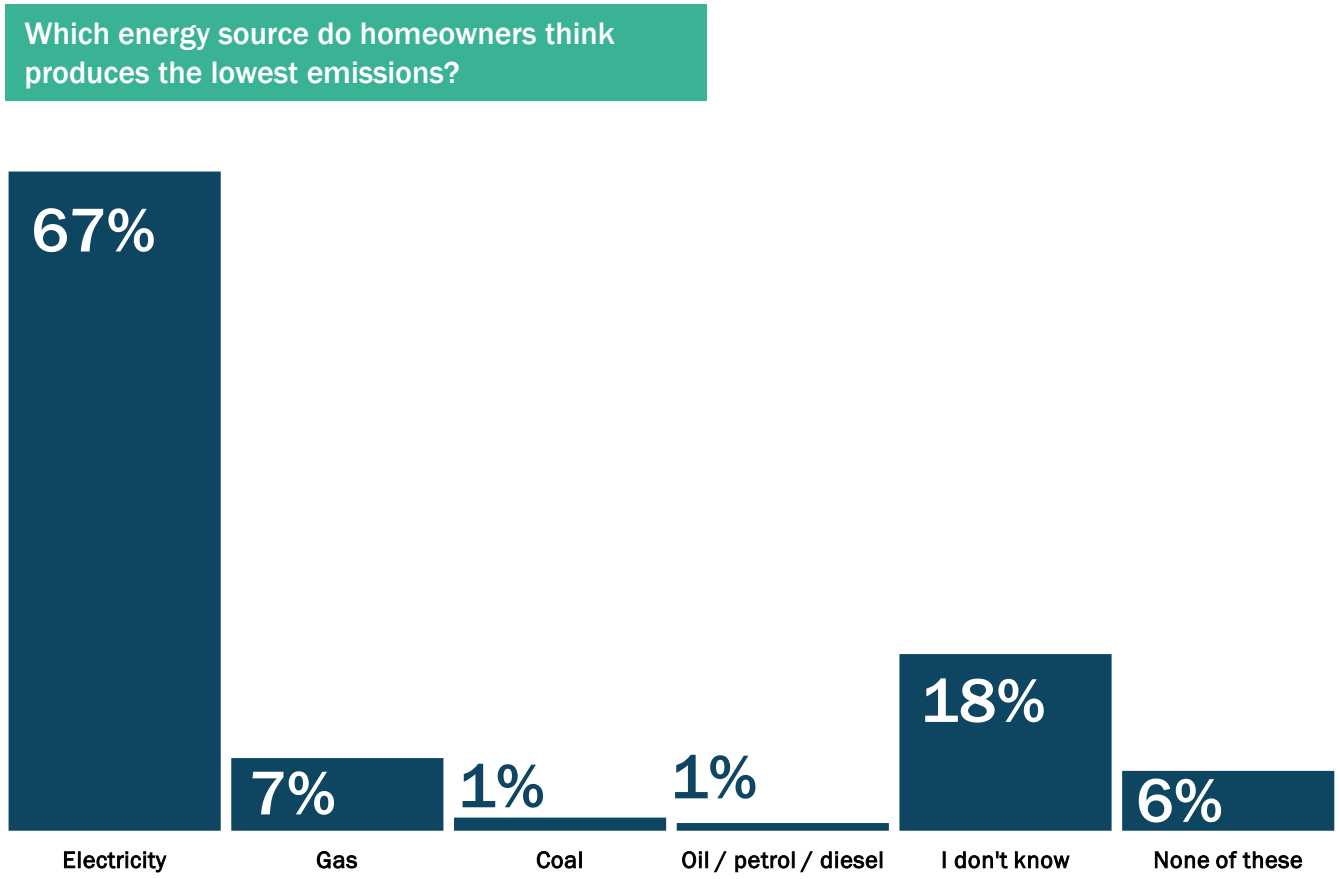
6 EVs and Smart Chargers

The Big Picture



It’s not a given that consumers associate electricity with cleaner energy

One-third of homeowners don’t identify electricity as the cleanest energy source out of electricity, gas, coal and oil.



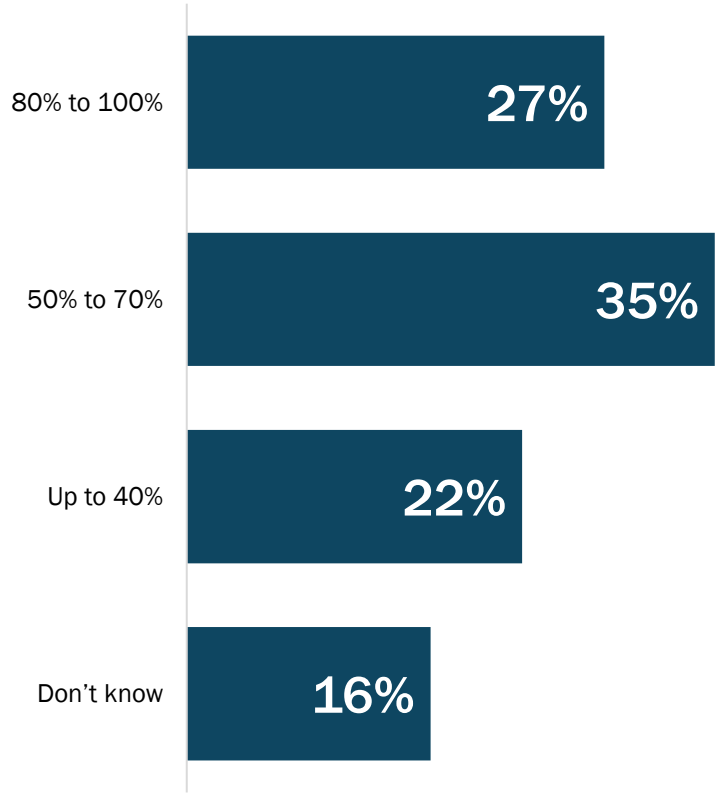
Q51: Which of the following types of energy do you think produces the lowest carbon emissions in New Zealand?
BASE: total sample n=1,442

And New Zealanders under-estimate the country's renewable electricity energy supply.

Between 80% and 85% of the country's electricity supply comes from renewable sources. Just over one-quarter of homeowners estimate the country's supply to be this high.

Those who correctly identify electricity as the cleaner energy are significantly more likely than average to estimate the renewable supply to be between 80-100% (32%).

How much of New Zealand's annual electricity generation do you estimate is renewable?



What do people understand by the term renewable energy?

Understanding of renewable energy is mixed. Most mention the idea that this sort of energy supply won't run out, but for some, knowledge is quite limited.

"Energy that is produced naturally time and time again, not a fossil fuel where it's used once and gone forever."

"When the energy has been used it can be renewed, e.g. after burning bamboo, it will grow again."

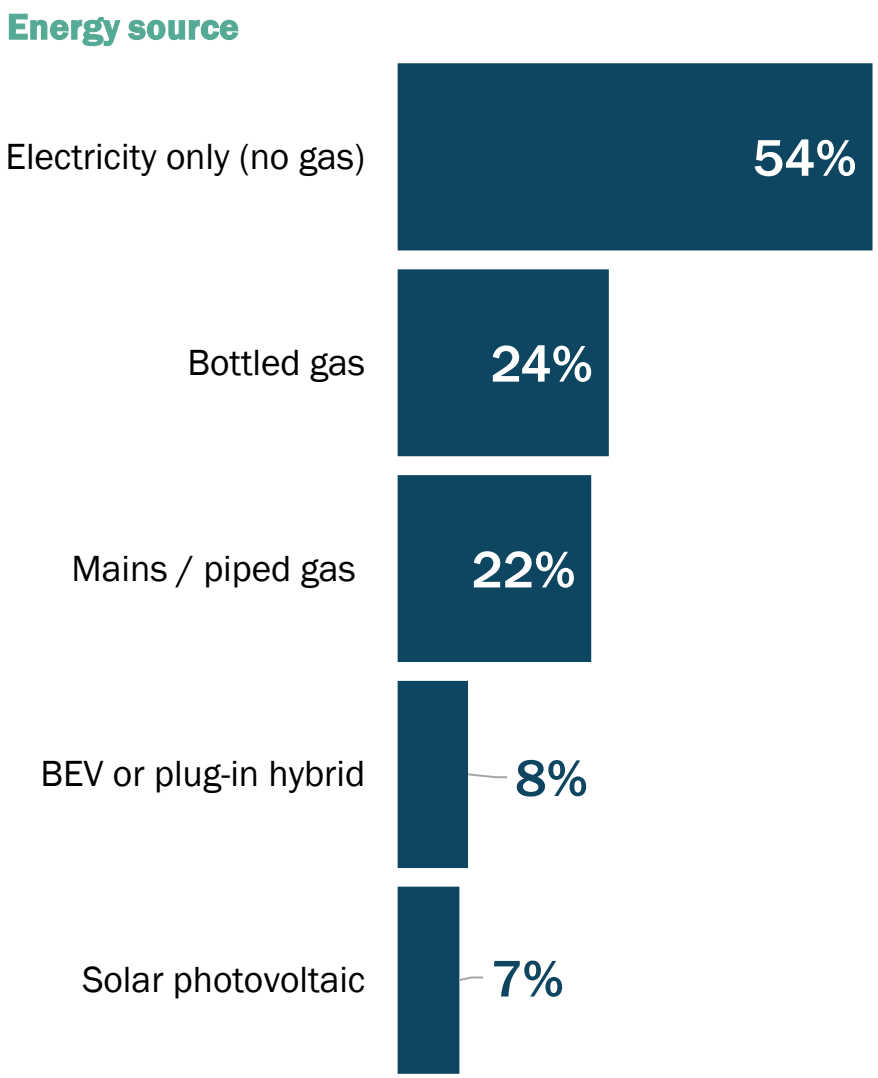
"'I know the term but I am not sure how it works."

Q50: What do you understand by the term "renewable energy"?

Q52: Some electricity generation is classed as "renewable", which includes things like hydro, geothermal, wind and solar. How much of New Zealand's average annual electricity generation would you estimate is renewable?

BASE: total sample n= 1,442

New Zealand owner occupied homes have a mix of energy sources



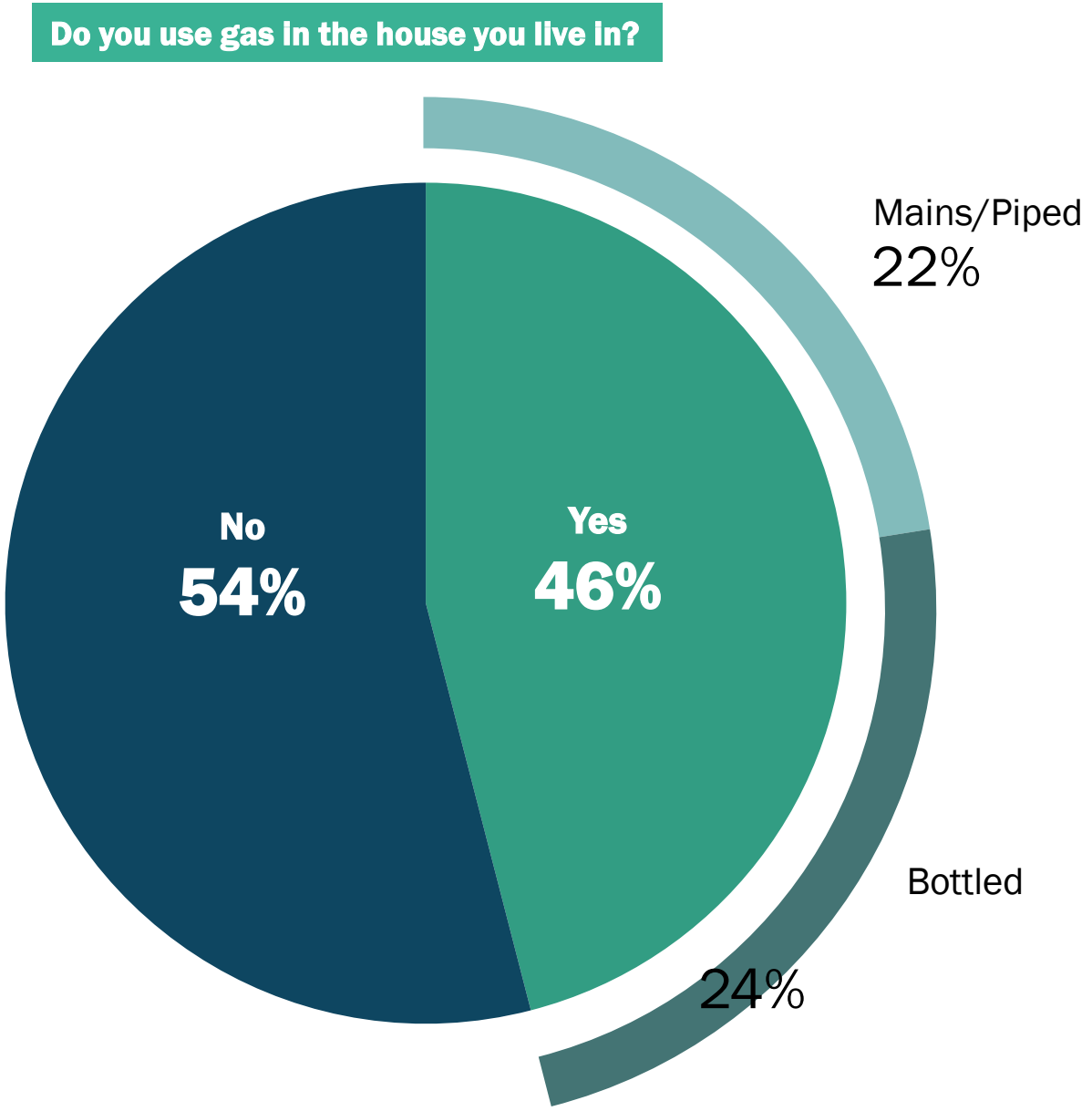
Q2: Do you use gas in the house you live in?
Q3: What sort of electricity generation and storage do you have at your house?
Q57: How many of these types of vehicles do you have in your household?
BASE: total sample, n=1,442

Nearly half of households use gas

Just under half of households use gas, with near equal split between mains and bottled.

Gas is **more** common than average among:

- Those living in standalone homes and homes built after 2000
- Living on the North Island
- Higher earners, identifying as in a ‘very comfortable’ position
- Those with higher energy bills.



Q2: Do you use gas in the house you live in?
BASE: total sample, n=1,442

Although most are aware that electricity costs vary at different times of the day, only 3 in 10 take advantage of this.

Total aware:

91%

30%
know they're on an off-peak energy plan

61%
are aware of off-peak energy plans, but not on one

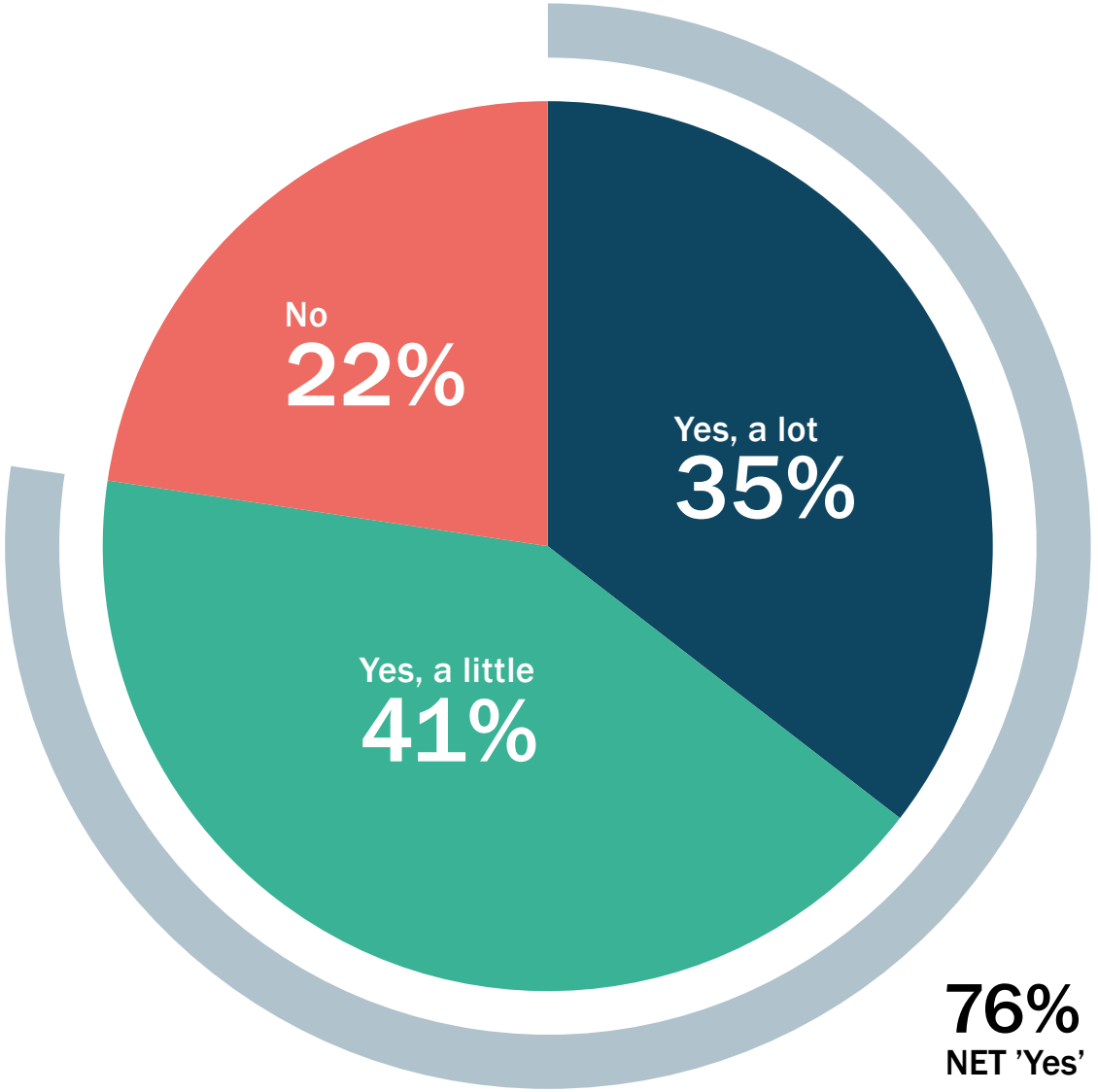
9%
aren't aware of off-peak energy plans

Q53: Are you currently on an electricity plan which has different prices at different times of day?
BASE: total sample n= 1,442

Q56: Before this survey, did you know it could be cheaper to use power at different 'off peak' times of the day?
BASE: only those who don't have off-peak plan n=1,150, rebased to total sample n= 1,442

Do people on relevant electricity plans change their power usage to take advantage of off-peak power?

Off-peak energy plans are a gateway to more strategic energy use by consumers: nearly 8 in 10 people on these types of tariffs change their power usage to reap the benefits of reduced cost – most often choosing to do laundry (wash or dry) or use the dishwasher at off-peak times.



76%
NET 'Yes'

Q54: Do you and your household change your power usage to take advantage of off-peak power?
BASE: aware that they're on a plan with an off-peak tariff n=446

Younger and higher earning homeowners are more likely to be on off-peak plans

Those based in Canterbury and/or identifying as Pasifika are also significantly more likely than average to be on this type of plan.

Has an off-peak energy plan, by key demographics

Total market	Upper NI	Auckland	Lower NI	Wellington	Canterbury	Other SI
30%	33%	26% ▼	26%	31%	45% ▲	20% ▼

18–34-year-olds	35 - 54	55+	NZ European or Pākehā	New Zealand Māori	NET Pasifika	NET Asian
45% ▲	31%	25% ▼	29%	32%	43% ▲	27%

Annual household income up to $50,000	$50,001-$100,000	$100,001-$150,000	$150,001 or more
25%	30%	33%	36% ▲

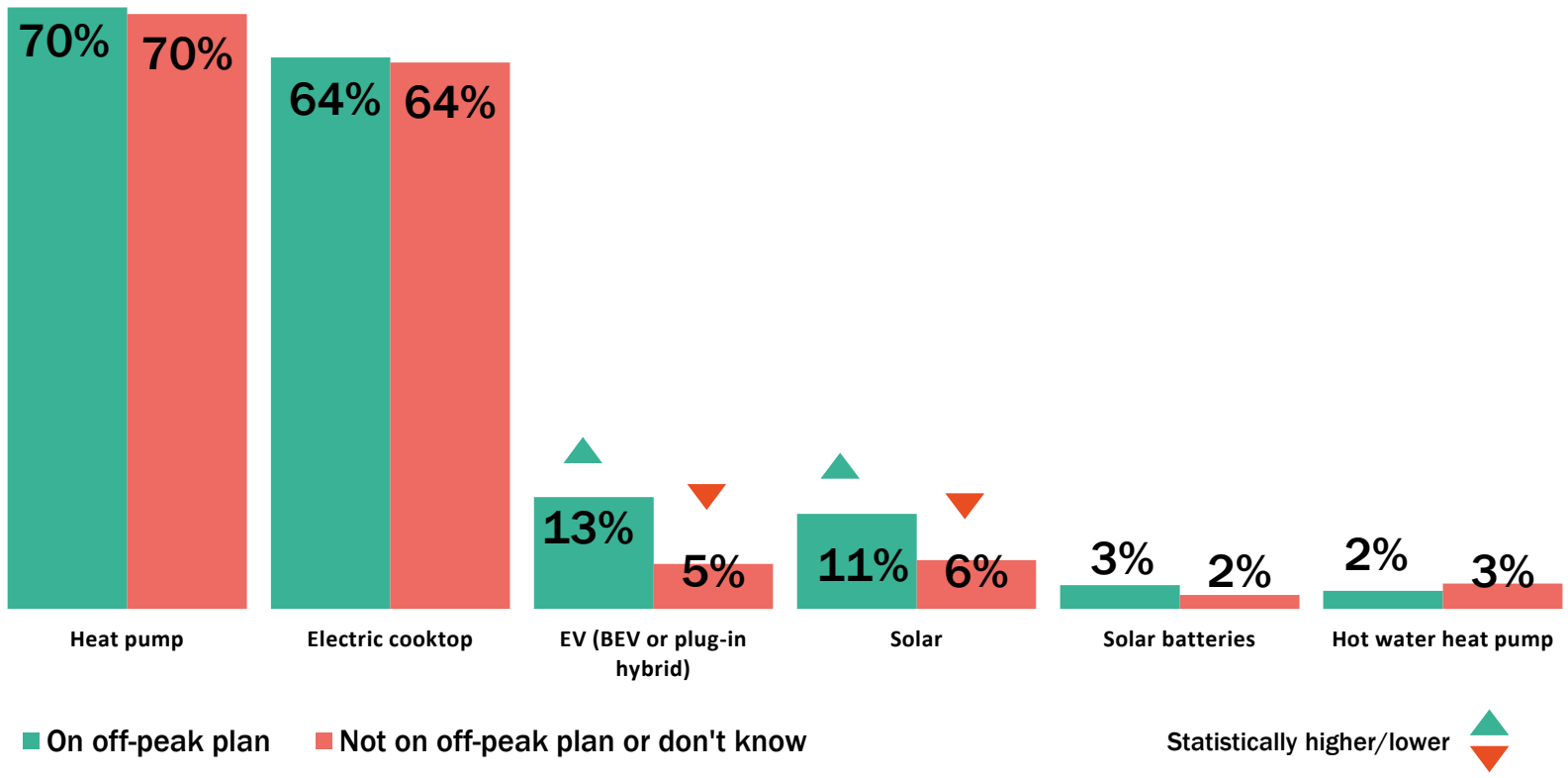
Q53: Are you currently on an electricity plan which has different prices at different times of day?
BASE: total sample n=1,442

18-34 n=258, 35-54 n=479, 55+ n=705, Pākehā n=1,026, Māori n=234, Pasifika n=68, Asian n=200, upper NI n=176, Auckland n=495, lower NI n=176, Wellington n=183, Canterbury n=189, Other SI n=152, $50k or less income n=263 $50-100k n=389, $100 - $150k n=340, $150k+ n=298

Statistically higher/lower than total market ▲ ▼

Those with off-peak plans are more likely to have EVs and solar than those without this type of plan

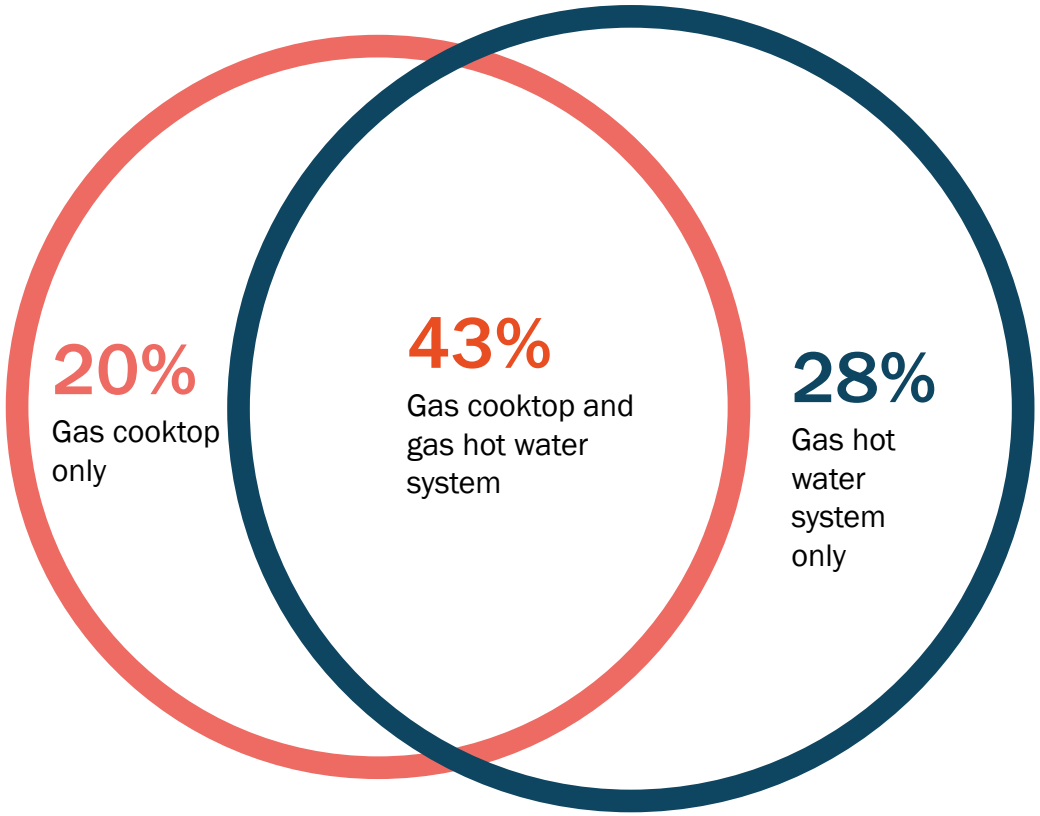
Uptake of energy efficient options, by type of electricity plan



Q53: Are you currently on an electricity plan which has different prices at different times of day?
BASE: on off-peak tariff n=446, not on off-peak tariff or don't know n=996

Most often, those with gas connections have both gas cooktops and gas-powered hot water systems

Gas appliance uptake and cross-over among households with a gas connection (bottled or piped)



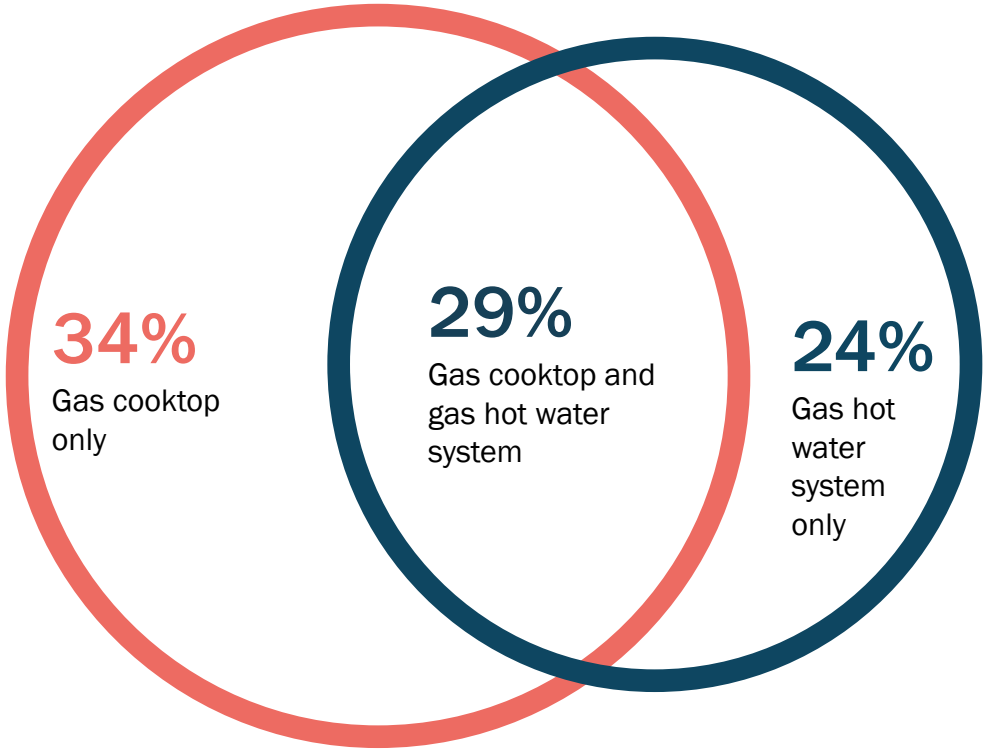
5%
Gas heating or gas oven (not gas hot water or cooktop)

4%
A remaining 4% of those claiming a gas connection did not identify having any gas-run appliances / selected don't know at the appliance level – most of this group identified as having a bottled gas supply.

Q5. Which of the following systems do you have for heating water for your household?, **Q7X**- How many of these do you have in your household for heating? **Q9X**- How many of these do you have in your household for cooking?
BASE: have a gas connection (bottled or mains), n=682

Homes with a bottled gas supply are more likely to use gas for cooktops than they are heating hot water, but around 3 in 10 use it for both

Gas appliance uptake and cross-over among households with a *bottled* gas connection



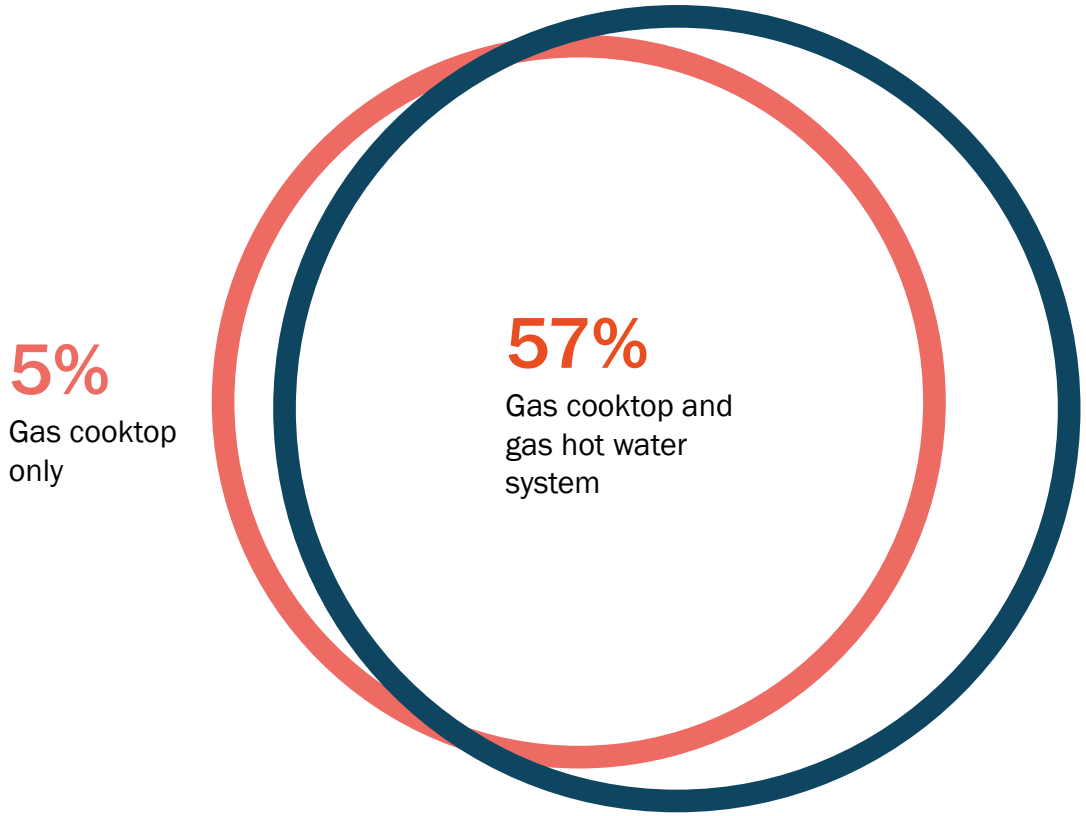
8%
Gas heating or gas oven (not gas hot water or cooktop)

5%
A remaining 5% of those claiming a bottled gas connection did not identify having any gas-run appliances / selected don't know at the appliance level.

Q5. Which of the following systems do you have for heating water for your household?, **Q7X**- How many of these do you have in your household for heating? **Q9X**- How many of these do you have in your household for cooking?
BASE: have a *bottled* gas connection (and no mains connection), n=338

Homes with a piped gas supply most often use gas for both cooking and heating water

Gas appliance uptake and cross-over among households with a *mains* gas connection



2%
Gas heating or gas oven (not gas hot water or cooktop)

2%
A remaining 2% of those claiming a mains gas connection did not identify having any gas-run appliances / selected don't know at the appliance level.

Q5. Which of the following systems do you have for heating water for your household?, **Q7X**- How many of these do you have in your household for heating? **Q9X**- How many of these do you have in your household for cooking?
BASE: have a *mains* gas connection (and no bottled connection), n=332

This study explored uptake of:

- Electric cooktops
- Heat pumps
- Hot water heat pumps
- Solar
- EVs and smart chargers

Of these, electric (non-gas) cooktops are currently the most widely adopted, and hot water heat pumps the least. There are certain demographic skews within those who have already adopted the energy efficient option, notably they tend to be higher earners, living in more modern homes and identifying as financially comfortable / very comfortable. They are also often more likely than average to identify as Asian, be younger and live in Auckland.

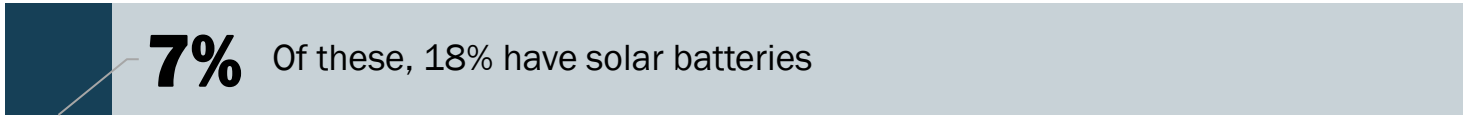
These items are a household purchase rather than an individual purchase and as such these figures should be interpreted as proportion of households owning the item when using the figures to extrapolate out to a population

Have an electric cooktop

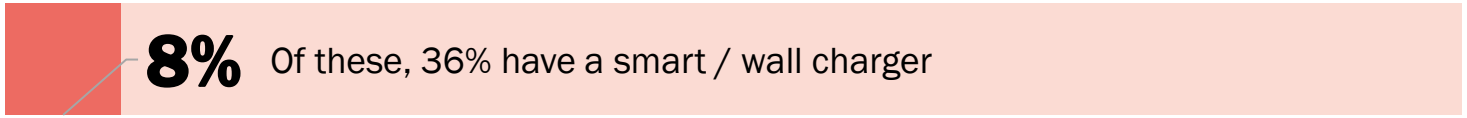
Use mainly heat pumps to heat

Have hot water heat pump

Have solar photovoltaic



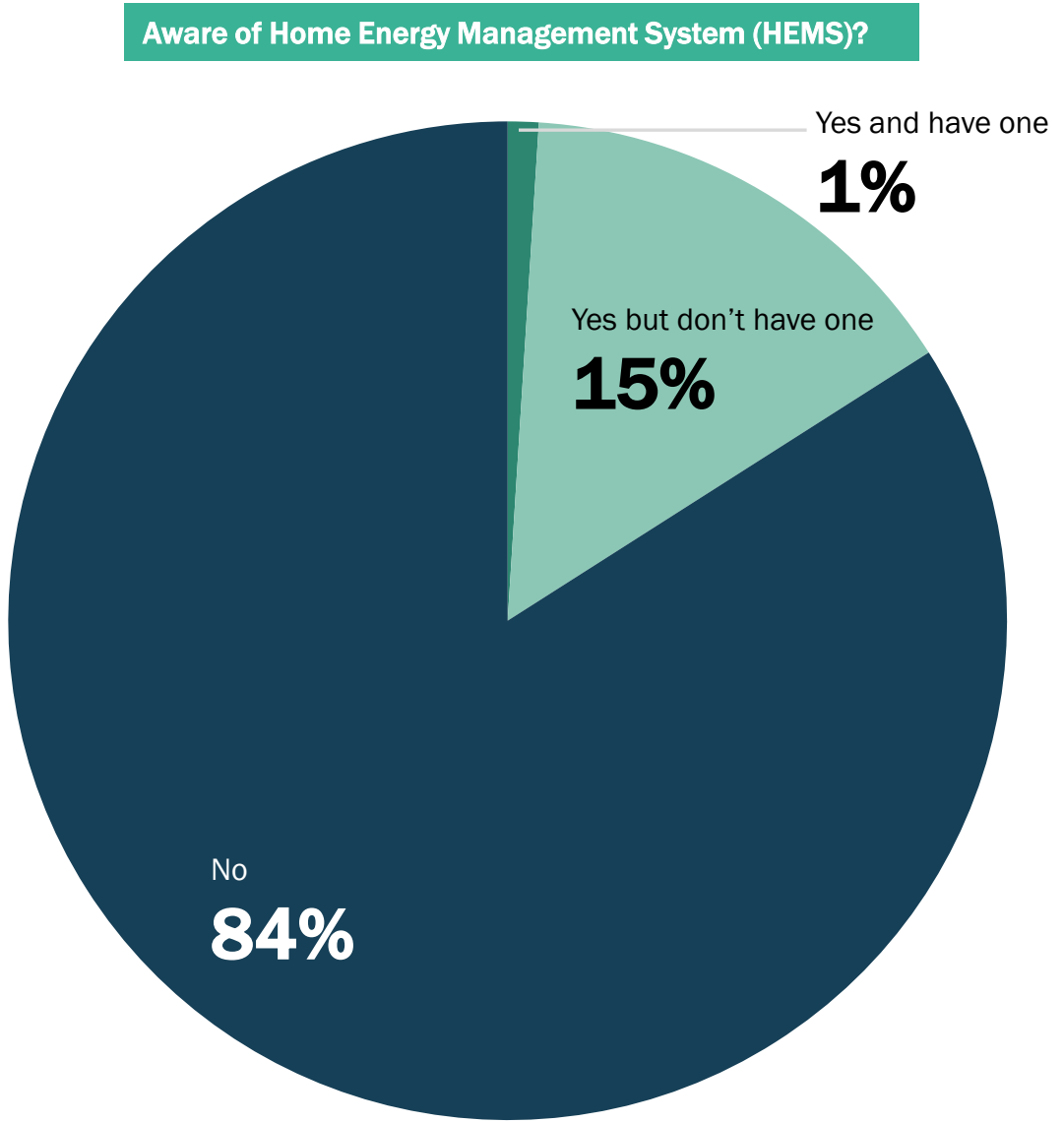
Have a BEV or plug-in hybrid



Q3: What sort of electricity generation and storage do you have at your house?
Q5: Which of the following systems do you have for heating water for your household? (In working order, that you've used in the past 12 months)
Q9: How many of these do you have in your household for cooking? (In working order, that you've used in the past 12 months)

Q57: How many of these types of vehicles do you have in your household
BASE: total sample n=1,442

Home Energy Management Systems are yet to be adopted - but 16% have heard of them.



Q13: Before today, did you know what a Home Energy Management System (HEMS) is?
BASE: total sample, n=1,442

While rate of adoption is wide-ranging, the market is largely unified in what would trigger a change in appliance and what influences them.

Top 3 reasons to change	Gas cooktop	Main heating system is not a heat pump	Hot water system that is not a hot water heat pump
1	When it breaks down 73%	When it breaks down 67%	When it breaks down 82%
2	When I can afford to replace it 22%	When I can afford to replace it 27%	When I can afford to replace it 22%
3	Part of a lifestyle or life stage change 24%	When the ongoing running cost is too high 22%	When the ongoing maintenance cost is too high 22%

Q17: What would make you buy a replacement for it (stove or cooktop)? BASE: n= 416 (have a gas cooktop)
Q26: What would make you buy a replacement for that heating system? BASE: n= 348 (don't currently use a heat pump)
Q34: What would make you buy a replacement for the hot water system? BASE: n=1,397 (don't currently have a heat pump hot water system)

New Zealand has an ageing stock of household appliances.

At least one-third of non-green energy systems / appliances are over 10 years old or more. And over half is at least 6 years old.

	Gas cooktop	Main heating system is not a heat pump	Hot water system that is not a heat pump
Less than two years	13%	8%	11%
Two to five years	25%	26%	20%
Six to ten years	28%	24%	18%
More than 10 years	30%	37%	42%
I really don't know	3%	4%	10%
Base	416	365	1,397

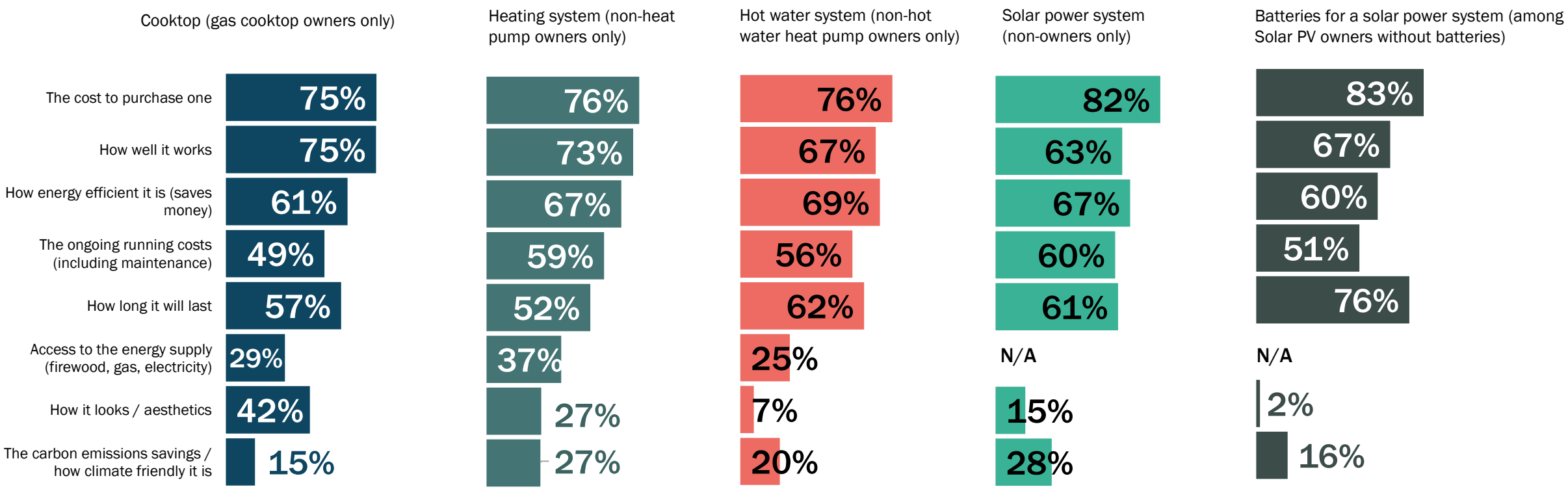
Q16: How old is that stove or cooktop? BASE: n=416 (currently have gas cooktop)

Q25: How old is [your main household heating system]? BASE: n=348 (don't currently use a heat pump)

Q33: How old is the hot water system? BASE: n= 1,397 (don't currently have a hot water heat pump system)

Homeowners view the upfront cost as the key consideration, over and above the ongoing running costs, but the latter still influences a majority

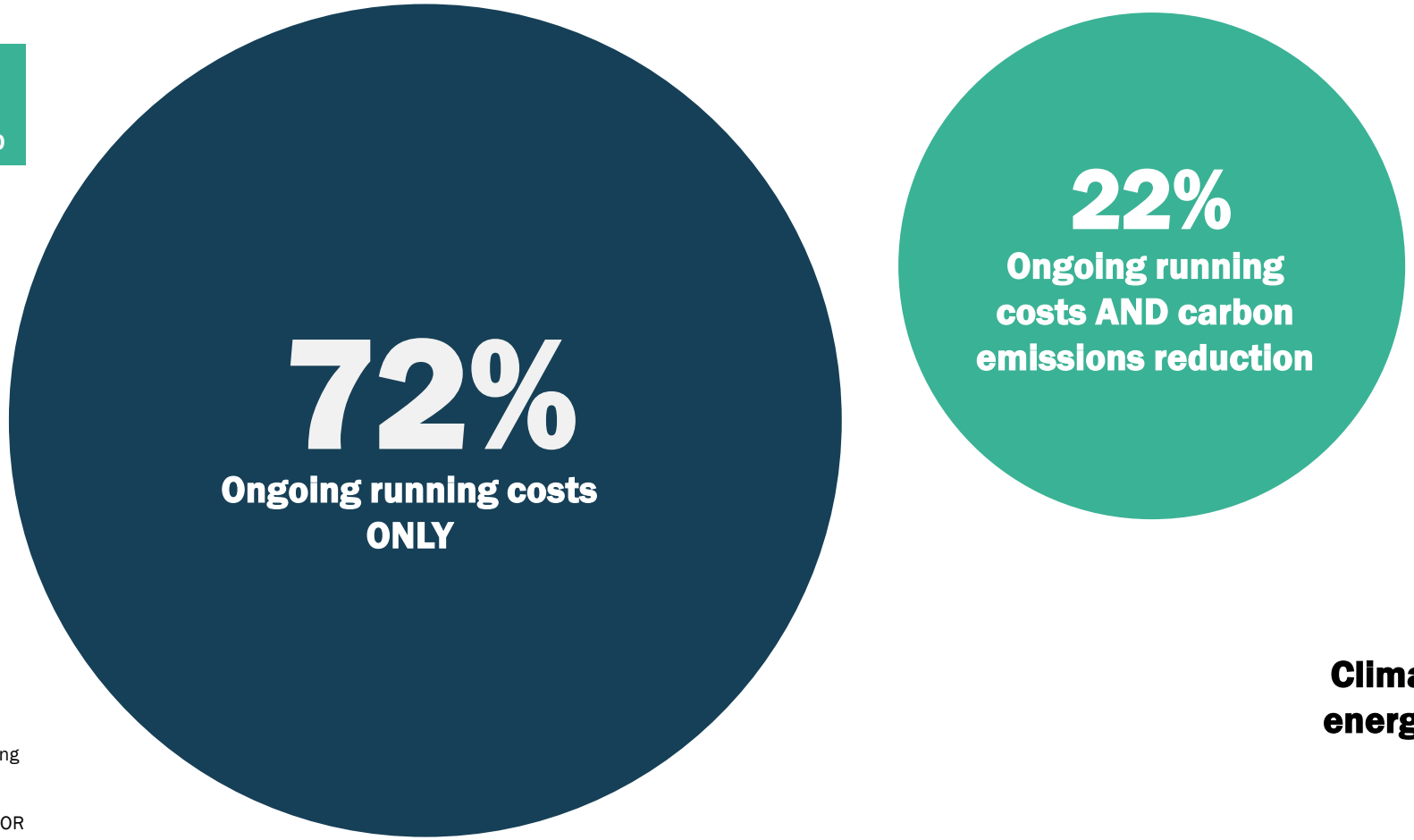
Considerations when buying/replacing (among non-adopters of newest / most efficient technology)



Q18, Q27, Q35, Q43, Q48: What are the things you would consider when replacing [APPLIANCE / SYSTEM]?
BASE: n=416 (have gas cooktop), **BASE: n=348** (don't currently use a heat pump), **BASE: n=1,397** (don't currently have a heat pump hot water system), **BASE: n=1,335** (don't currently have solar power system), **BASE: n= 86** (don't currently have batteries but own a solar power system).

The on-going costs are a significant part of purchase consideration, presenting an opportunity to lead with energy efficiency messaging

How cost-focused and climate-focused energy efficiencies intersect when considering replacing an oven / cooktop



Q18: What are the things you would consider when replacing it with a new oven / cooktop?
BASE: n= 216: have gas cooktop AND when considering replacement mentioned: The ongoing running costs AND / OR The carbon emissions savings / how climate friendly it is

Perceived advantages of greener appliances center on functionality and cost efficiencies

	Induction stove / cooktop	Heat pump	Hot water heat pump system	Solar power system	Batteries for a solar power system	Smart charger for an EV (among EV owners)
Cool as well as heat		68%				
Constant temperature		49%				
Safer	45%					
Easier to clean	42%					
Saves money			41%	89%	79%	
Less reliant on grid and power prices				69%	69%	
Earns money				62%	48%	
More energy efficient / economical	38%	37%	49%			39%
Works faster	37%	31%	21%			45%
More environmentally-friendly choice	19%	22%	37%	67%	40%	26%
It looks better	16%					
Works better	13%					
The lower lifetime cost	11%	15%	25%			
Better for my car's battery / battery longevity						31%
It's better for health	9%					

Which, if any …
Q21: … do you think are advantages to having an induction cooktop? **BASE: n=705** (don't currently have and know a lot/ a bit about them)
Q30: … do you think are the advantages to having a heat pump? **BASE: n=313** (don't currently have and know a lot/ a bit about them)
Q38: … do you think are the advantages to having a hot water heat pump system? **BASE: n=388** (don't currently have and know a lot/ a bit about them)
Q42: … do you think are the advantages to having solar power? **BASE: n=805** (don't currently have and know a lot/ a bit about them)
Q47: … do you think are the advantages to having batteries for your solar system? **BASE: n=671** (don't currently have and know a lot/ a bit about them)
Q63: … do you think are advantages to having a smart charger? **BASE: n=117** (own hybrid/ plug in hybrid/ battery EV and know about smart chargers)

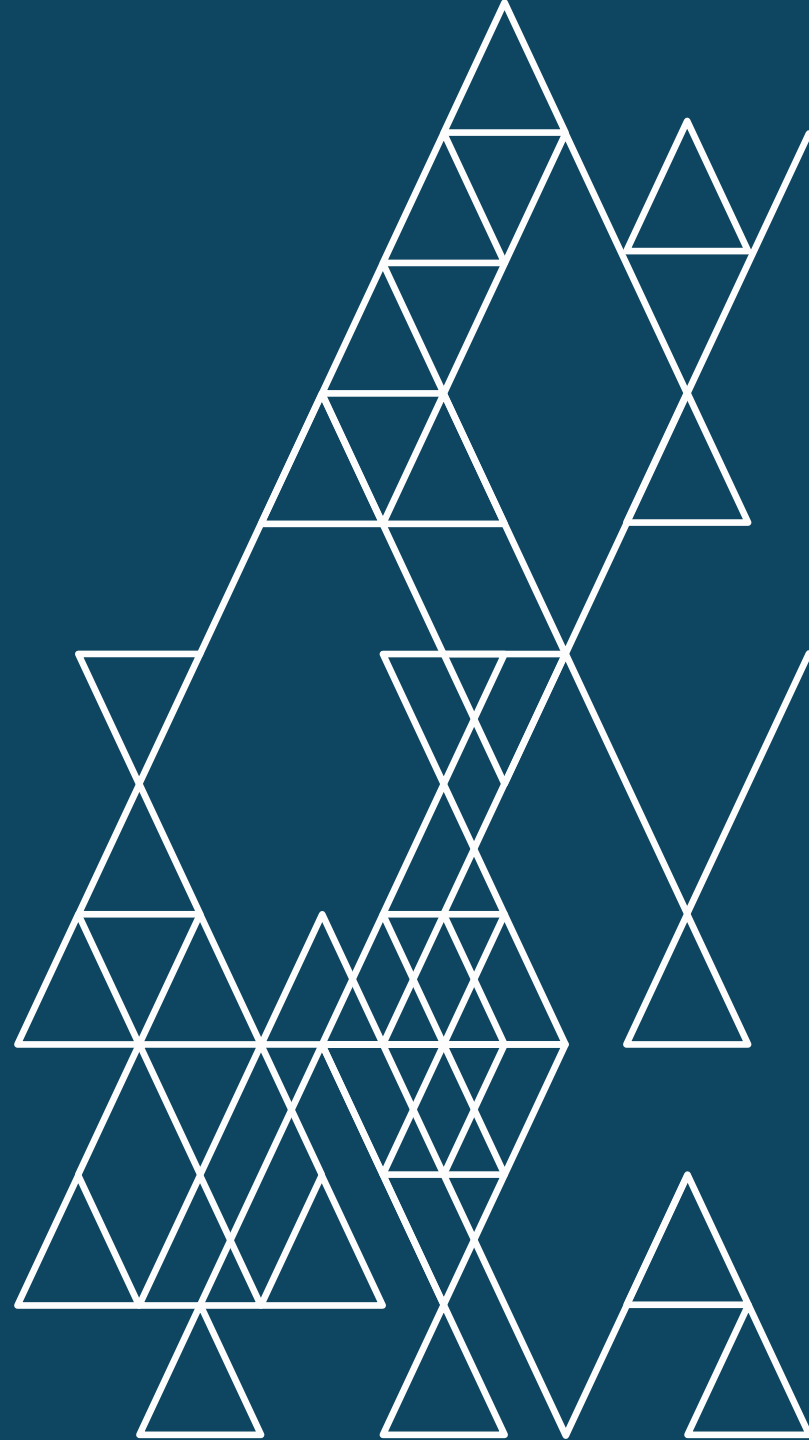
The expense, from initial purchase through to maintenance and running costs, dominates perceived barriers to adoption

	Induction stove / cooktop	Heat pump	Hot water heat pump system	Solar power system	Batteries for a solar power system	Smart charger for an EV (among EV owners)
The compatibility of this appliance (my current pots and pans won't work on induction stoves / my current car won't work with a smart charger)	52%					13%
The cost of the appliance	50%	58%	51%	79%	80%	58%
The cost to install	28%	58%	56%	78%	72%	59%
Doesn't work as quickly	13%	18%	25%			8%
Doesn't work as well (in some conditions)	11%	31%	27%	48%		13%
The ongoing cost of running it	10%	45%	21%			16%
Noise		39%	16%			
The ongoing cost of maintaining it	9%	36%	27%	34%	44%	16%
How it looks / aesthetics / space required	5%	34%		15%	32%	
Safety					40%	

Which, if any ...
Q21: ... do you think are advantages to having an induction cooktop? **BASE: n=705** (don't currently have and know a lot/ a bit about them)
Q30: ... do you think are the advantages to having a heat pump? **BASE: n=313** (don't currently have and know a lot/ a bit about them)
Q38: ... do you think are the advantages to having a hot water heat pump system? **BASE: n=388** (don't currently have and know a lot/ a bit about them)
Q42: ... do you think are the advantages to having solar power? **BASE: n=805** (don't currently have and know a lot/ a bit about them)
Q47: ... do you think are the advantages to having batteries for your solar system? **BASE: n=671** (don't currently have and know a lot/ a bit about them)
Q63: ... do you think are advantages to having a smart charger? **BASE: n=117** (own hybrid/ plug in hybrid/ battery EV and know about smart chargers)

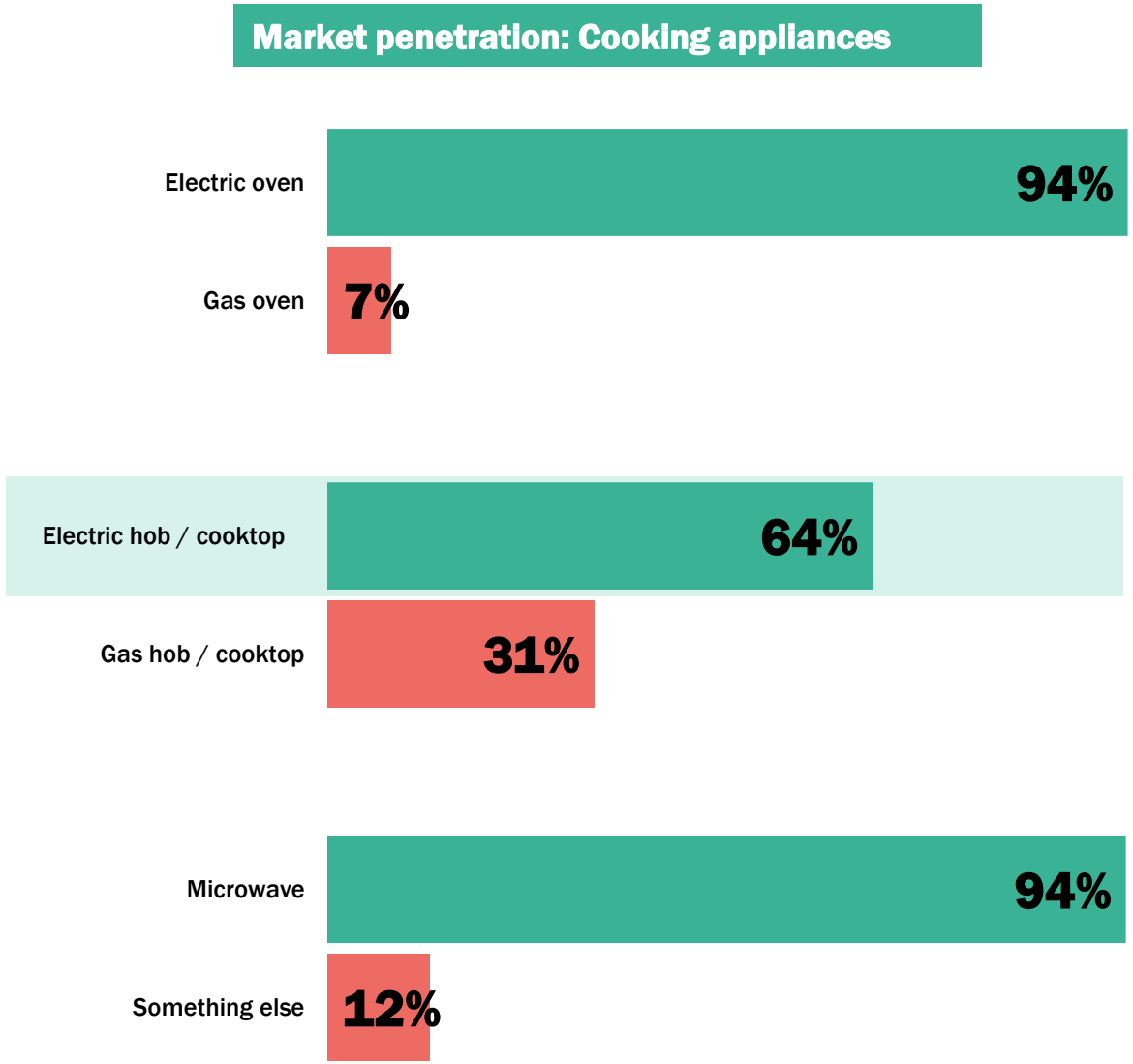
The remainder of this document presents a detailed consumer view at an appliance-level, across the following areas:

- Current appliance stock – type, age
- What might trigger its replacement
- How much people know about the greener electric options
- What the considerations would be when choosing a new one
- What the perceived advantages and disadvantages are for each
- Likelihood of choosing the greener electric option in future.



Cooking

Nearly two-thirds of New Zealanders already use an electric cooktop



Q9: How many of these do you have in your household for cooking? (In working order, that you've used in the past 12 months)
BASE: total sample, n=1,442

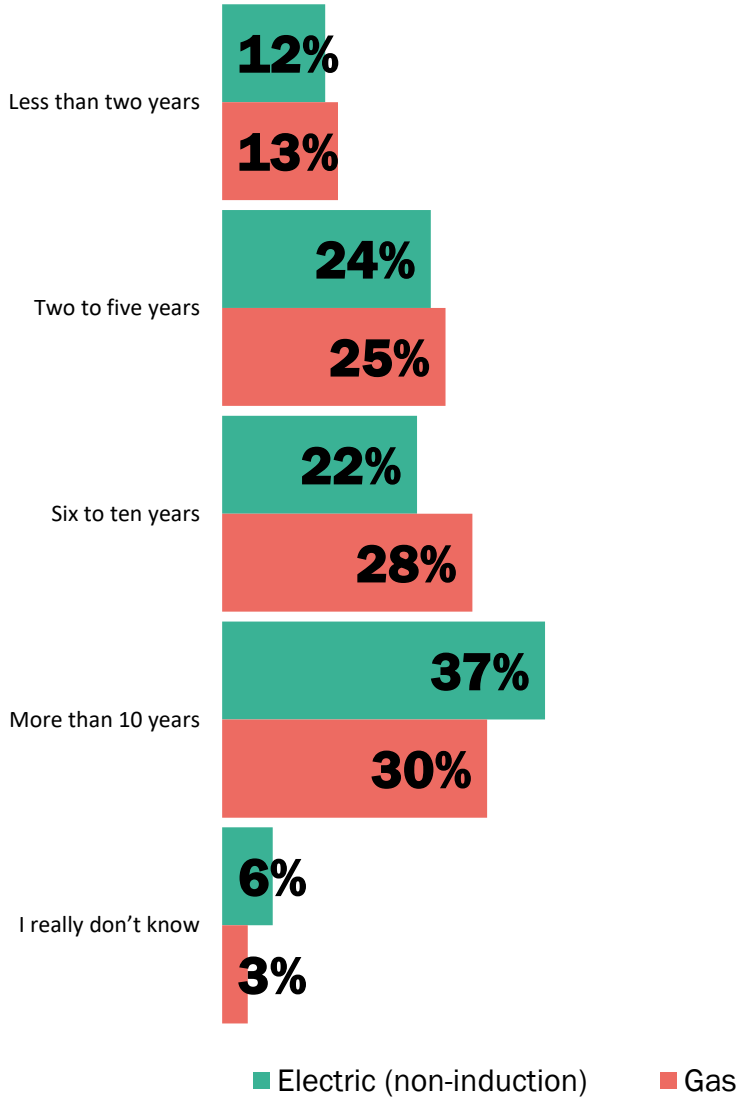
Ownership of electric cooktops by key demographics

Total market	Upper NI	Auckland	Lower NI	Wellington	Canterbury	Other SI
64%	64%	64%	64%	60%	66%	65%
18–34-year-olds	35 - 54	55+	NZ European or Pākehā	New Zealand Māori	NET Pasifika	NET Asian
68%	62%	64%	65%	57%▼	60%	59%
Annual household income up to $50,000	$50,001-$100,000	$100,001-$150,000	$150,001 or more			
65%	64%	66%	62%			

Q9: How many of these do you have in your household for cooking?
(In working order, that you've used in the past 12 months)
BASE: total sample n=1,442
18-34 n=258, 35-54 n=479, 55+ n=705, Pākehā n=1,026, Māori n=234, Pasifika n=68, Asian n=200, upper NI n=247, Auckland n=495, lower NI n=176, Wellington n=183, Canterbury n=189, Other SI n=152, $50k or less income n=263 $50-100k n=389, $100 - $150k n=340, $150k+ n=298

Statistically higher/lower than total market

The stock of gas cooktops is newer than electric cooktops



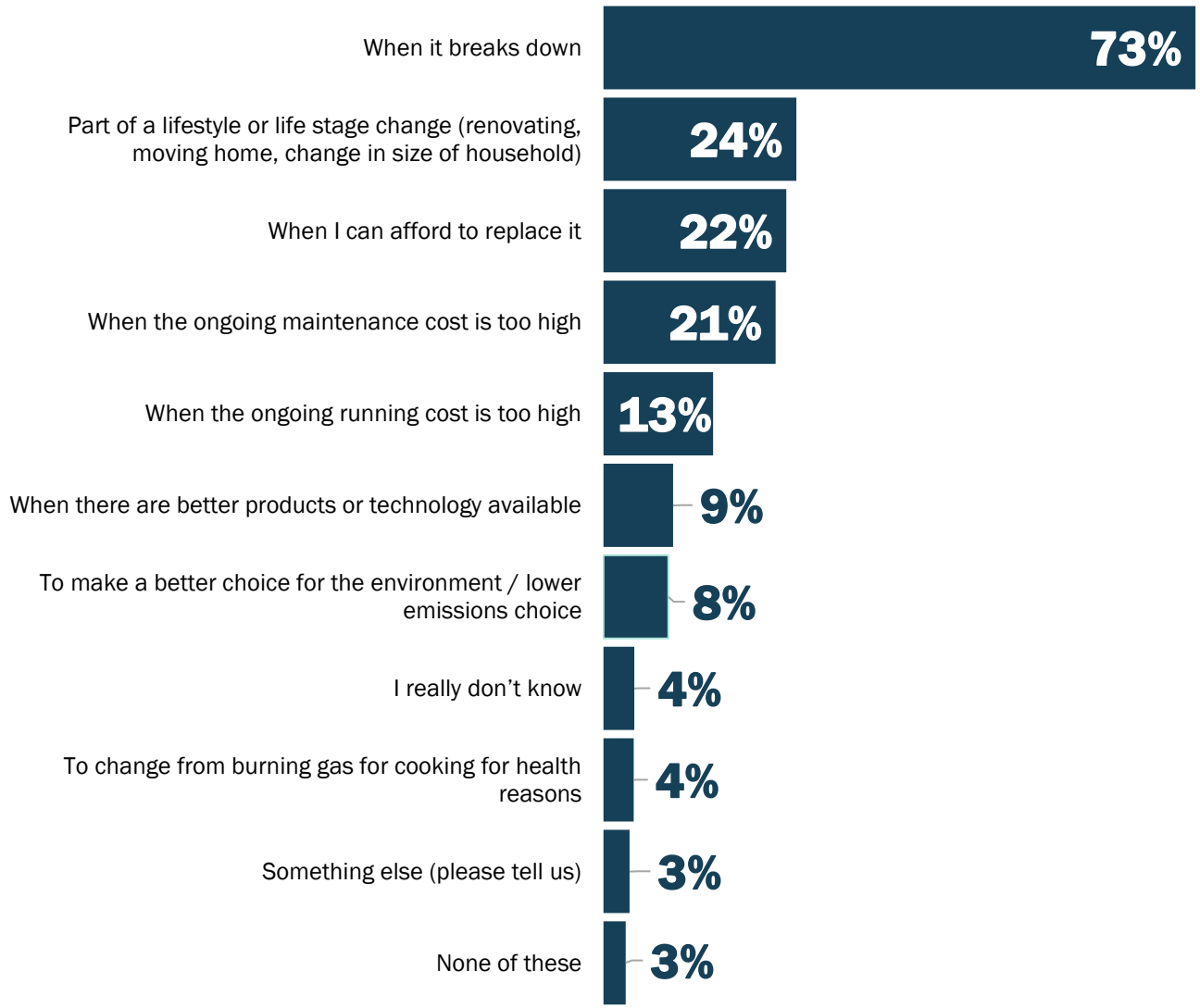
Q16: How old is that stove or cooktop?
BASE: those with a gas cooktop, n= 416, those with an electric cooktop (non-induction) n= 649

Most people would only replace a gas cooktop / stove once their existing one is defunct

Triggers to replace this type of appliance are similar to those for heating and hot water systems: by far the most common reason is simply needing to because their existing one no longer functions. Reasons then drop down to nearly 1 in 4 waiting until they can afford it or changing as part of a lifestyle / life-stage change.

Ongoing running costs and being influenced by better products / technology being available would prompt only a minority of around 1 in 10 or less.

Reasons to replace gas cooktops / stoves



Q17. What would make you buy a replacement for it?
BASE: those with a gas cooktop n= 416

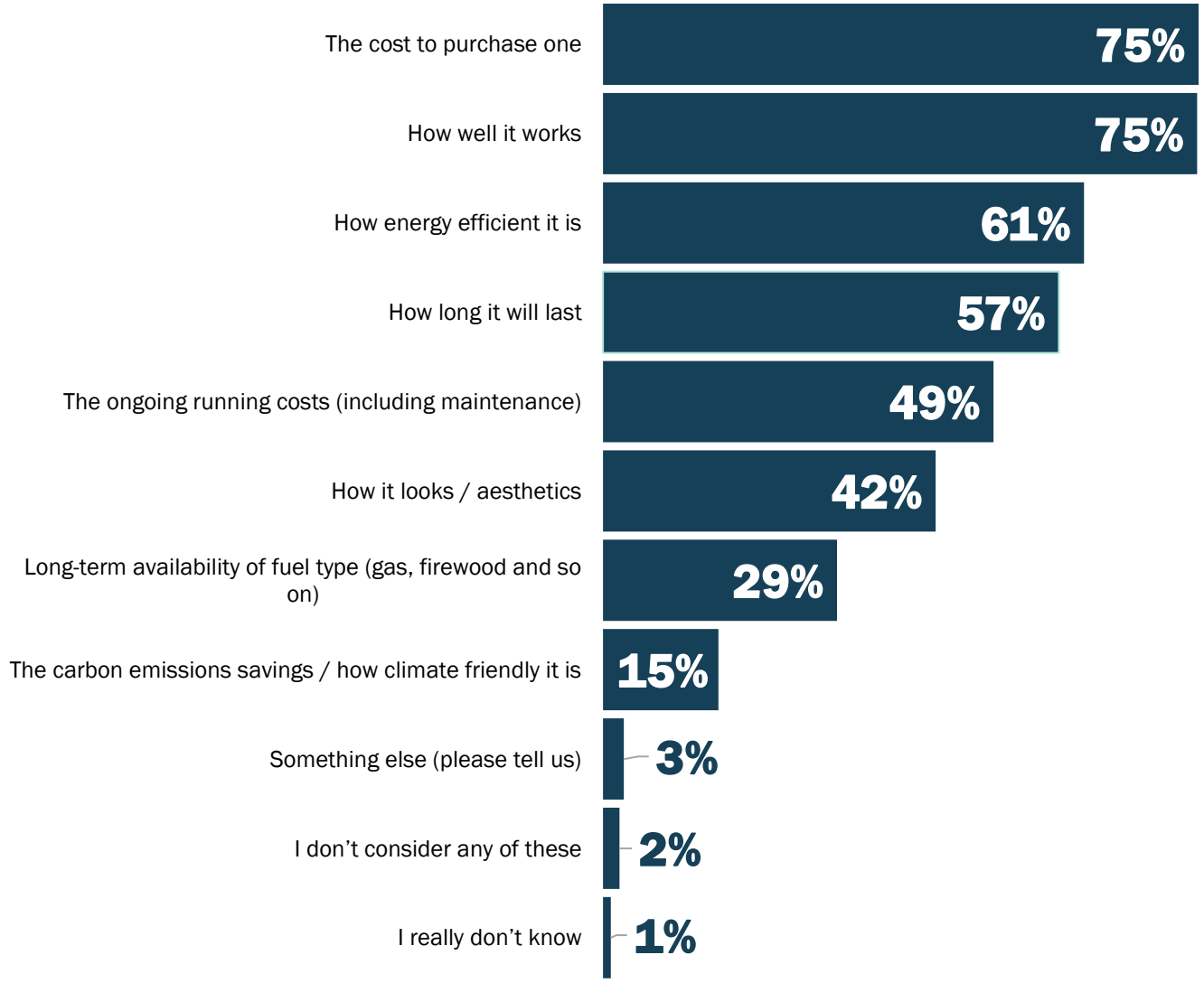
Energy efficiency is among the top considerations when choosing a new cooktop/cooker

When replacing a cooktop or cooker, energy efficiency would influence a majority of around 6 in 10.

Energy efficiency is a stronger consideration for higher earners, females and those living in more modern homes (built 2008 or after).

With the cost of purchase the number one consideration, it's clear that cost-saving benefits of energy efficiency will be a key influence, and an important message to amplify when nudging consumers in the direction of induction cooktops.

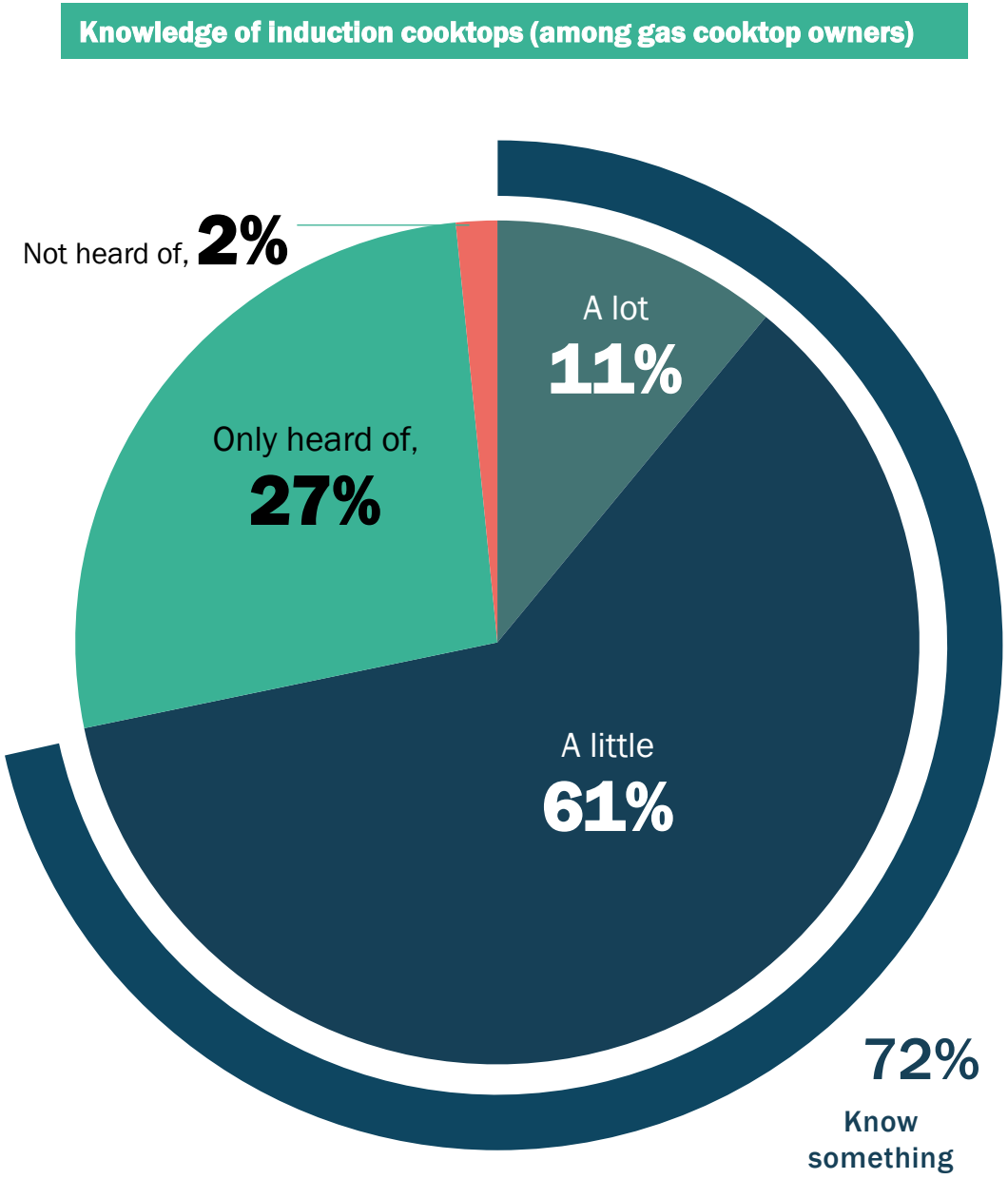
Considerations when replacing a new oven / cooktop (among gas cooktop owners)



Q18. What are the things you would consider when replacing it with a new oven / cooktop?
BASE: those with a gas cooktop n= 416

Most people have some knowledge of induction cooktops

With 72% of owners of gas cooktops knowing either a lot (11%) or a little (61%), induction cooktops have relatively high awareness.

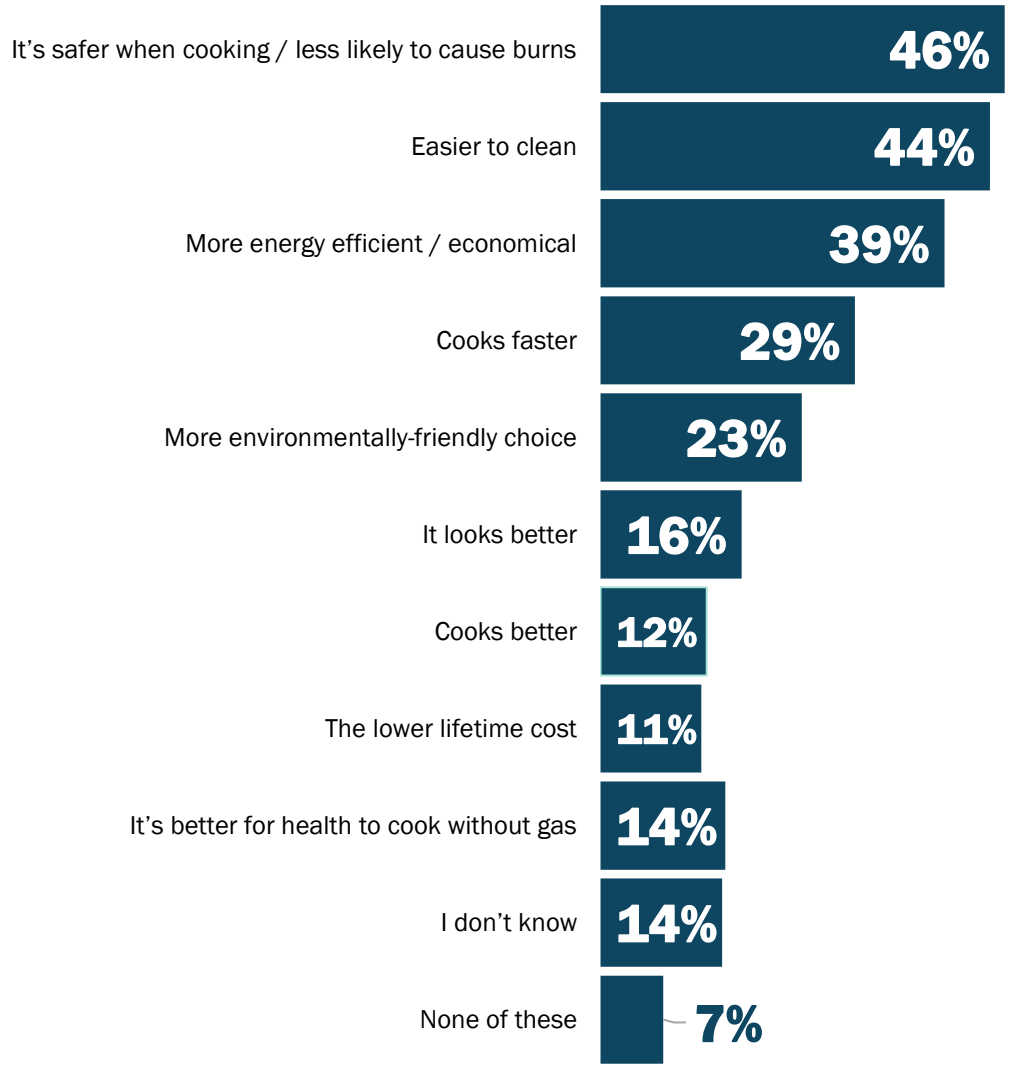


Q19. How much do you know about induction cooktops?
BASE: Those with gas cooktops n= 416

Among gas cooktop owners, being the safer option and easier to clean are the most common perceived benefits of induction cooktops.

Again, we see energy efficiency as a more prominent perceived benefit than being a more environmentally friendly option – which less than one-quarter of gas cooktop owners see as an advantage to induction.

Perceived advantages of induction cooktops (among gas cooktop owners aware of this type of appliance)



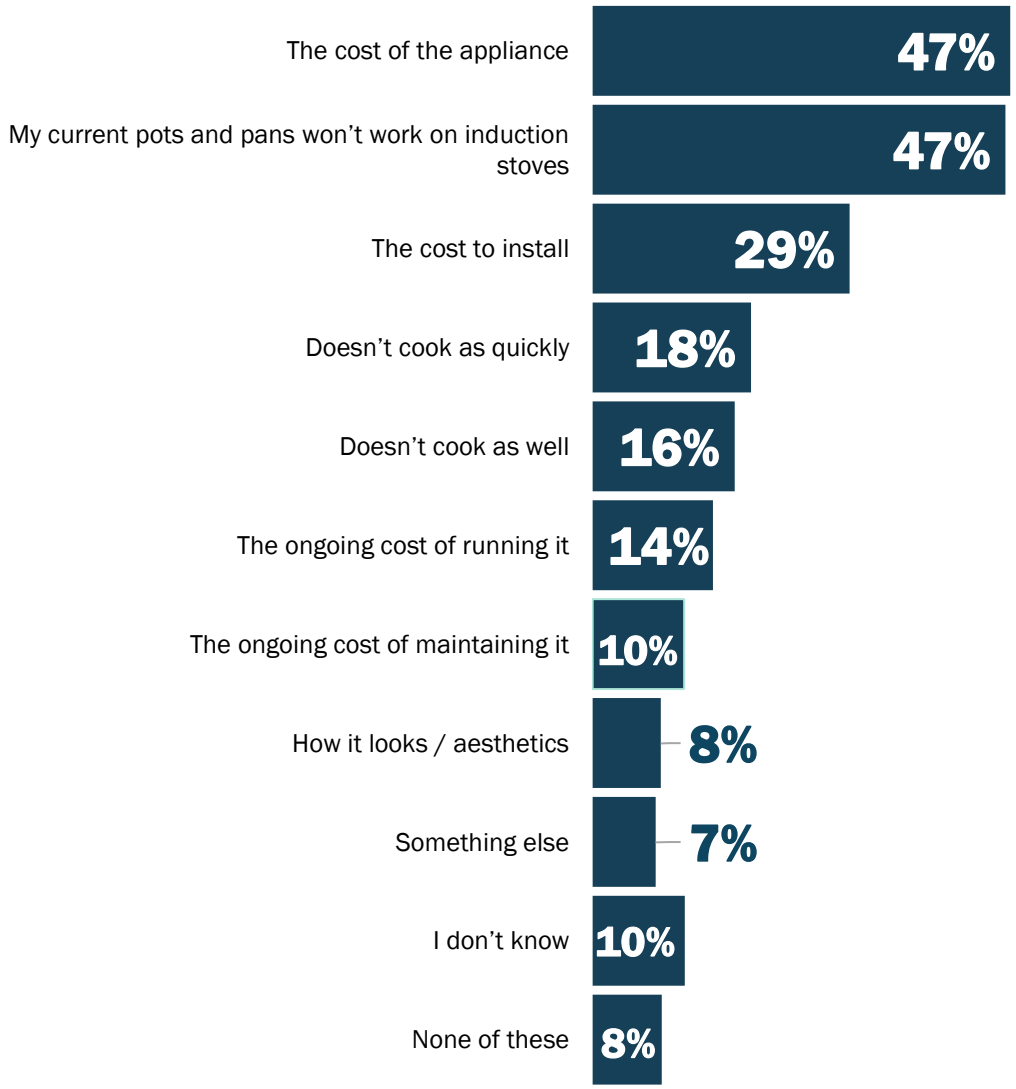
Q21: And which, if any, do you think are advantages to having an induction cooktop?
BASE: Those with gas cooktops, with some knowledge of induction cooktops n= 303

Compatibility of cookware and cost outlay are key perceptions to overcome

Nearly half of respondents perceive two key disadvantages for induction cooktops; the cost of the appliance and that their existing cookware would not work.

While not surprising that cost is a concern, outside of heatpumps (which have a similar cost concern, at 50%), this is less pronounced than for other appliances / systems. And running costs, installation and maintenance costs are all lower for induction cooktops than other appliances / systems tested within this study.

Perceived disadvantages of induction cooktops (among gas cooktop owners aware of this type of appliance)

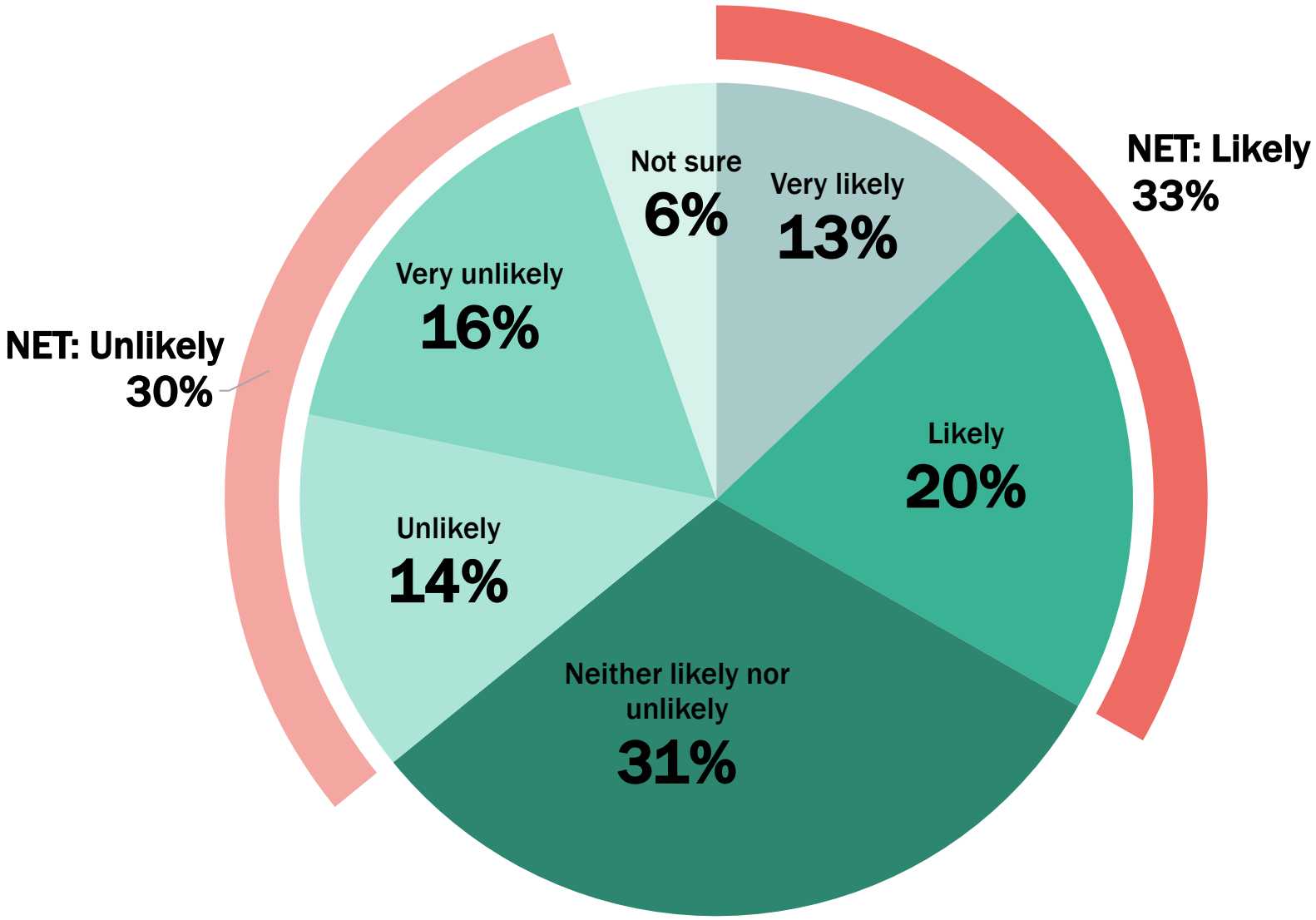


Q20: Which, if any, do you think are disadvantages to having an induction cooktop?
BASE: Those with gas cooktops, with some knowledge of induction cooktops n= 303

One-third of those yet to adopt induction are open to it

Those more likely to adopt an induction cooktop include:

- Younger People
- Those identifying as Asian
- In newer homes
- Higher income earners
- More likely to renovate soon
- Interested in new technology



Q22: When you next change your stove / cooktop, how likely are you to buy an induction stove / cooktop?
BASE: Those with a gas cooktop n= 416

Interest in induction cooktops by key demographics

Very / quite likely to buy an induction stove / cooktop when next changing stove / cooktop

Total market	Upper NI	Auckland	Lower NI	Wellington	Canterbury	Other SI
32%	31%	32%	34%	33%	25% ▼	35%
18–34-year-olds	35 - 54	55+	NZ European or Pākehā	New Zealand Māori	NET Pasifika	NET Asian
48% ▲	37%	24% ▼	31%	29%	40%	47% ▲
Annual household income up to $50,000	$50,001-$100,000	$100,001-$150,000	$150,001 or more			
27%	33%	34%	42% ▲			

Q22: When you next change your stove / cooktop, how likely are you to buy an induction stove / cooktop?
BASE: those without an induction cooktop, n=1065

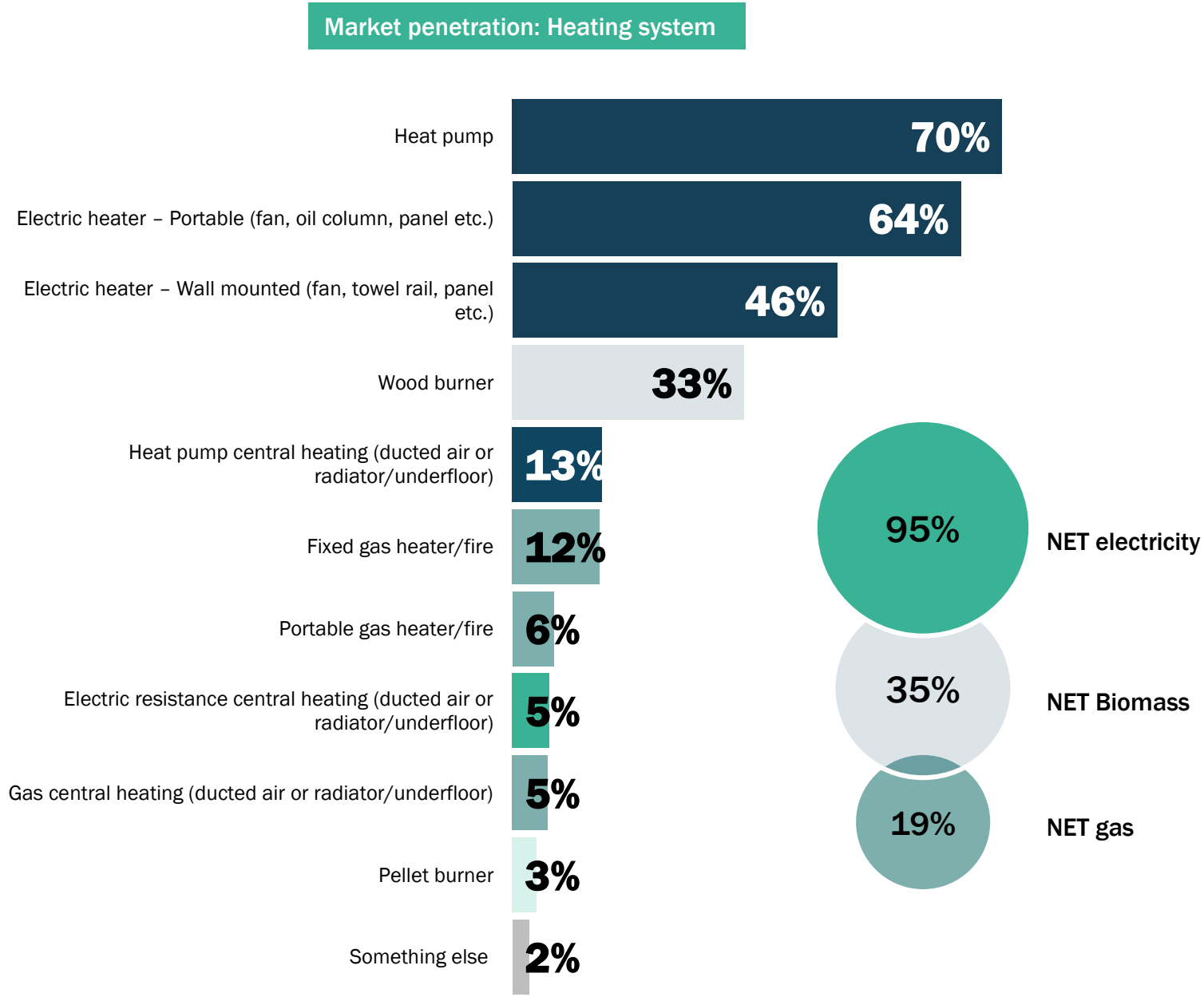
18-34 n=187, 35-54 n=351, 55+ n=527, Pākehā n=760, Māori n=181, Pasifika n=56, Asian n=145, upper NI n=193, Auckland n=331, lower NI n=`136, Wellington n=146, Canterbury n=142, Other SI n=117, $50k or less income n=214, $50-100k n=279, $100 - $150k n=252, $150k+ n=202

▲▼ Statistically higher/lower than total market

Heating

A majority have a heat pump at home

For 51%, heat pumps are the main source of heating.



Q7: How many of these do you have in your household for heating? (In working order, that you've used in the past 12 months) Please enter how many you have - NET ANY (1 TO 3+)
BASE: total sample, n=1,442

Ownership of heat pumps by key demographics

Total market	Upper NI	Auckland	Lower NI	Wellington	Canterbury	Other SI
70%	65% ▼	73% ▲	59% ▼	65%	80% ▲	72%
18–34-year-olds	35 - 54	55+	NZ European or Pākehā	New Zealand Māori	NET Pasifika	NET Asian
80% ▲	71%	66%	69%	67%	69%	80% ▲
Annual household income up to $50,000	$50,001-$100,000	$100,001-$150,000	$150,001 or more			
64% ▼	70%	73%	73%			

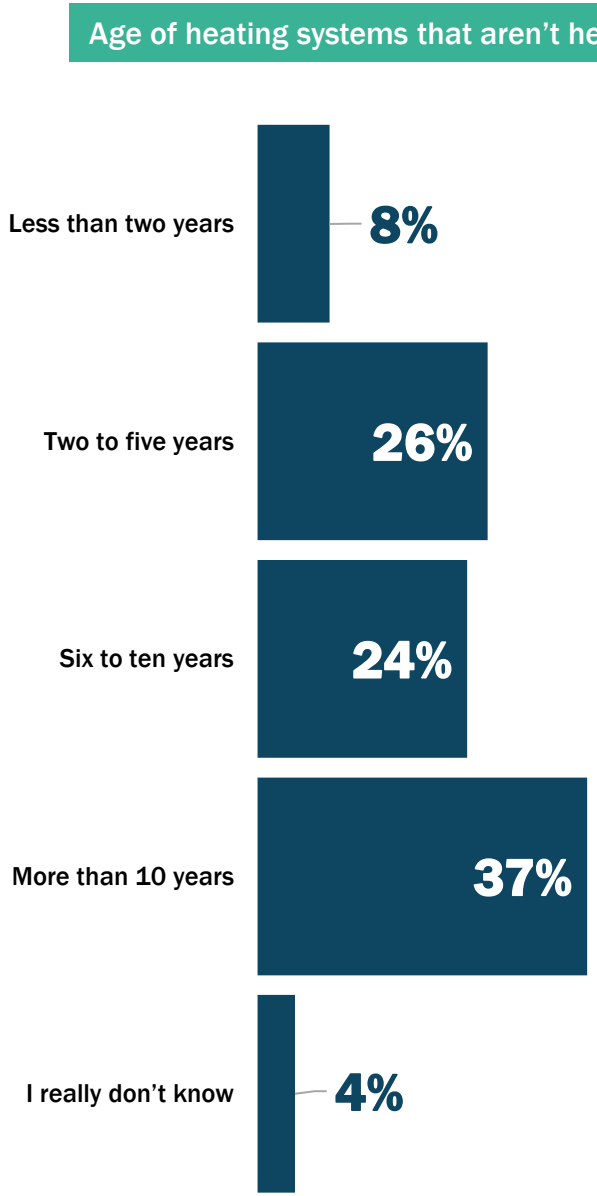
Q7: How many of these do you have in your household for heating? (In working order, that you've used in the past 12 months) Please enter how many you have - NET ANY (1 TO 3+)

BASE: total sample n=1,442

18-34 n=258, 35-54 n=479, 55+ n=705, Pākehā n=1,026, Māori n=234, Pasifika n=68, Asian n=200, upper NI n=176, Auckland n=495, lower NI n=176, Wellington n=183, Canterbury n=189, Other SI n=152, $50k or less income n=263 $50-100k n=389, $100 - $150k n=340, $150k+ n=298

Statistically higher/lower than total market ▲▼

Most heating systems that aren't heat pumps are at least 6 years old

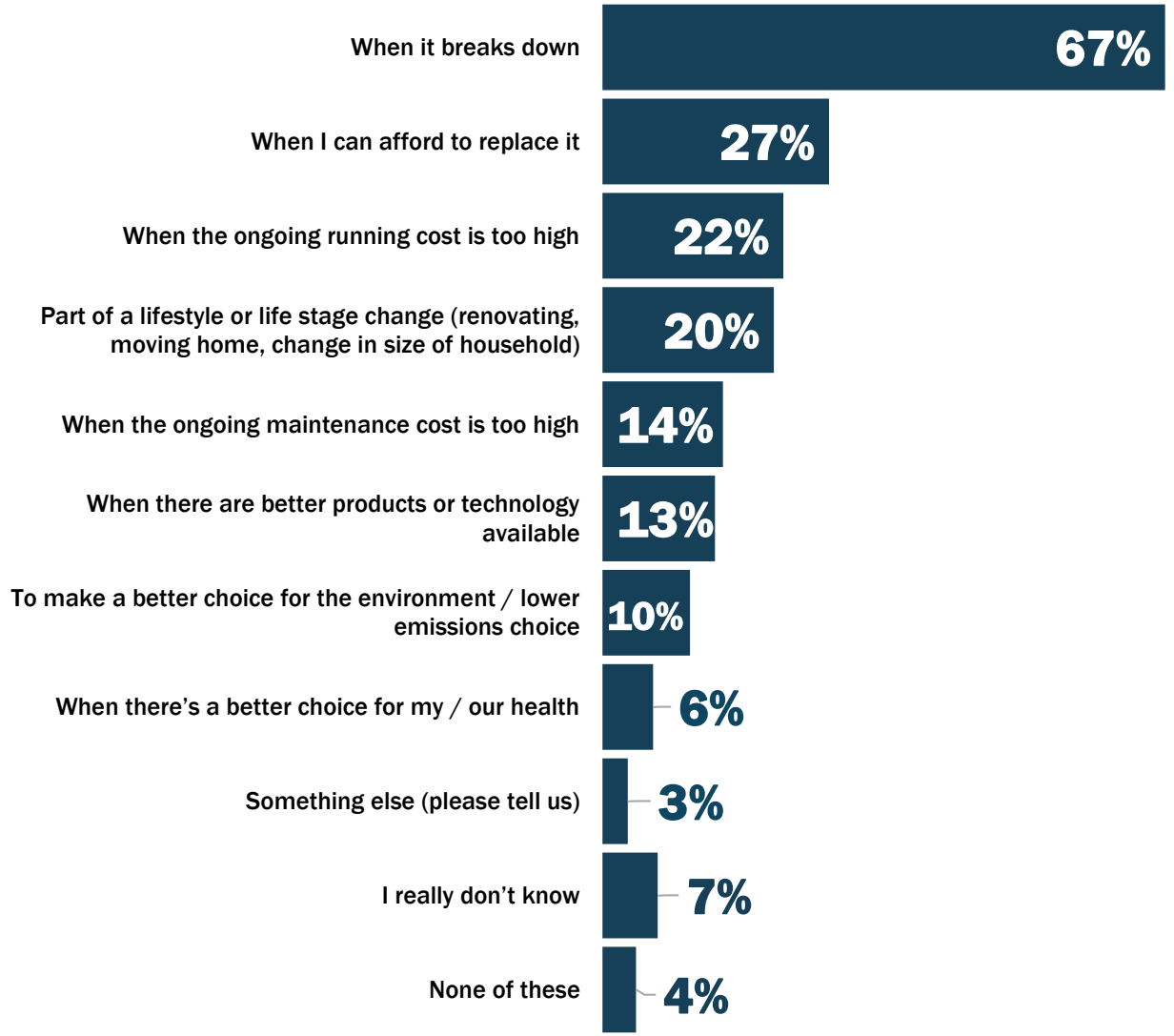


Q25: How old is it?
BASE: those without a heat pump / heat pump central heating, n=348

Over two-thirds would only replace a heating system if it breaks down

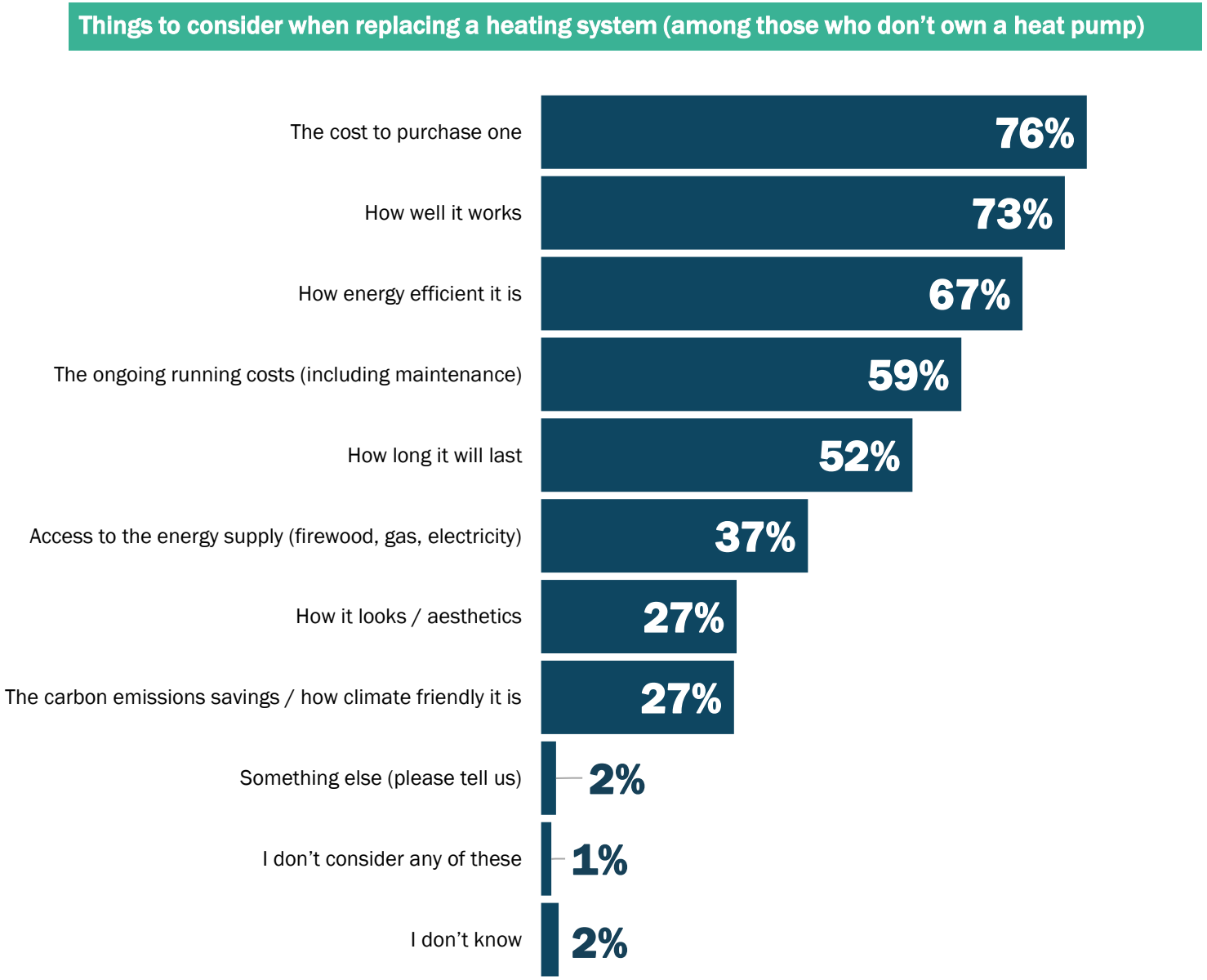
It's a similar picture here as with other appliances / systems – by far the greatest trigger is simply a need to replace when the existing heater / heater system fails.

Reasons to replace heating systems that aren't heat pumps



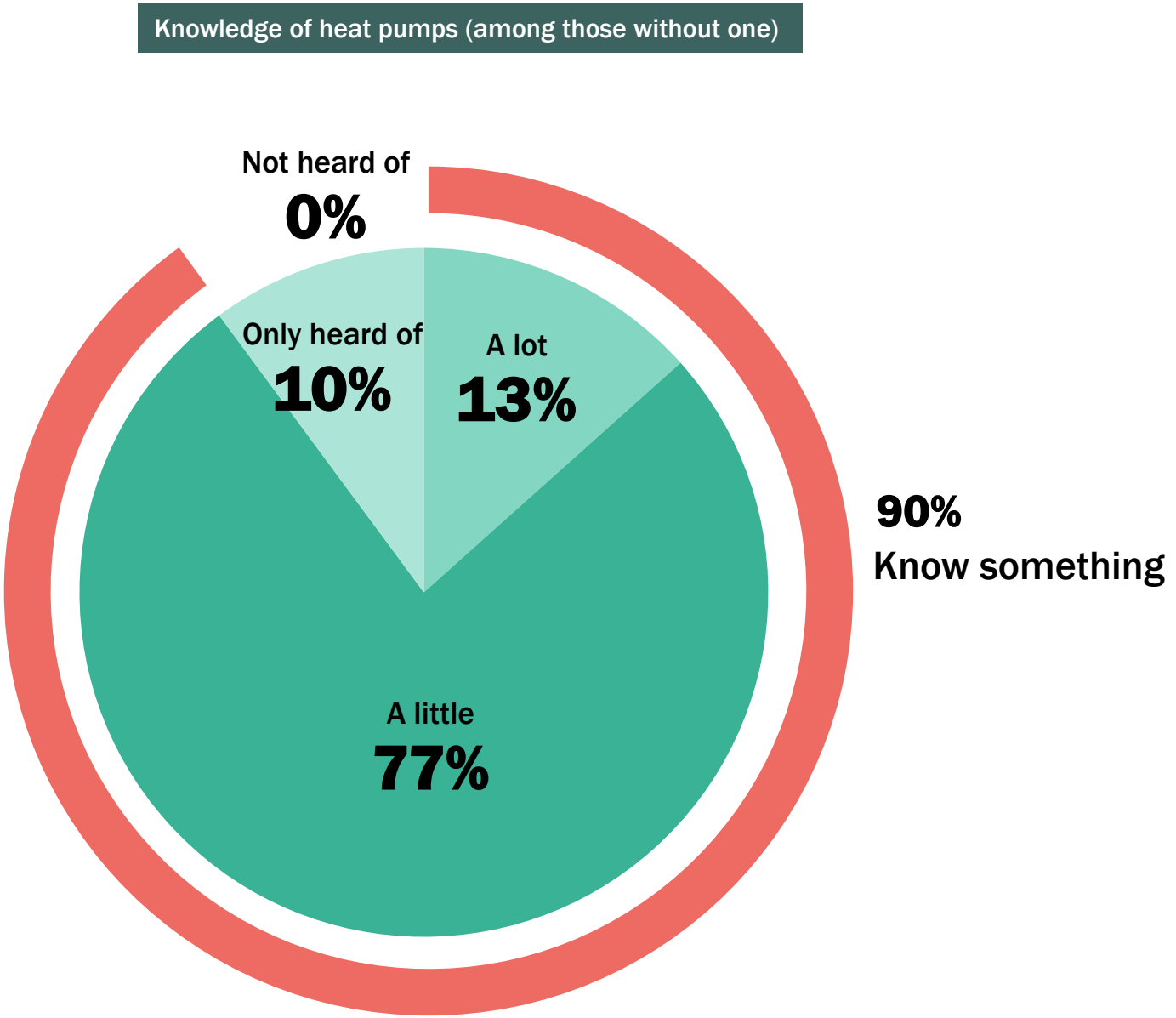
Q26. What would make you buy a replacement for it?
BASE: those without a heat pump / heat pump central heating, n=348

Purchase costs, functionality and energy efficiency influence at least two-thirds when considering new heating systems.



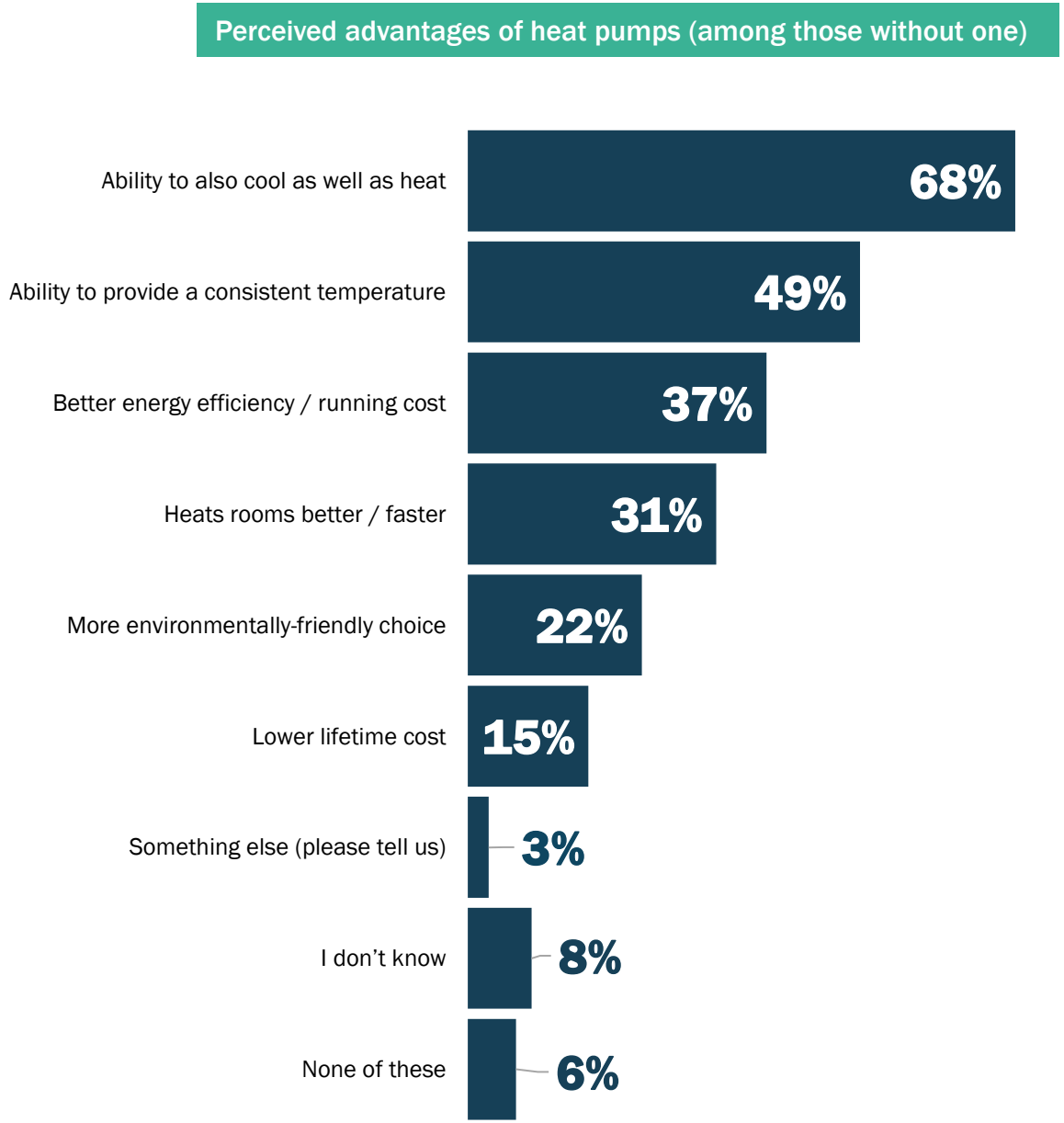
Q27. What are the things you would consider when changing household heating systems?
BASE: those without a heat pump / heat pump central heating, **n=348**

Heat pumps are the most familiar of the appliances tested – around 9 in 10 know at least a little about them



Q28. How much do you know about heat pumps?
BASE: those without a heat pump / heat pump central heating, n=348

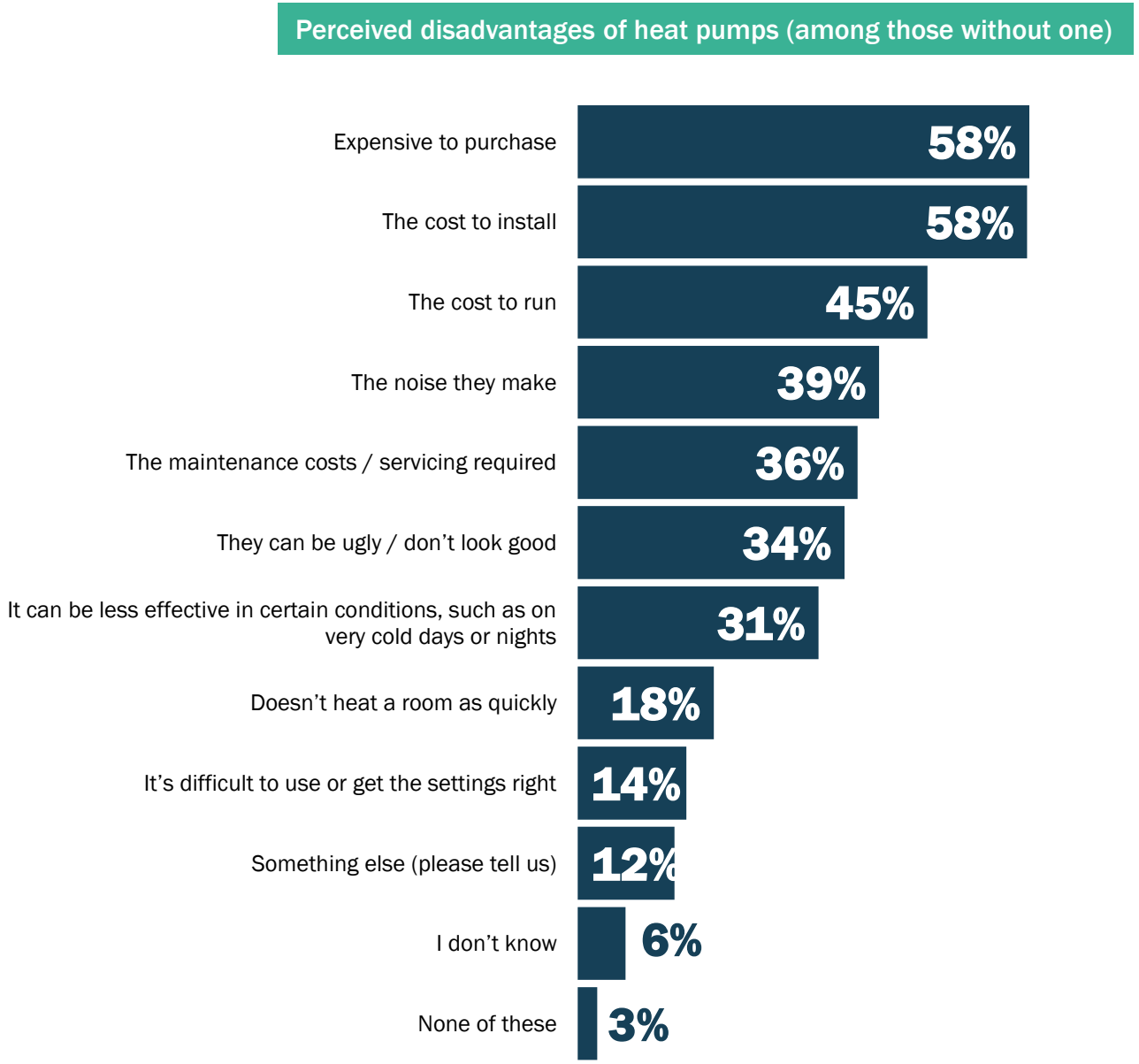
Heat pumps aren't necessarily thought of as efficient – only just over one-third are aware of the lower running cost / energy efficiency advantage



Q30: Which, if any, do you think are advantages to having a heat pump?
BASE: Those without a heat pump / heat pump central heating but with some knowledge of them, n=313

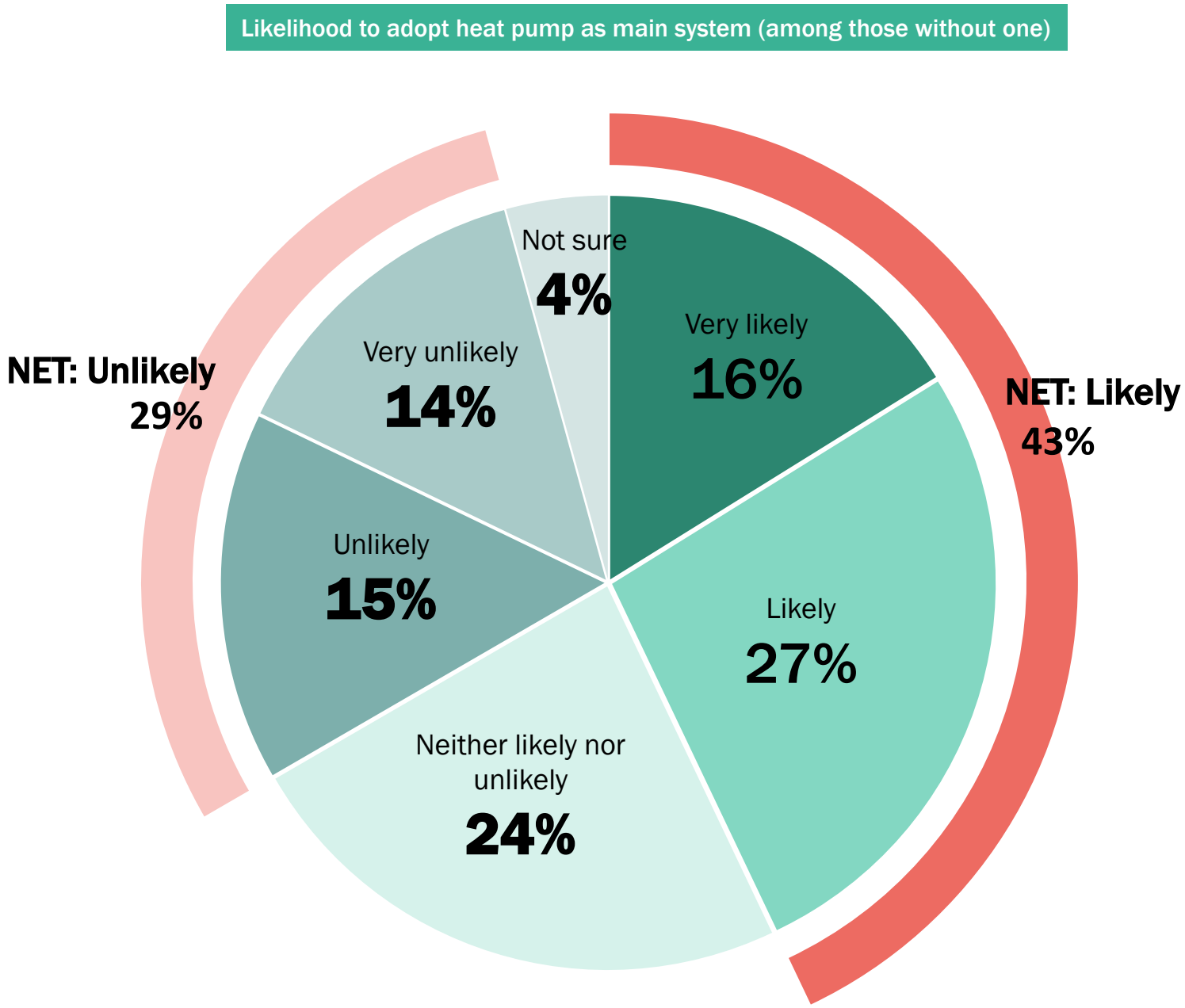
Cost is a key barrier – from initial outlay through to installation and running costs

The ongoing running costs are of particular concern when it comes to heat pumps – at 45% this is significantly higher than with induction cook tops (14%, among gas cooktop owners), hot water heat pumps (21%) and EV smart chargers (15%).



Q29: Which, if any, of the following do you think are disadvantages to having a heat pump?
BASE: Those without a heat pump / heat pump central heating but with some knowledge of them, n=313

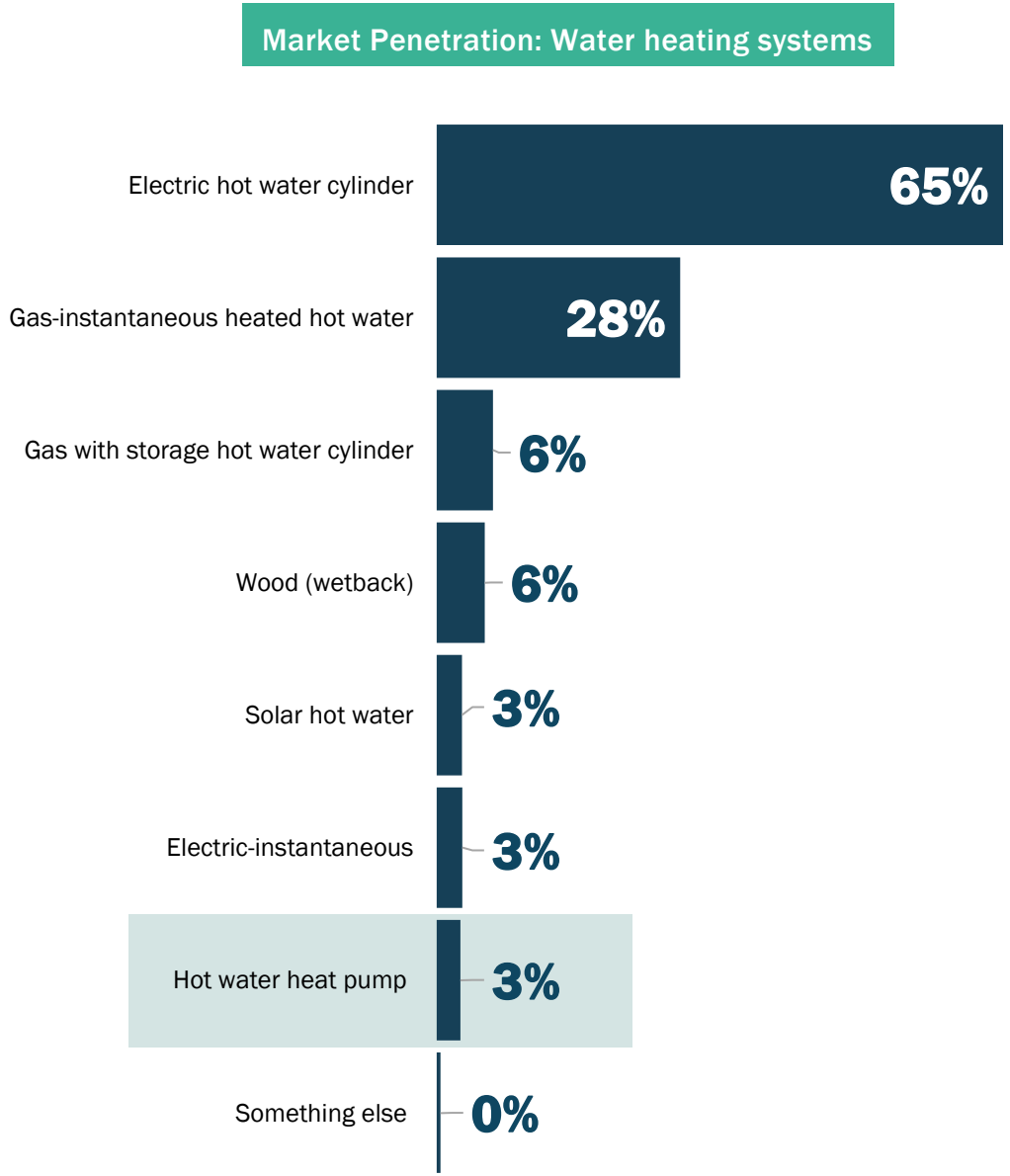
Over 4 in 10 non-owners would consider heat pumps in future



Q31: When you next change your heating system, how likely are you to install a heat pump?
BASE: those without a heat pump / heat pump central heating n=348

Hot Water

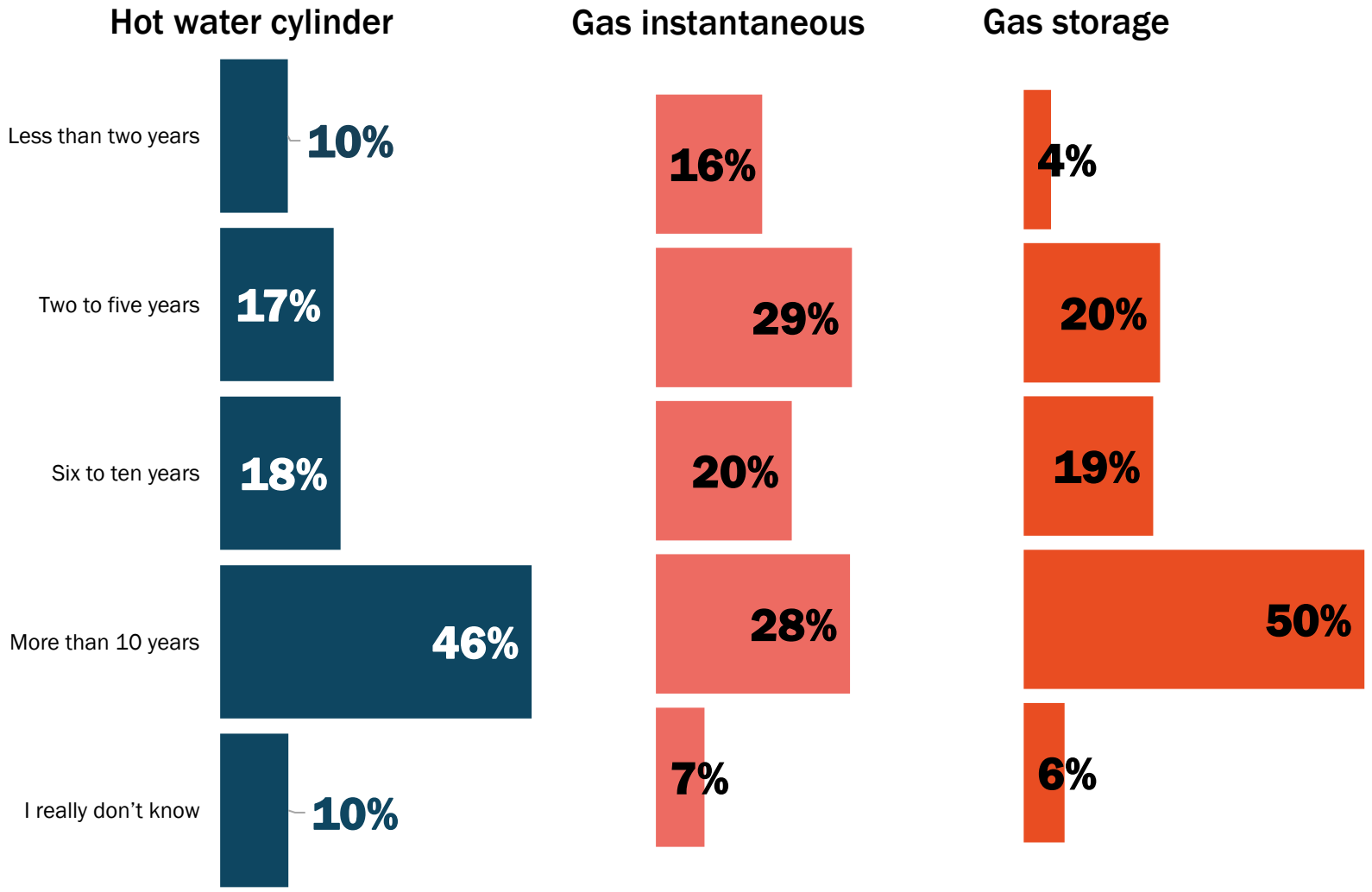
Around two-thirds use an electric hot water cylinder. Hot water heat pumps are used by 3%, reflecting this technology's newness to market: it's at the beginning of the adoption curve.



Q5: Which of the following systems do you have for heating water for your household? (In working order, that you've used in the past 12 months)
BASE: total sample, n=1,442

Hot water systems are typically the oldest appliance stock

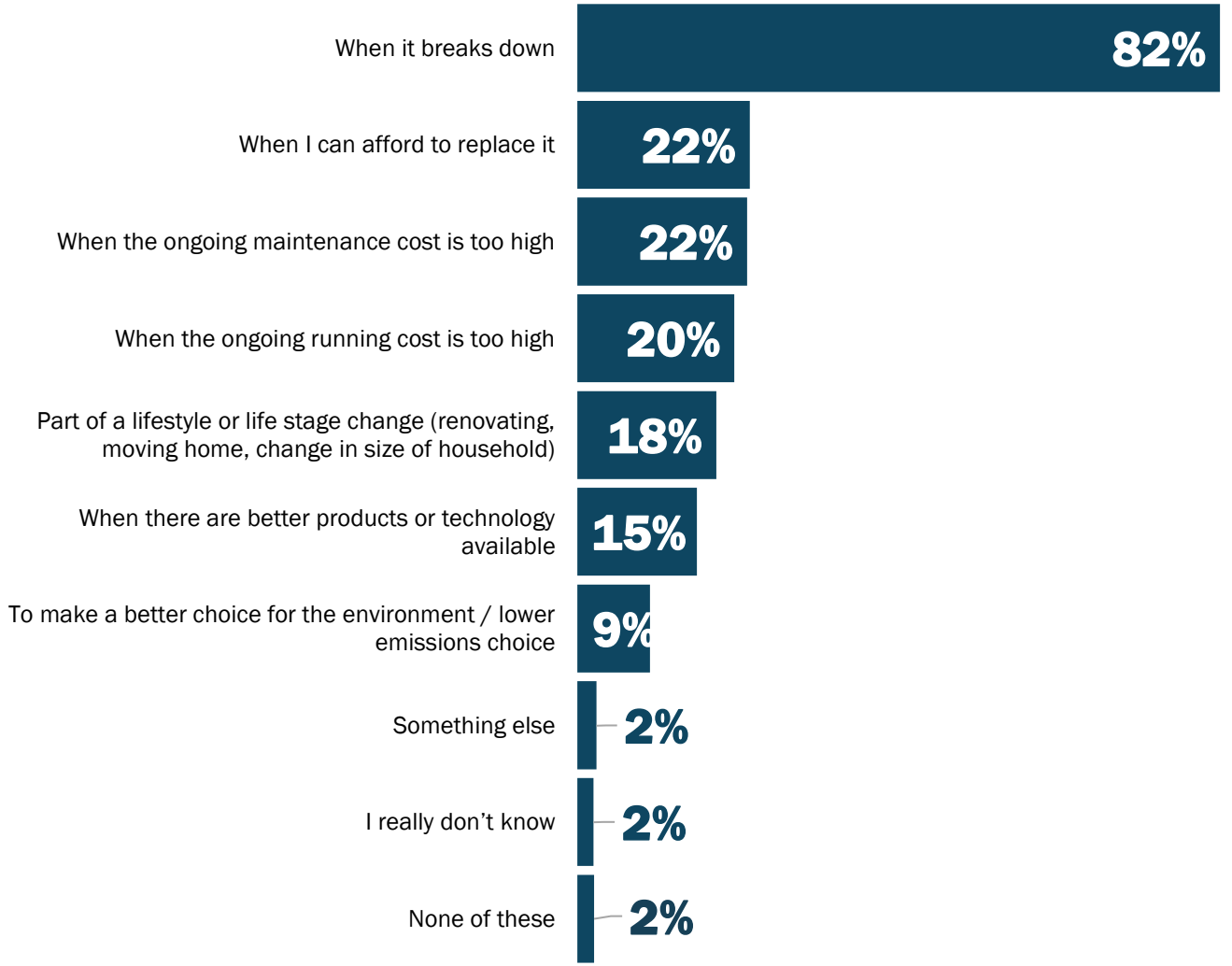
Age of hot water systems (non-hot water heat pump systems



Q33: How old is that hot water system?
BASE: Those with an electric water cylinder n=919, gas instantaneous n=399, gas storage n=96

More than any other appliance, people would only replace hot water systems when they break

Reasons to replace hot water systems (those without a hot water heat pump system)



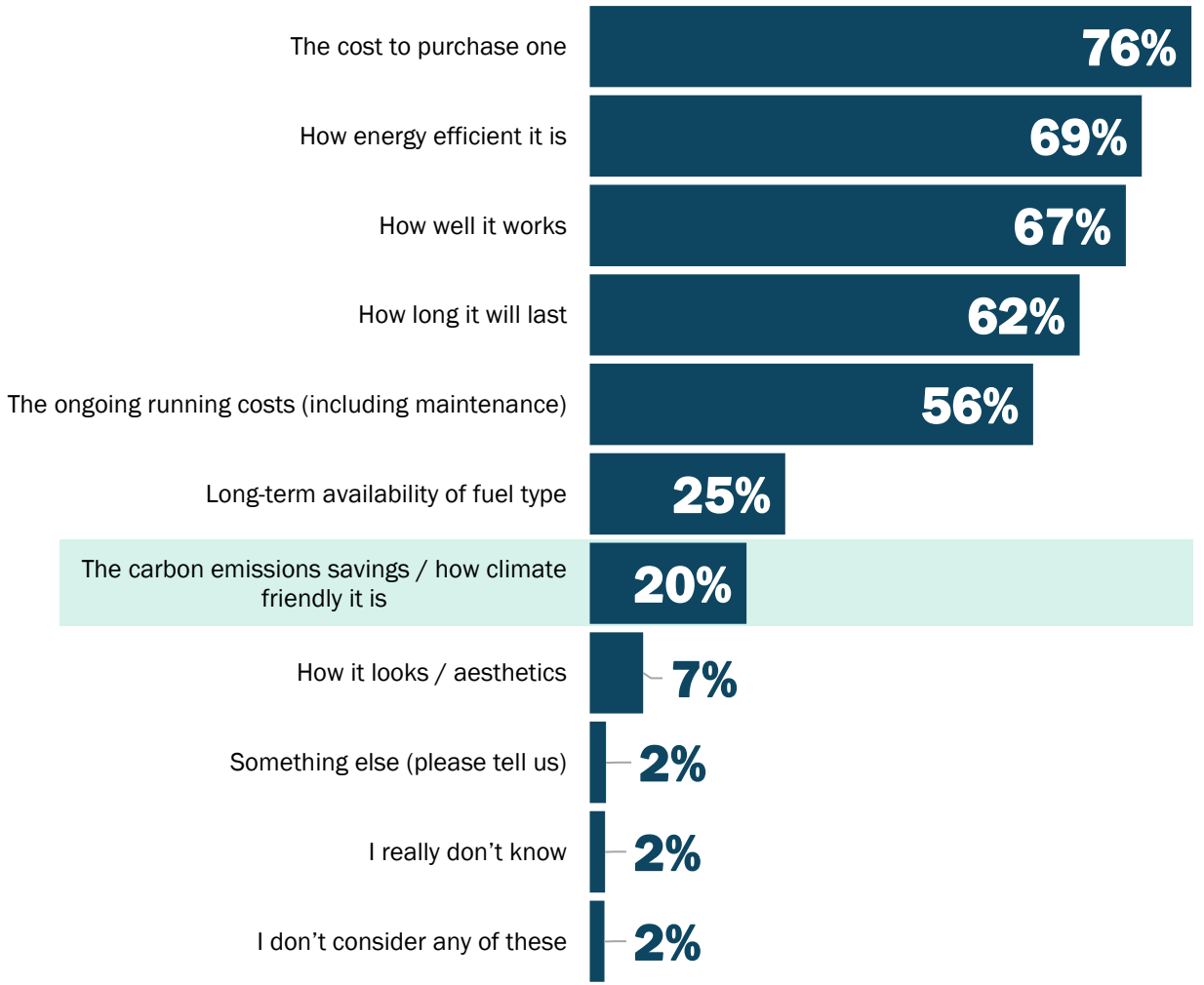
Q34. What would make you buy a replacement for it?
BASE: Those without a hot water heat pump system, n=1397

As with most other appliances, upfront cost and energy efficiency are key considerations when replacing a hot water system

1 in 5 would consider the carbon emissions savings – a slightly higher result than recorded for cooktops (15% of those using gas) and less than with other appliances where the equivalent result is between 27% and 28%.

However, at 69%, energy efficiency is a key consideration, and in line with other appliances (e.g. this result registers 67% for replacing heating systems and also 67% for investing in a solar PV system).

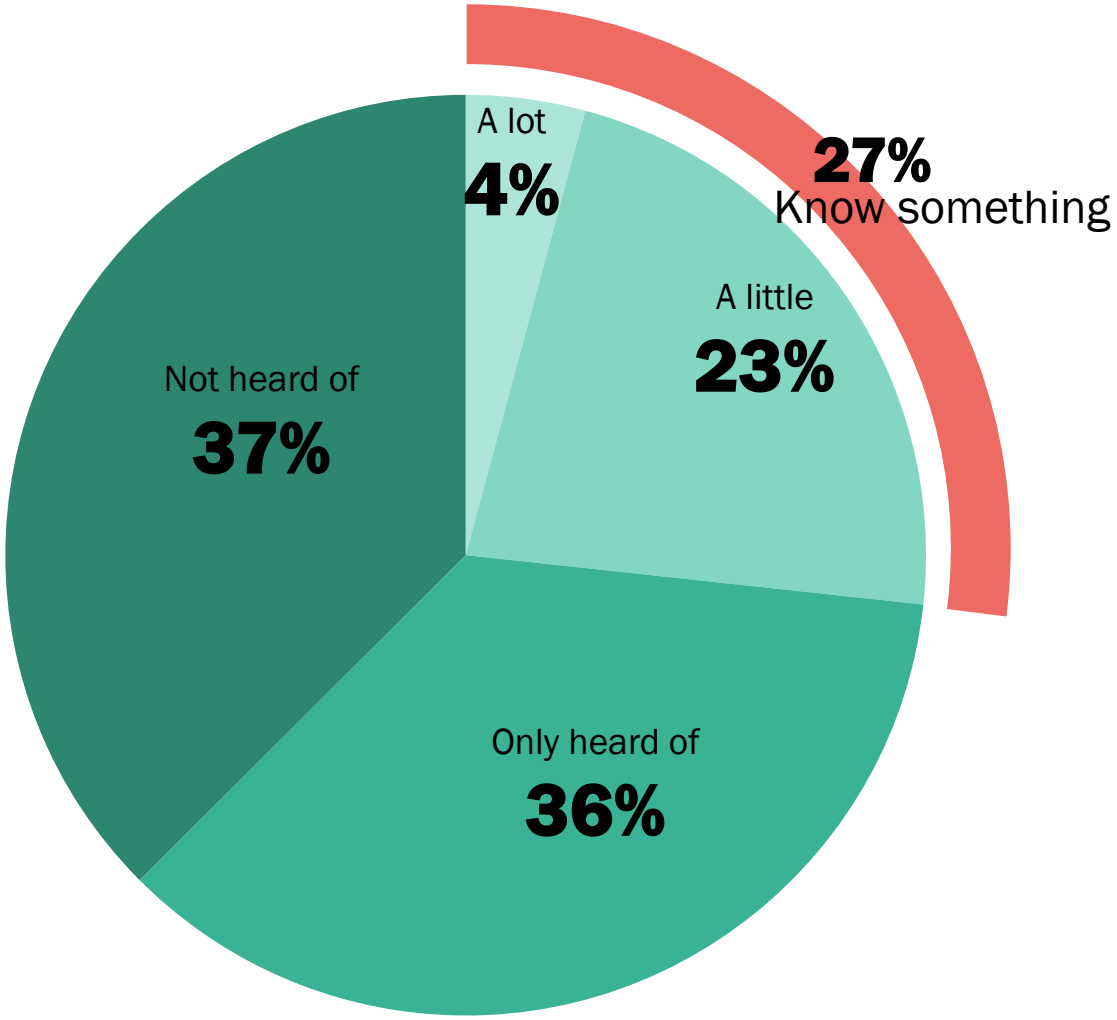
Things to consider when replacing hot water systems (those without a hot water heat pump system)



Q35. What are the things you would consider when changing household hot water heating systems?
BASE: Those without a hot water heat pump system, n=1,397

Knowledge of hot water heat pumps is lower than other types of heating, reflecting this technology's newness to market – fewer than 3 in 10 know anything about them, other than the name.

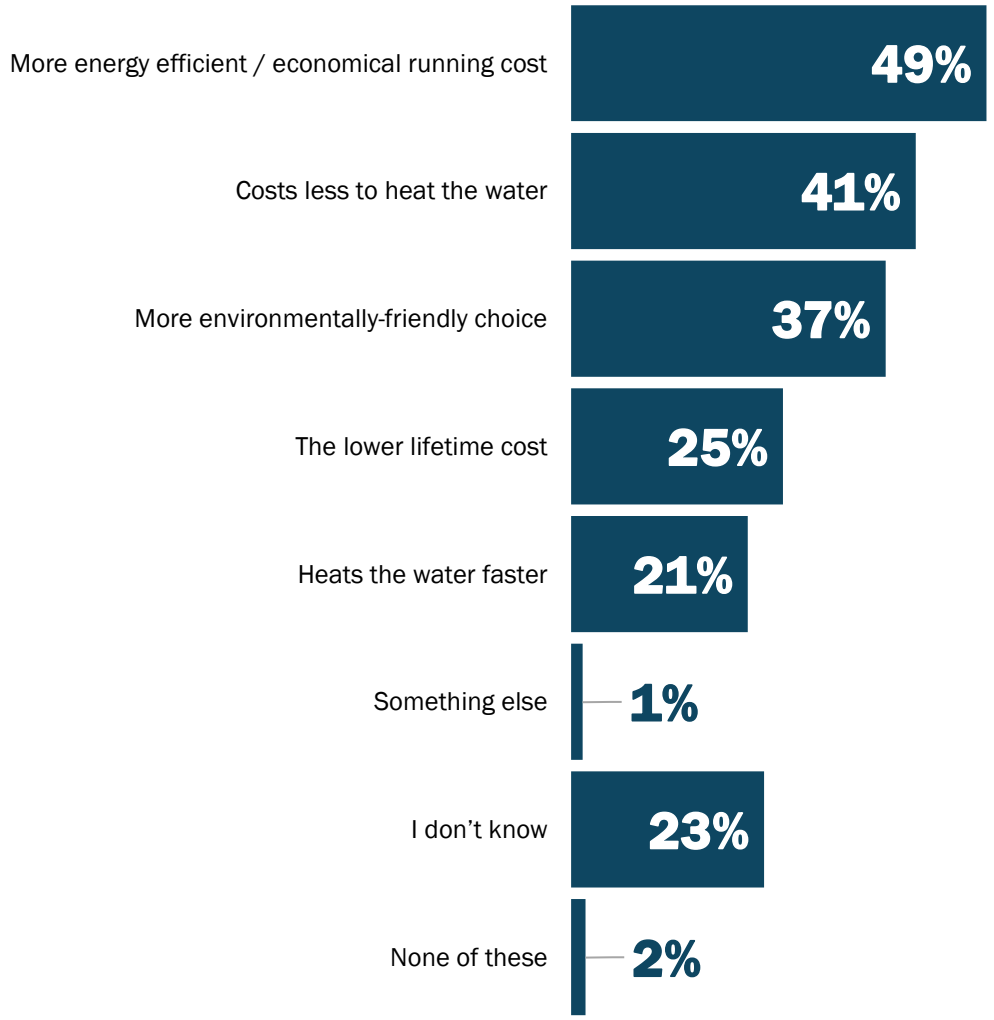
Knowledge of hot water hear pump systems



Q36. How much do you know about hot water pump systems?
BASE: Those without a hot water heat pump system, n=1,397

This is the only appliance where energy efficiency is the number one perceived advantage

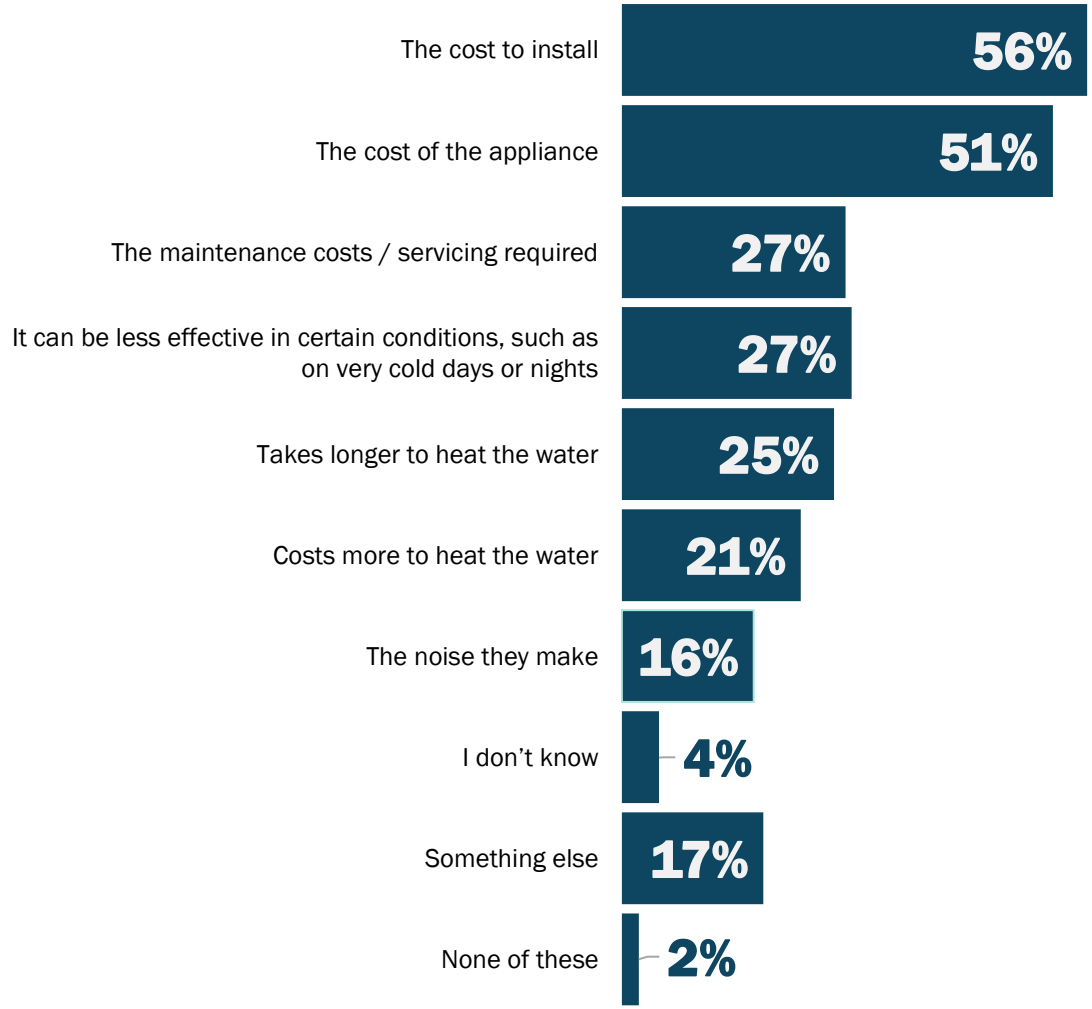
Perceived advantages of hot water heat pump systems (among those who know at least a little bit about them)



Q38. And what do you think are advantages to having a hot water heat pump system?
BASE: Those without a hot water heat pump system, but with some knowledge of them, n=388

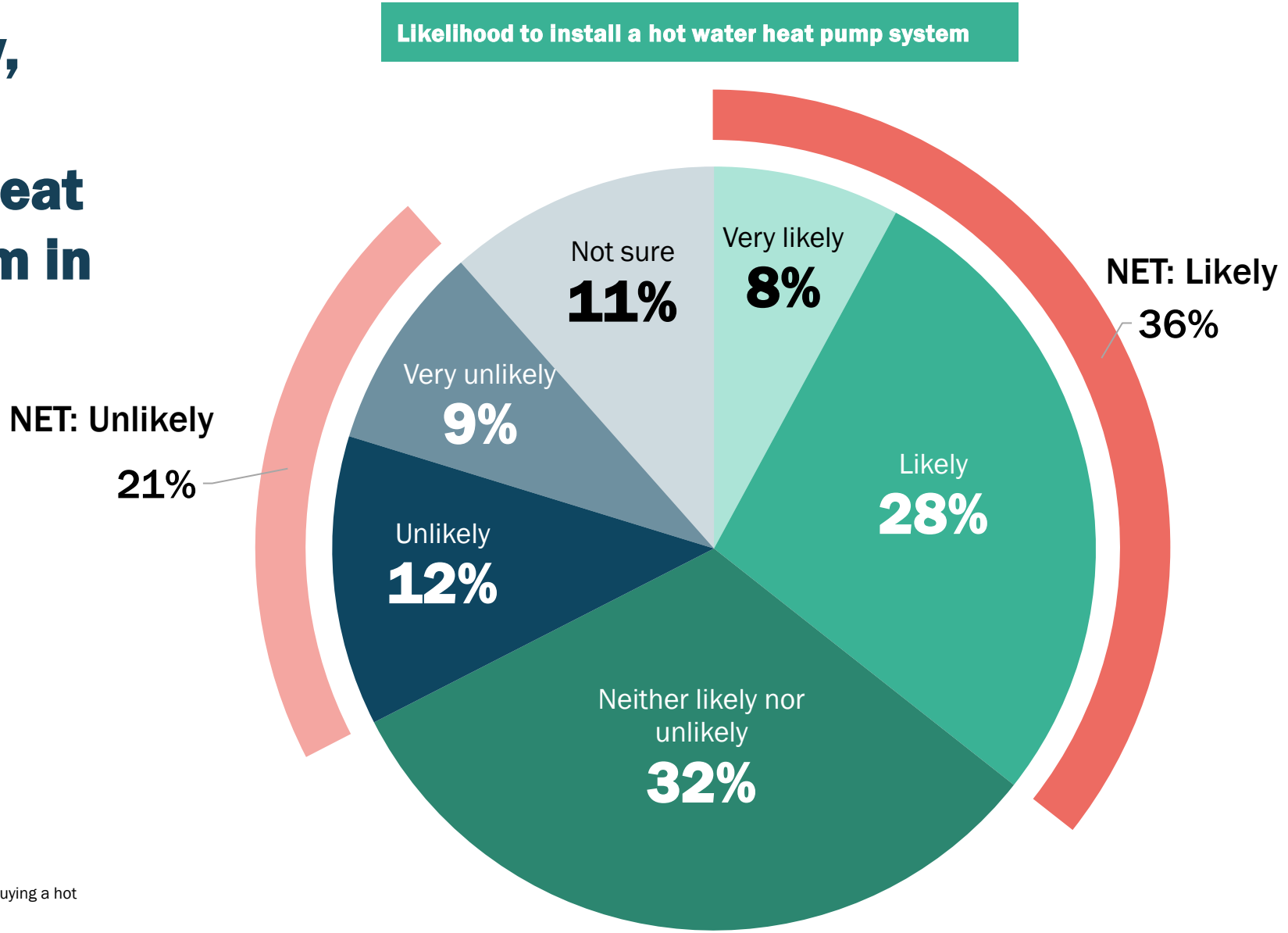
The cost of installation edges ahead as the top perceived disadvantage – most other appliances have stronger concerns over cost to purchase

Perceived disadvantages of hot water heat pump systems (among those who know at least a little bit about them)



Q38. Which, if any, do you think are disadvantages to having a heat pump hot water system?
BASE: Those without a hot water heat pump system, but with some knowledge of them, n=388

Despite low familiarity, over one third would consider installing a heat pump hot water system in future



Q38. If you were changing your hot water system, how likely are you to consider buying a hot water heat pump system?
BASE: those without a hot water heat pump system, n=1397

Interest in hot water heat pumps by key demographics

Very / quite likely to buy hot water heat pump when next changing water heating system

Total market	Upper NI	Auckland	Lower NI	Wellington	Canterbury	Other SI
36%	32%	39% ▲	35%	34%	38%	31%
18–34-year-olds	35 - 54	55+	NZ European or Pākehā	New Zealand Māori	NET Pasifika	NET Asian
44% ▲	42% ▲	29% ▼	35%	34%	35%	45% ▲
Annual household income up to $50,000	$50,001-$100,000	$100,001-$150,000	$150,001 or more			
29% ▼	37%	42% ▲	44% ▲			

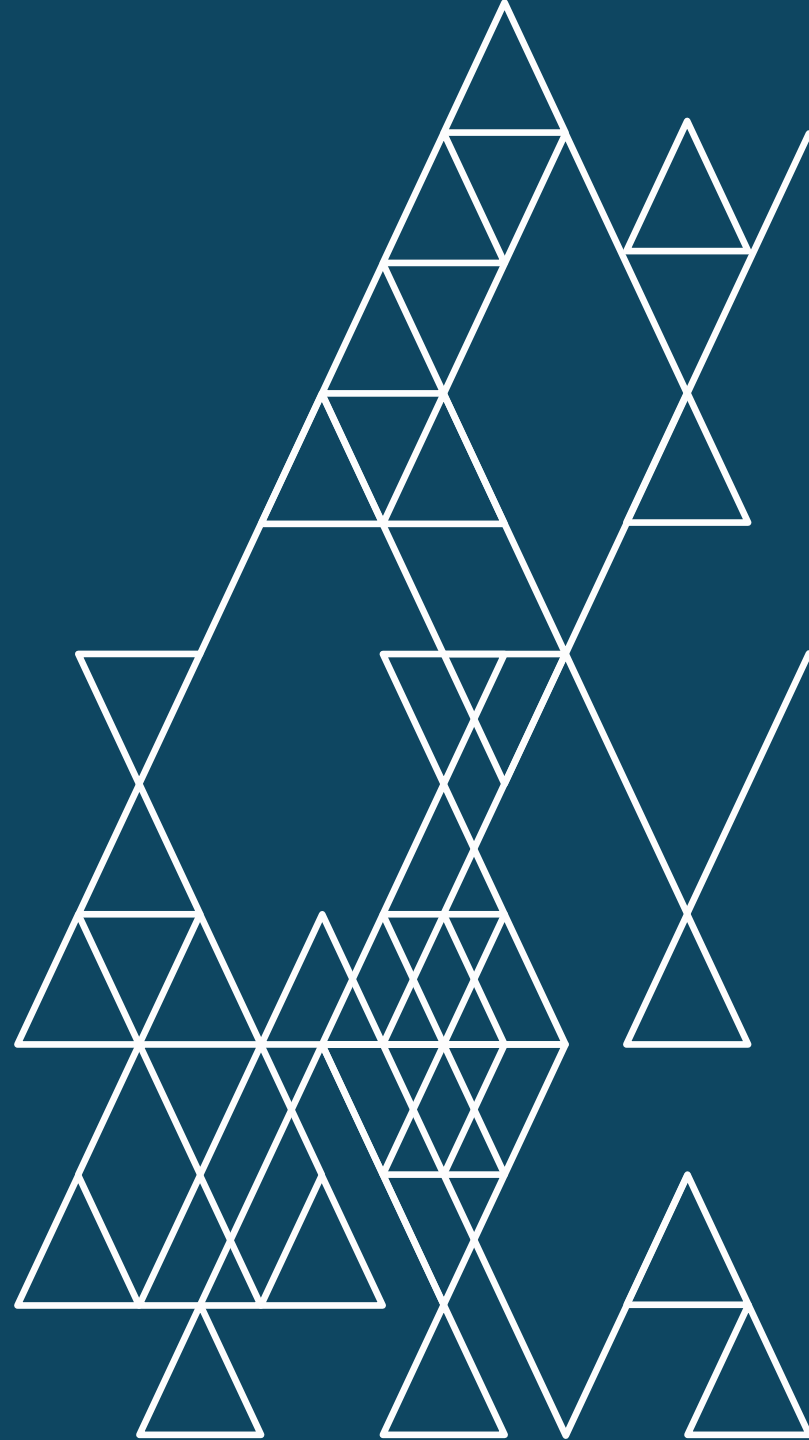
Q39: If you were changing your hot water system, how likely are you to consider buying a hot water heat pump system?

BASE: those without a hot water heat pump system, n=1397

18-34 n=239, 35-54 n=465, 55+ n=693, Pākehā n=1,001, Māori n=224, Pasifika n=65, Asian n=190, upper NI n=240, Auckland n=477, lower NI n=170, Wellington n=176, Canterbury n=187, Other SI n=147, $50k or less income n=259, $50-100k n=374, $100 - $150k n=328, $150k+ n=287

▲ ▼ Statistically higher/lower than total market

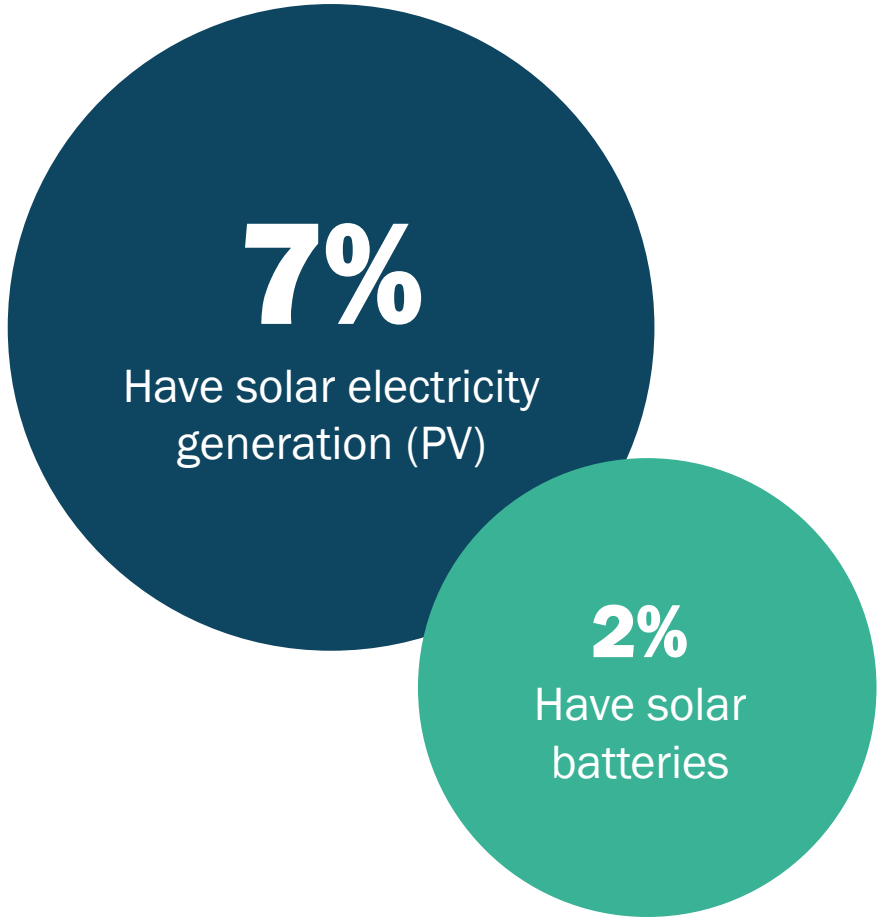
Solar & Solar Batteries



7% of households use solar power to generate electricity and 2% use solar batteries

This equates to nearly 1 in 5 households (18%) with solar PV also having solar batteries.

Market penetration: Solar electricity generation and storage



Q3: What sort of electricity generation and storage do you have at your house?
BASE: total sample, n=1,442

Ownership of solar PV systems by key demographics

Total market	Upper NI	Auckland	Lower NI	Wellington	Canterbury	Other SI
7%	9%	6%	10%	6%	9%	5% ▼
18–34-year-olds	35 - 54	55+	NZ European or Pākehā	New Zealand Māori	NET Pasifika	NET Asian
10%	8%	6%	7%	6%	8%	5%
Annual household income up to $50,000	$50,001-$100,000	$100,001-$150,000	$150,001 or more			
7%	6%	9%	8%			

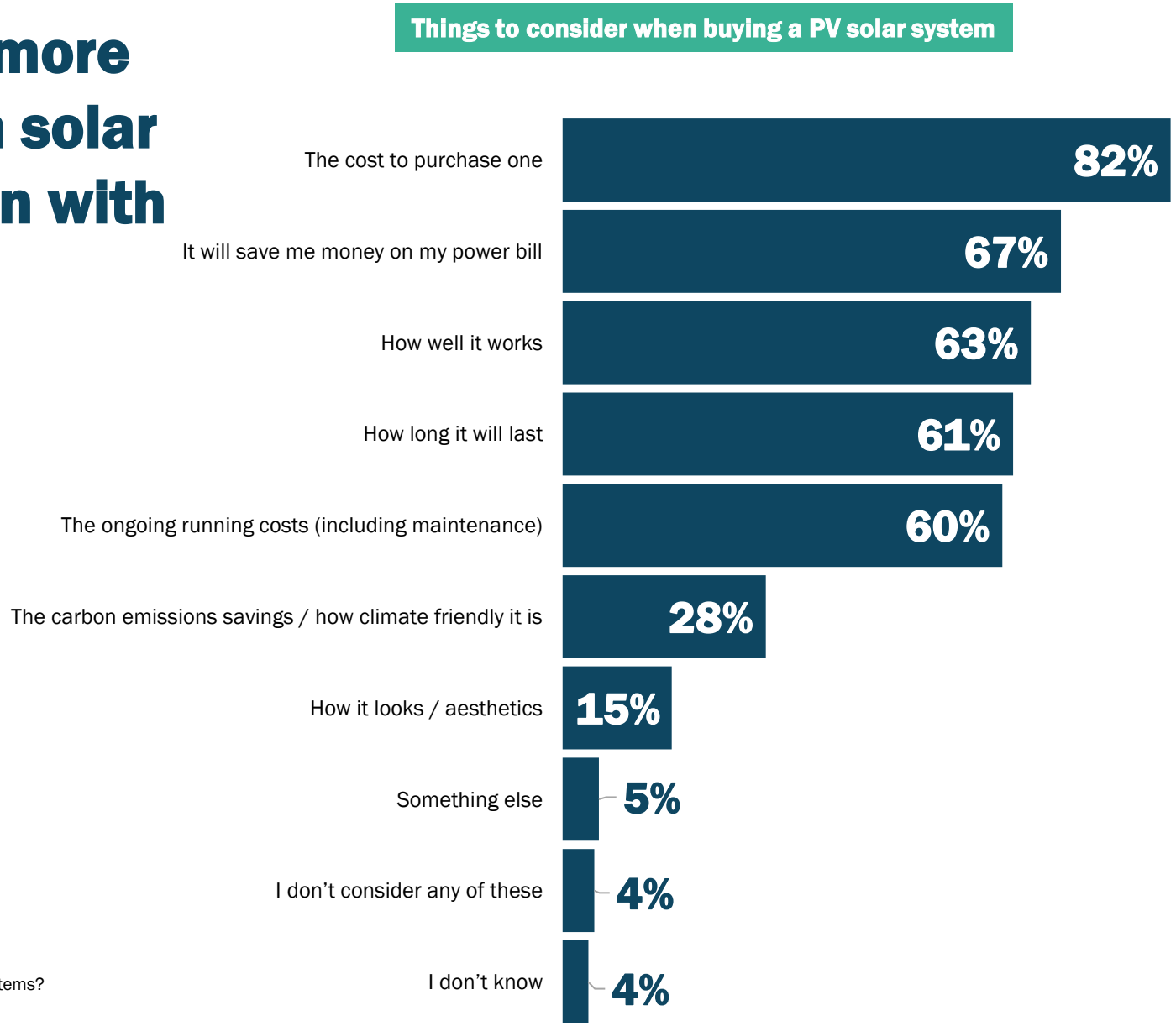
Q3:. What sort of electricity generation and storage do you have at your house? Have Solar electricity generation (photovoltaic).

BASE: total sample, n=1,442

18-34 n=258, 35-54 n=479, 55+ n=705, Pākehā n=1,026, Māori n=234, Pasifika n=68, Asian n=200, upper NI n=247, Auckland n=495, lower NI n=176, Wellington n=183, Canterbury n=189, Other SI n=152, $50k or less income n=263 $50-100k n=389, $100 - $150k n=340, $150k+ n=298

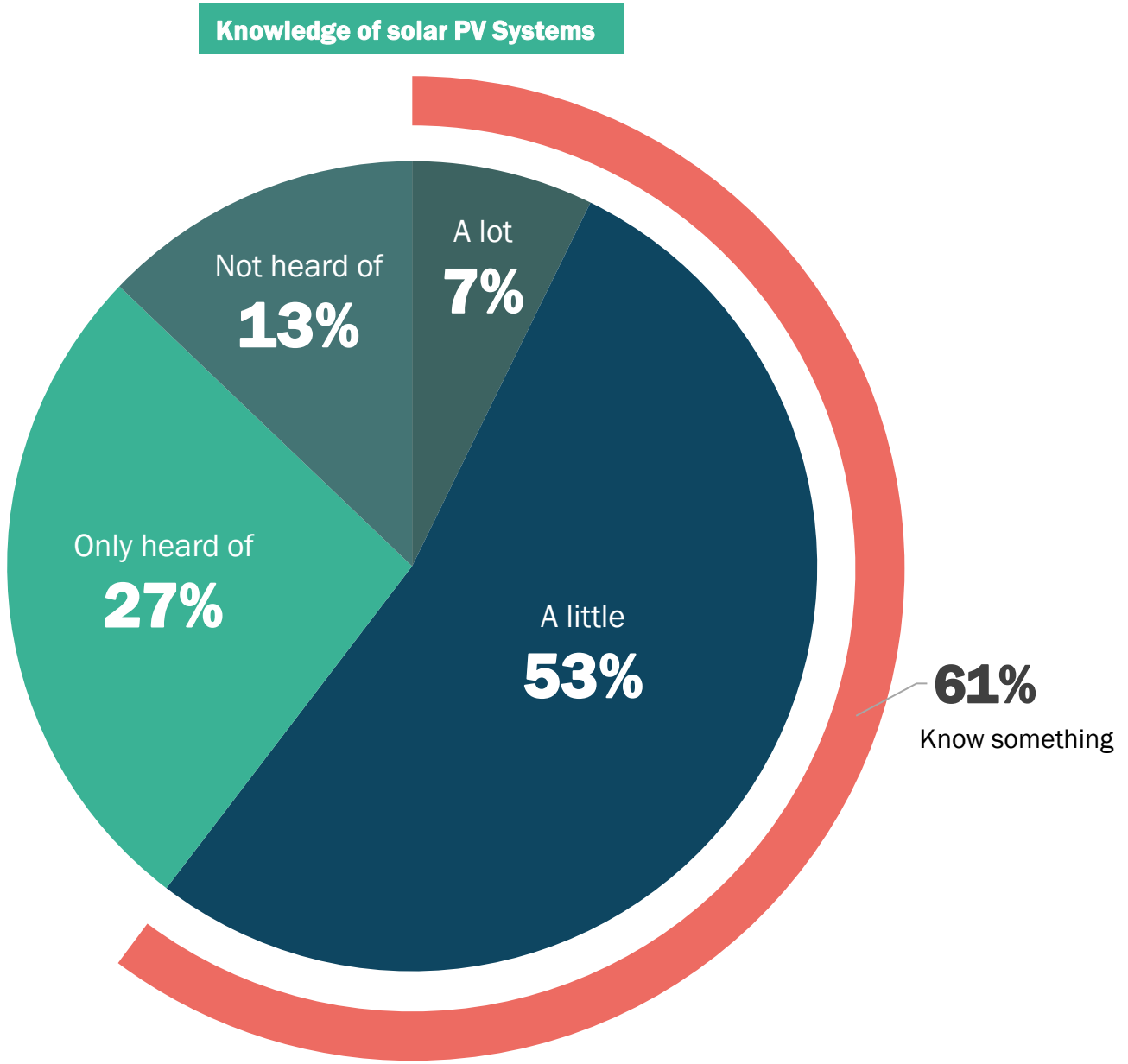
Statistically higher/lower than total market ▲▼

Purchase cost is even more of a consideration with solar and solar batteries than with other appliances.



Q43. What are the things you would consider when buying a photovoltaic solar systems?
BASE: those without a PV solar system, n=1335

Most homeowners have heard of solar PV systems, and 6 in 10 know at least a little about them



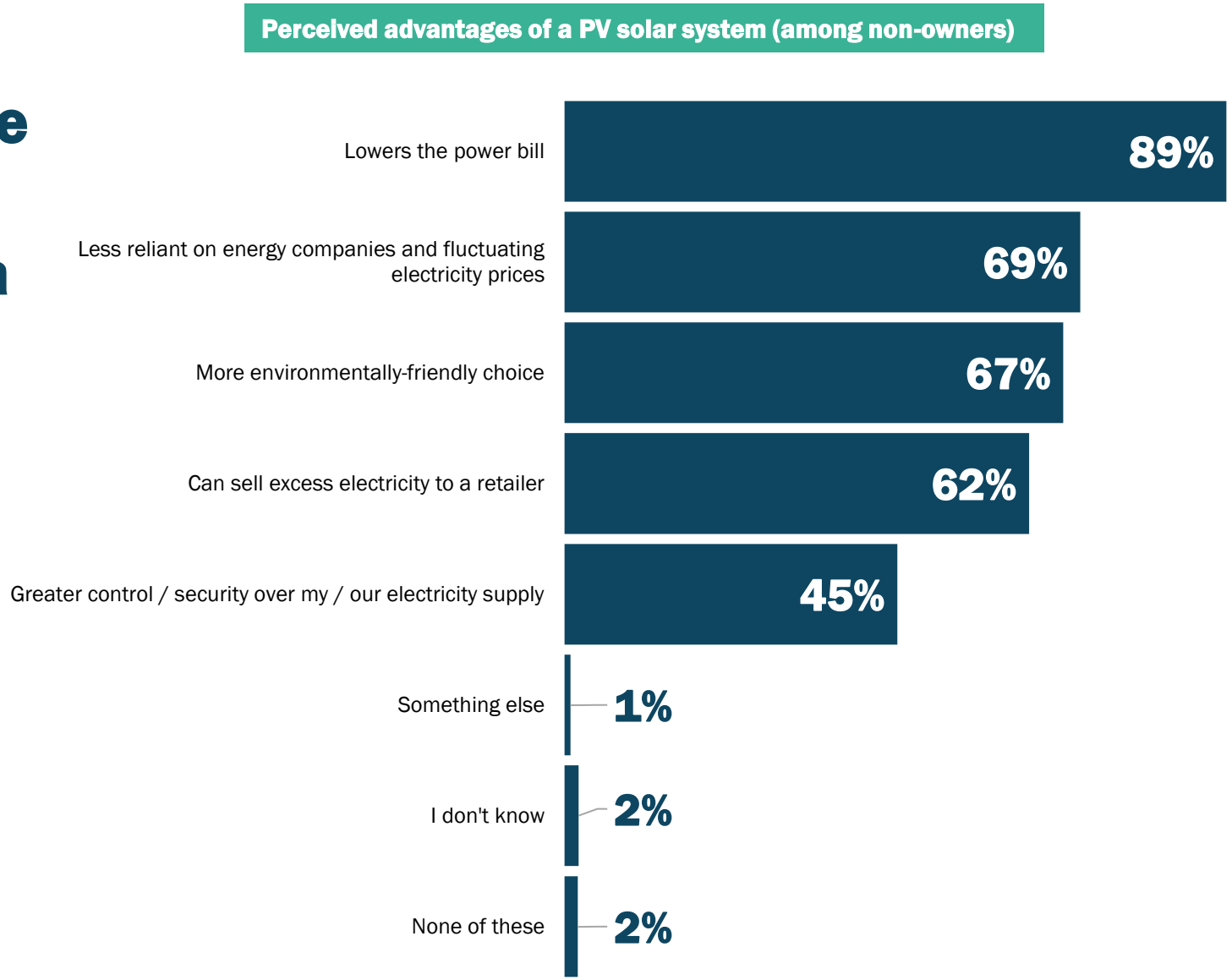
Q40. How much do you know about photovoltaic solar systems?
BASE: those without a PV solar system, n=1,335

Lowering power bills is a widely understood advantage of solar – by around 9 in 10 of those who know at least a little about this type of system

Of all the appliances, the advantages of solar are more strongly perceived, reinforcing that many homeowners are familiar with the concept of solar.

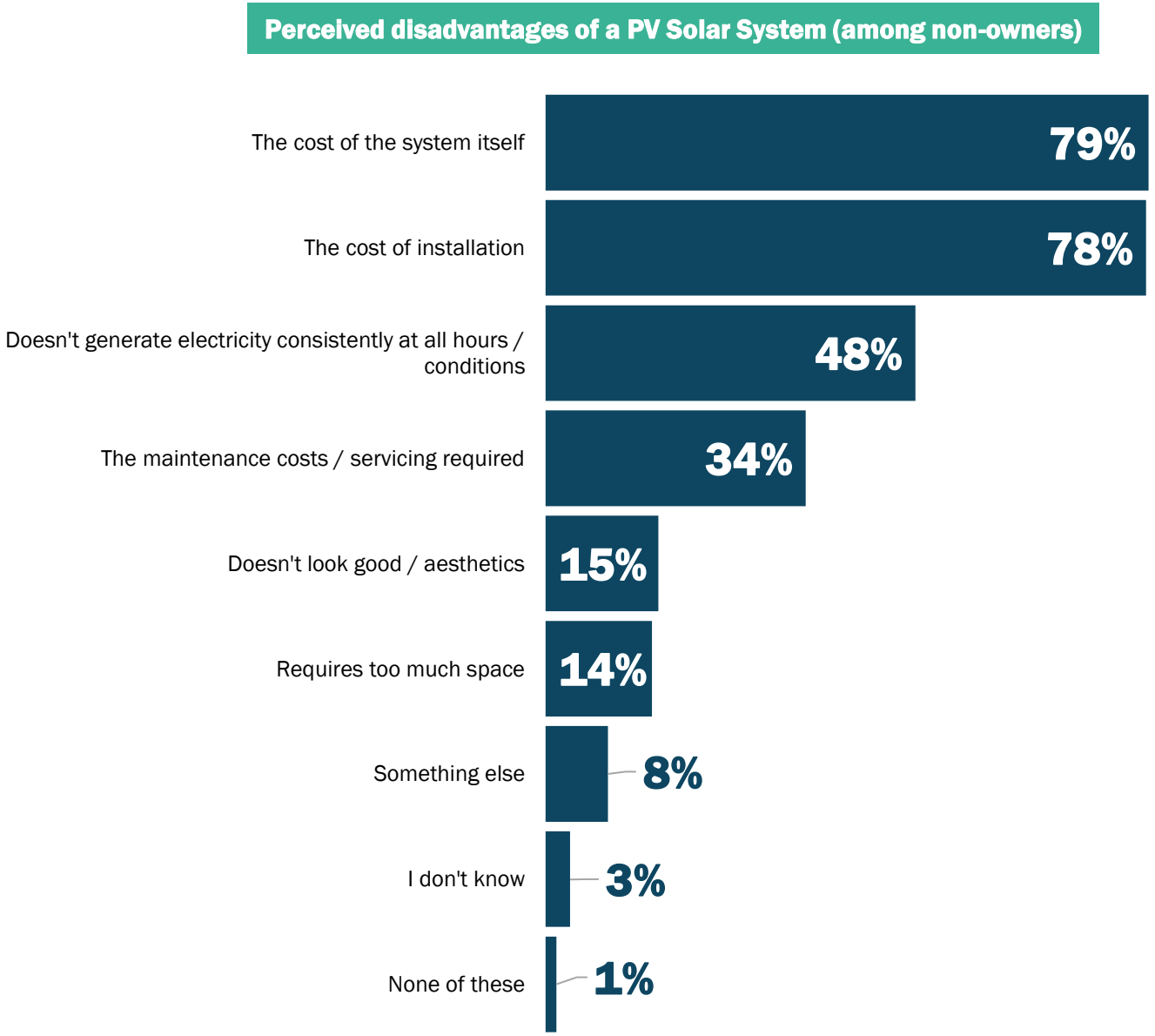
This type of appliance also has strong 'green' credentials, with two-thirds identifying solar as a more environmentally friendly choice.

And over 6 in 10 of those familiar with solar are aware you can sell excess electricity back to the grid.



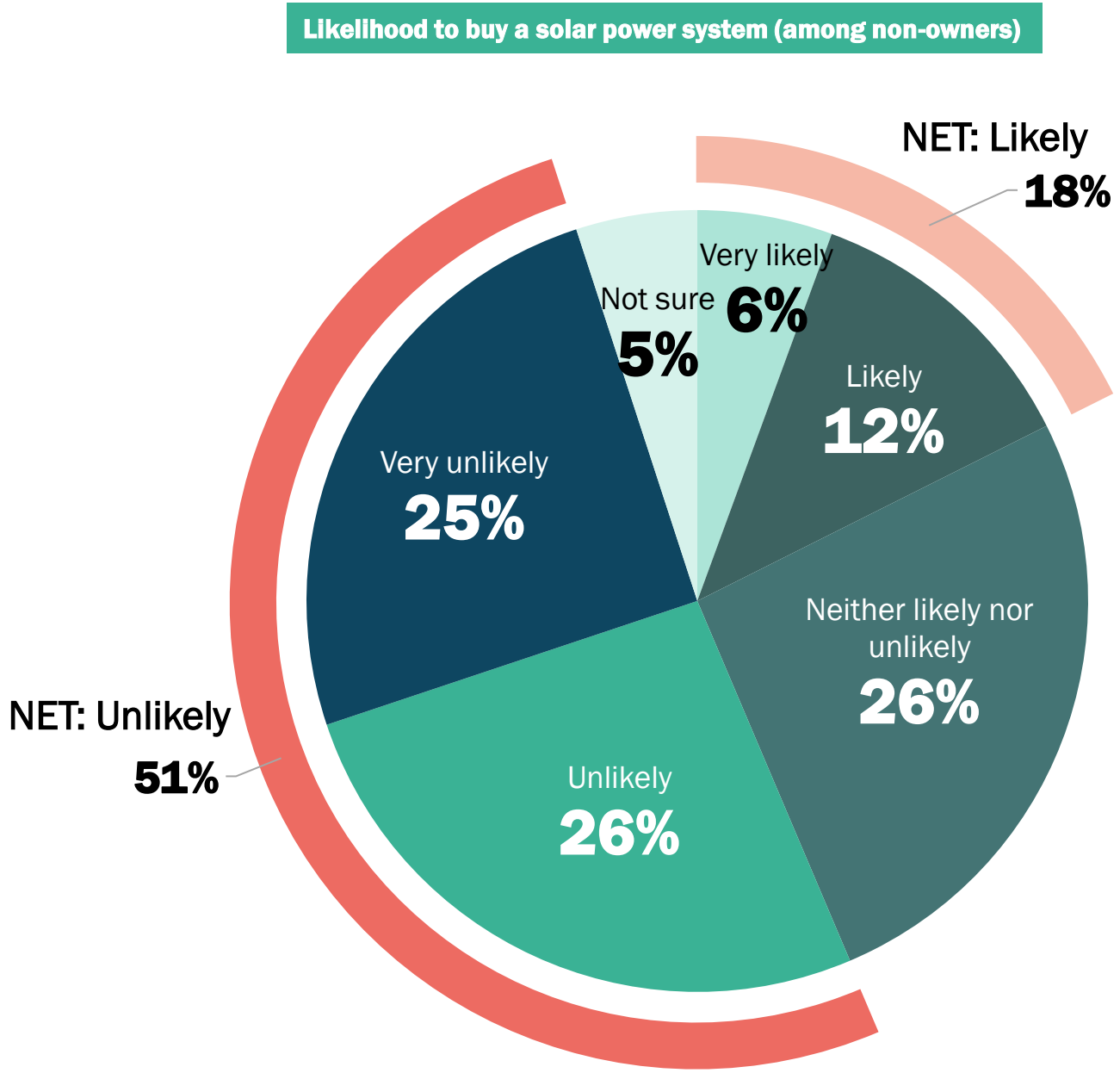
Q42: And which, if any, do you think are advantages to having a PV solar system?
BASE: those without a PV solar system but with some knowledge of them, n=805

More than any other appliance, initial cost outlay and installation costs are a more strongly perceived disadvantage with PV solar



Q41: And which, if any, do you think are disadvantages to having a PV solar system?
BASE: those without a PV solar system but with some knowledge of them, n=805

Solar adoption is more circumspect with 1 in 5 likely to adopt and 1 in 4 unsure



Q44: In the next five years, how likely are you to buy a solar power system?
BASE: those without a PV solar system, n=1335

Interest in solar PV systems by key demographics

Very / quite likely to buy solar power system in next 5 years

Total market	Upper NI	Auckland	Lower NI	Wellington	Canterbury	Other SI
18%	**18%**	**18%**	**17%**	**16%**	**22%**	**13%**
18–34-year-olds	35 - 54	55+	NZ European or Pākehā	New Zealand Māori	NET Pasifika	NET Asian
26% ▲	**24%** ▲	**11%** ▼	**16%** ▼	**18%**	**23%**	**28%** ▲
Annual household income up to $50,000	$50,001-$100,000	$100,001-$150,000	$150,001 or more			
12% ▼	**17%**	**22%** ▲	**22%** ▲			

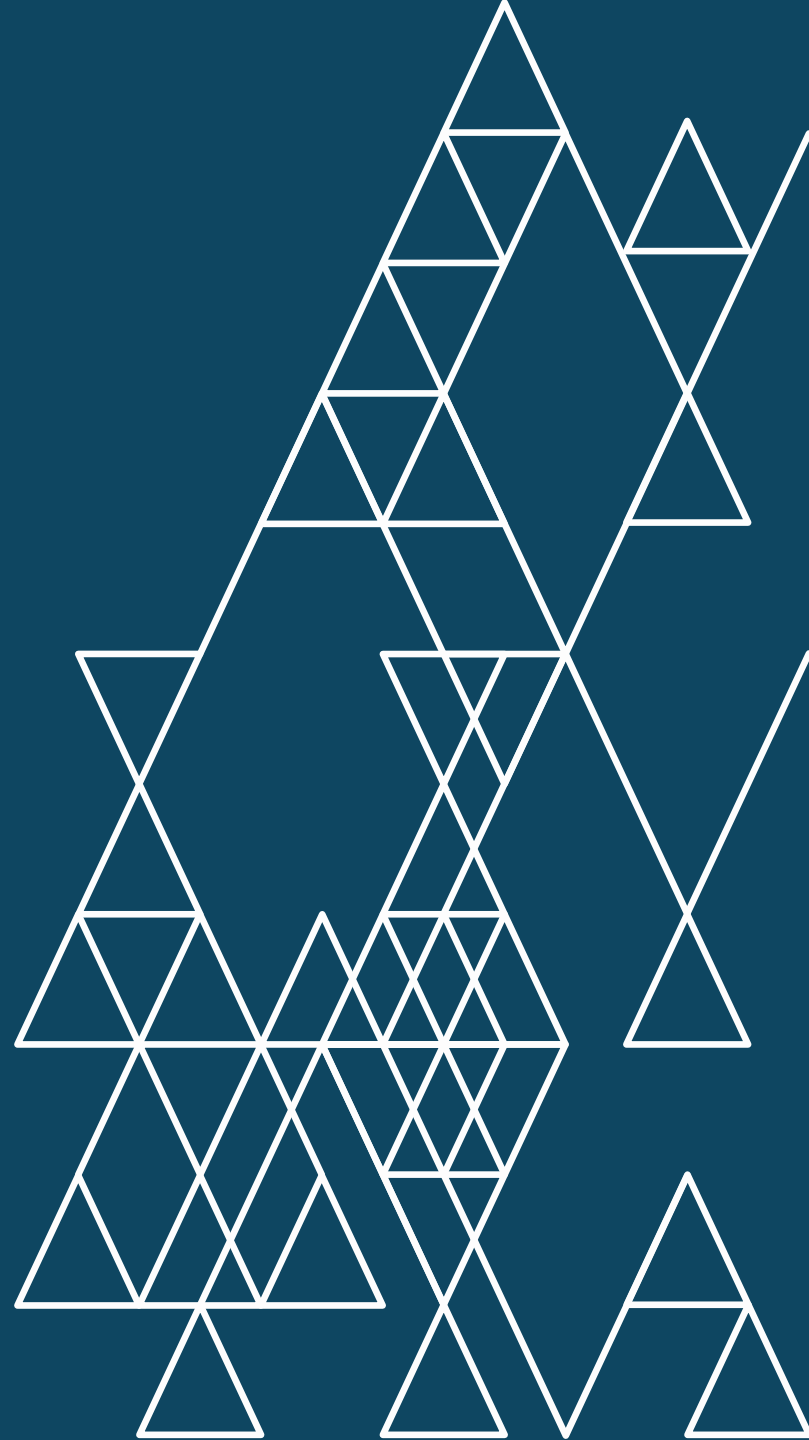
Q44: In the next five years, how likely are you to buy a solar power system?

BASE: those without a PV solar system, n=1335

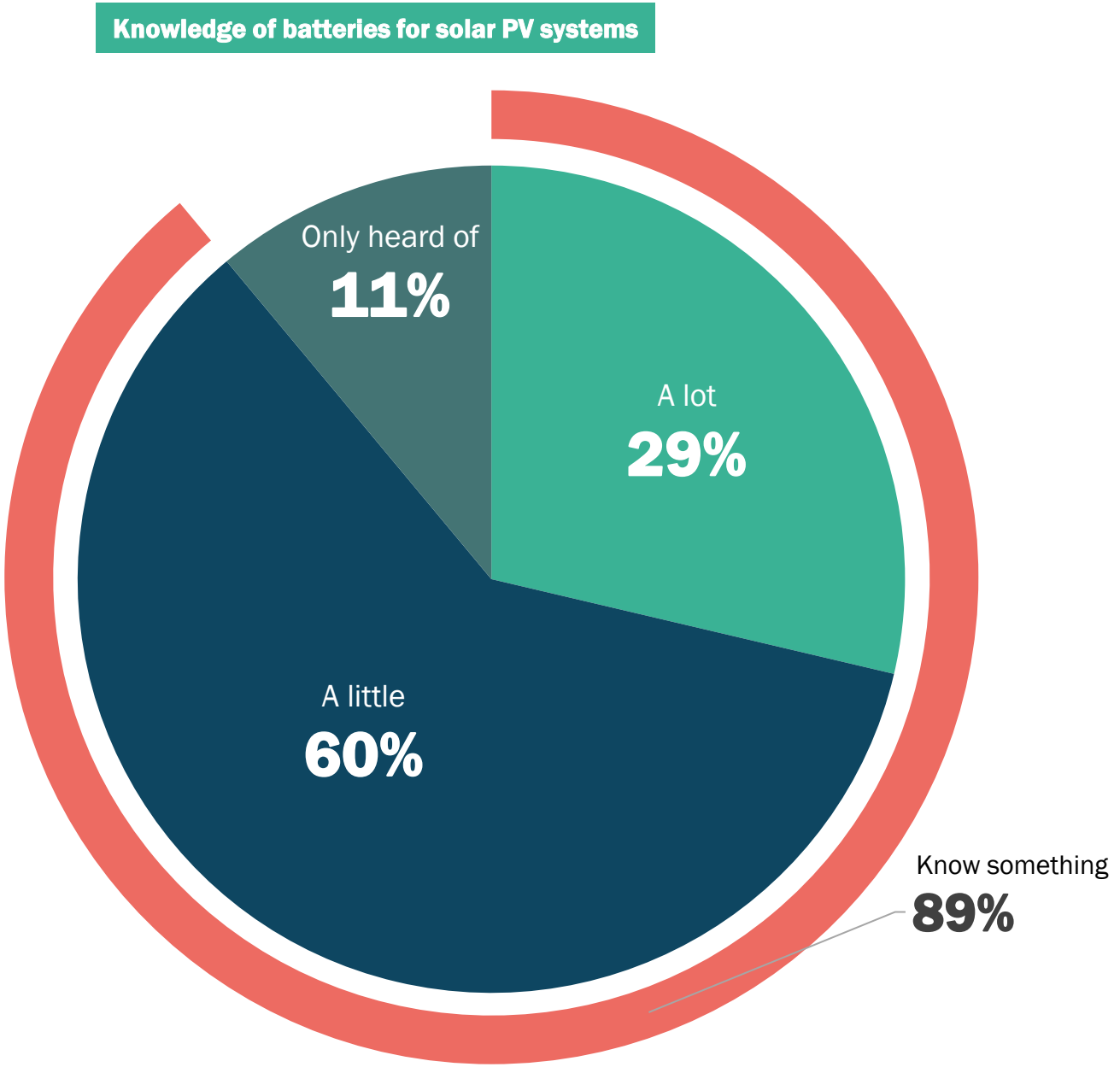
18-34 n=229, 35-54 n=446, 55+ n=660, Pākehā n=949, Māori n=216, Pasifika n=63, Asian n=190, upper NI n=224, Auckland n=463, lower NI n=160, Wellington n=172, Canterbury n=172, Other SI n=145, $50k or less income n=246, $50-100k n=363, $100 - $150k n=308, $150k+ n=276

▲ ▲ ▼ Statistically higher/lower than total market

18% of homeowners with solar PV systems have solar batteries



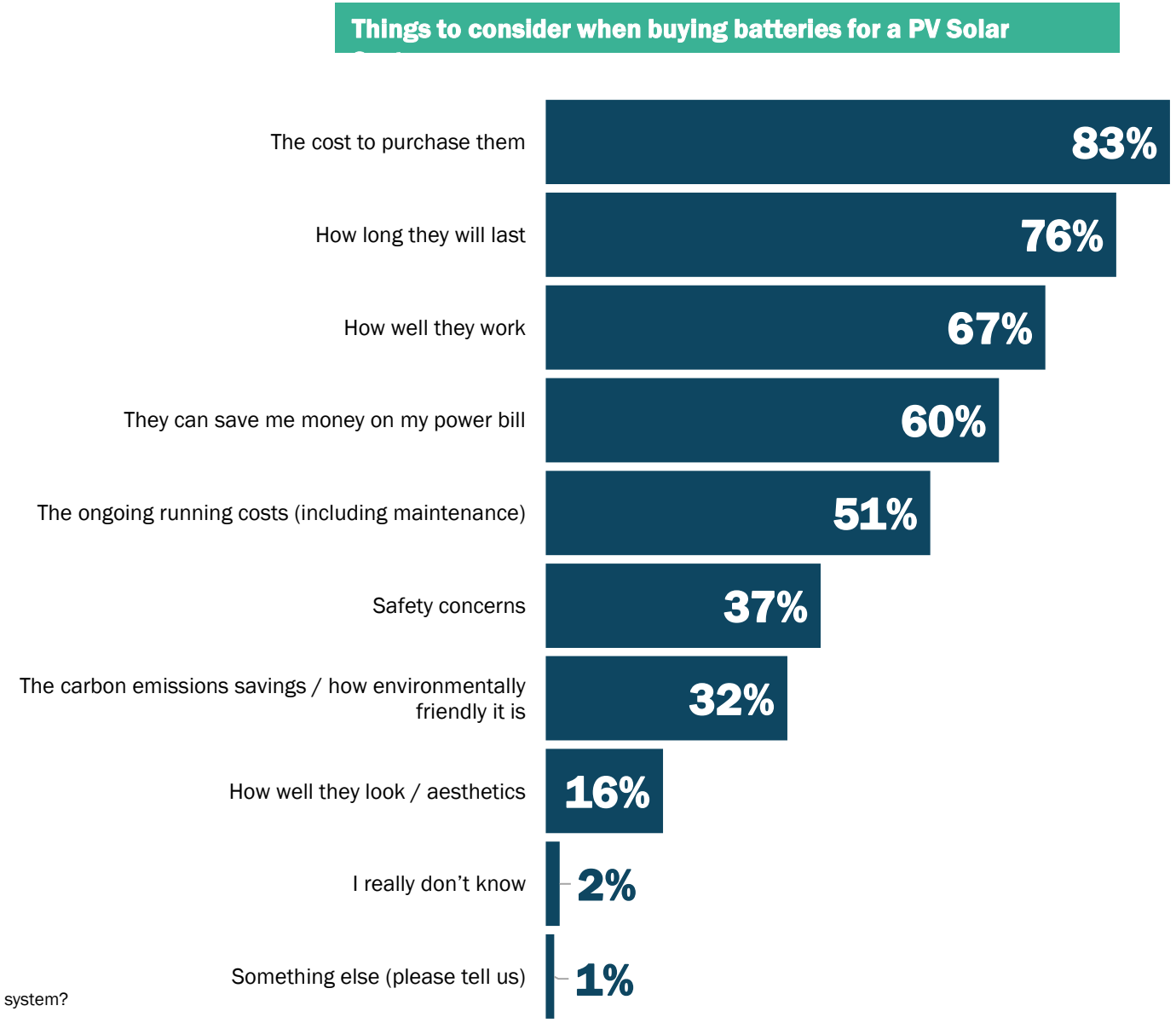
Nearly nine in ten solar owners claim some knowledge of batteries that work with PV solar systems



Q45. How much do you know about batteries for photovoltaic solar systems?
BASE: those with solar but without batteries for a PV solar system, n=86

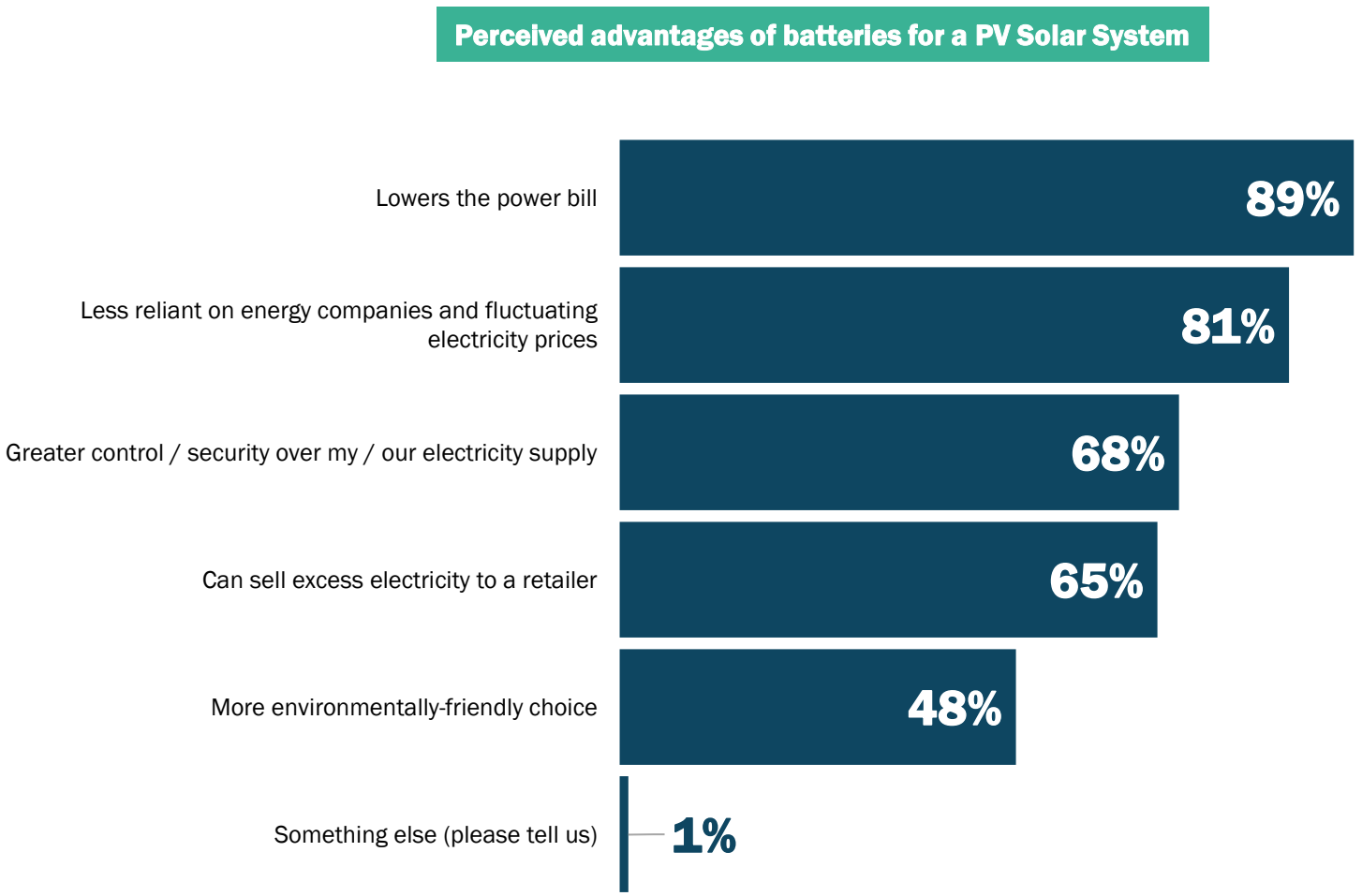
As with PV solar systems, the top consideration for buying batteries for this type of system is initial cost.

Lifespan is a second key consideration – this is more of a focus than with other appliances.



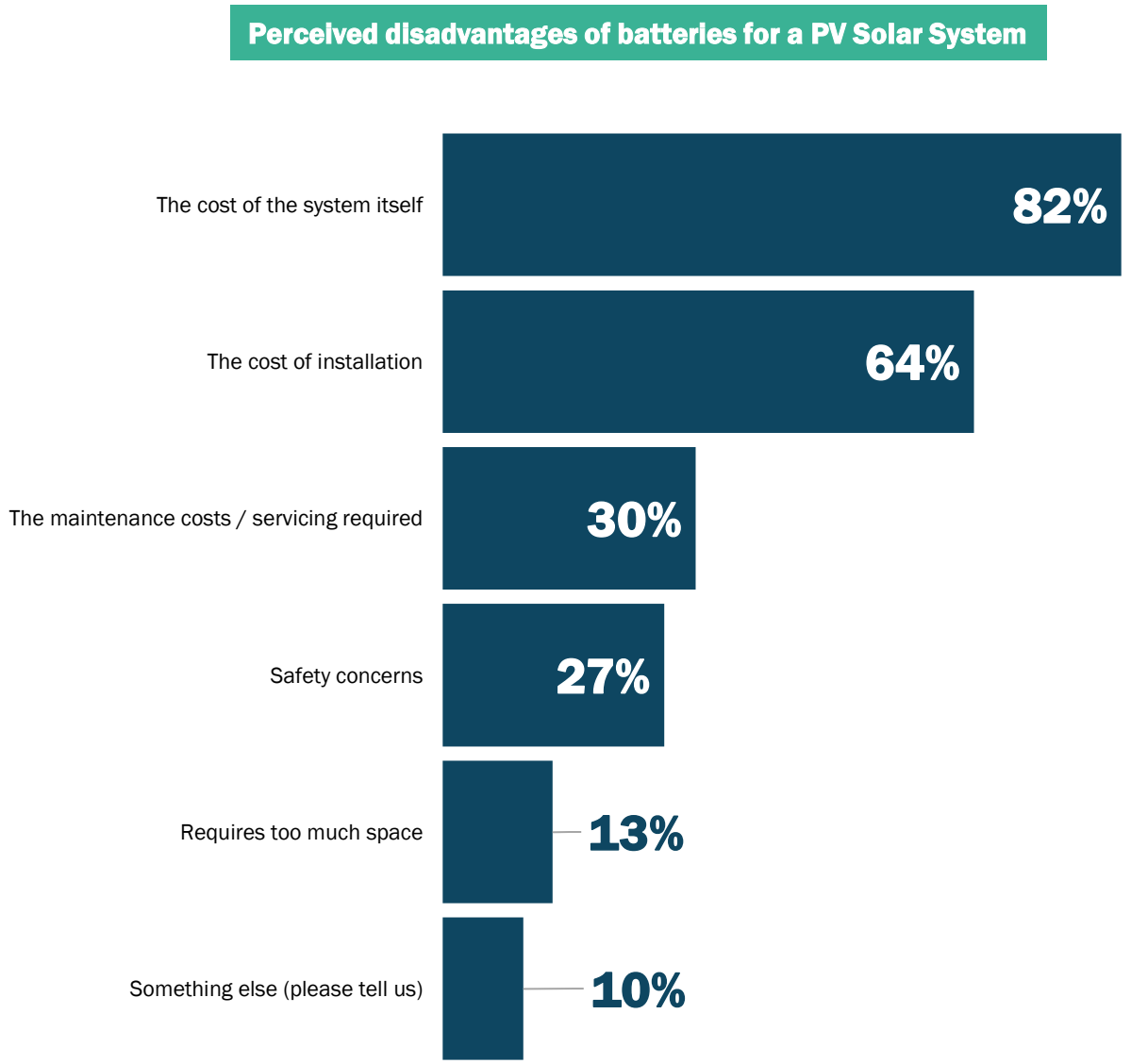
Q48. What are the things you would consider when buying batteries for a photovoltaic solar system?
BASE: those with a PV solar system but without batteries for it, n=86

Similar to PV solar systems, the savings on power bills are obvious to most who know at least a little about solar batteries



Q47: And which, if any, do you think are advantages to having batteries for a PV solar system?
BASE: those who own a PV solar system but don't have batteries, with some knowledge of them, n=75

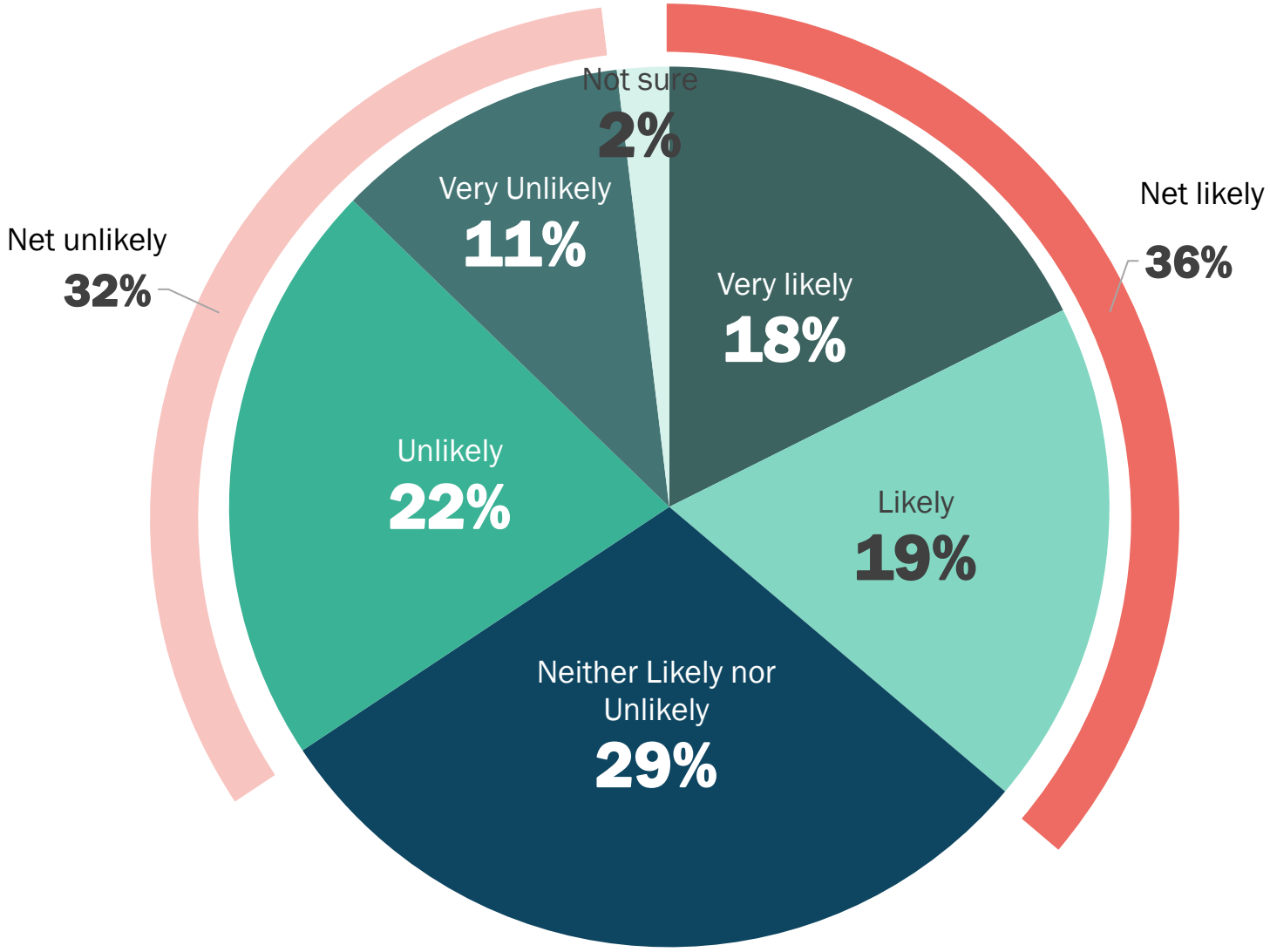
Perceived disadvantages of batteries are similar to PV Solar Systems – focussing on initial cost to purchase and install



Q46: And which, if any, do you think are disadvantages to having batteries for a PV solar system?
BASE: those who own a PV solar system but don't have batteries, with some knowledge of them, n=75

Over one-third of PV solar system owners would consider installing batteries in the next 5 years.

Likelihood to install batteries for a PV solar system (among existing PV solar owners)

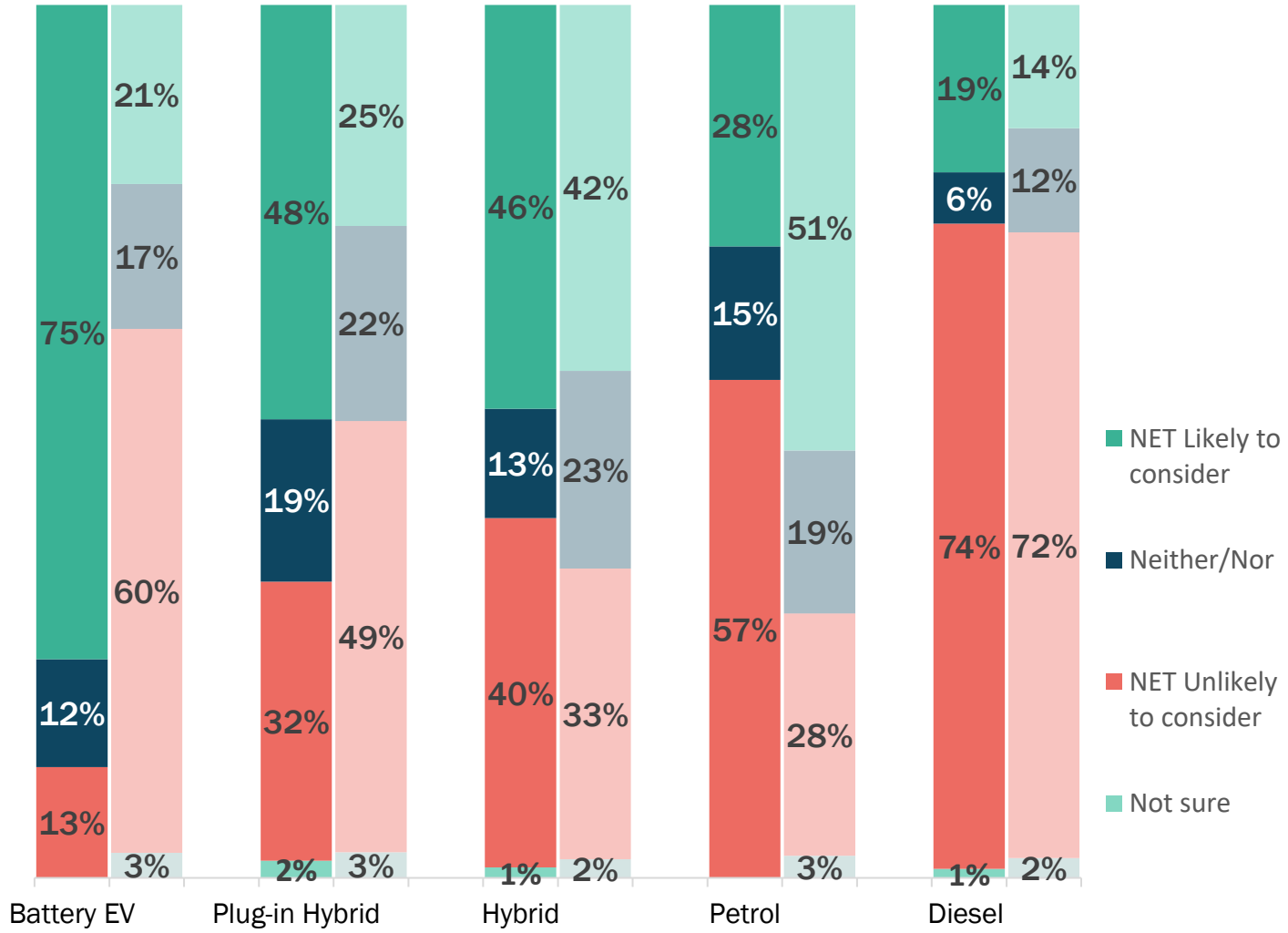


Q49: In the next five years, how likely are you to buy batteries for any solar power system you had?
BASE: Solar PV owners without solar batteries, n=86
Note that the 22% and 11% unlikely / very likely totals 32% 'Net unlikely' when using non-rounded figures.

EVs & Smart Chargers

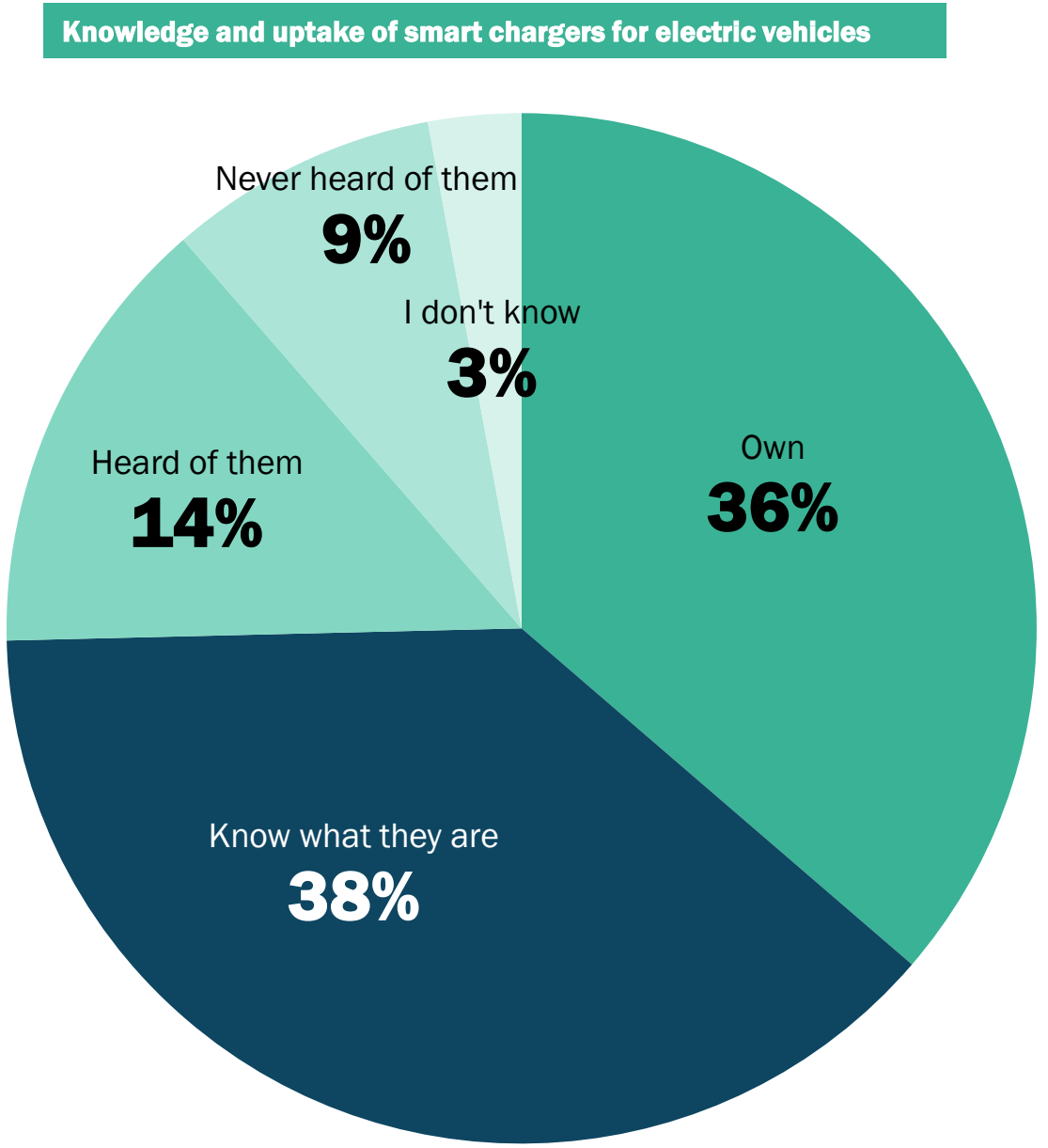
Petrol vehicles have the strongest future consideration among non-EV owners, and hybrids are not far behind.

Future purchase consideration across different vehicle types
BEV / plug-in hybrid owners (column on left)
Non-BEV / plug-in hybrid owners (column on right)



Q58: Thinking about your next vehicle purchase, how likely are you to consider purchasing the following vehicles?
BASE: Own BEV or Plug-in Hybrid n= 123, Those who don't own a BEV or Plug-in Hybrid n= 1,319

Most BEV/ plug in hybrid owners have heard of smart chargers, and over one-third have one

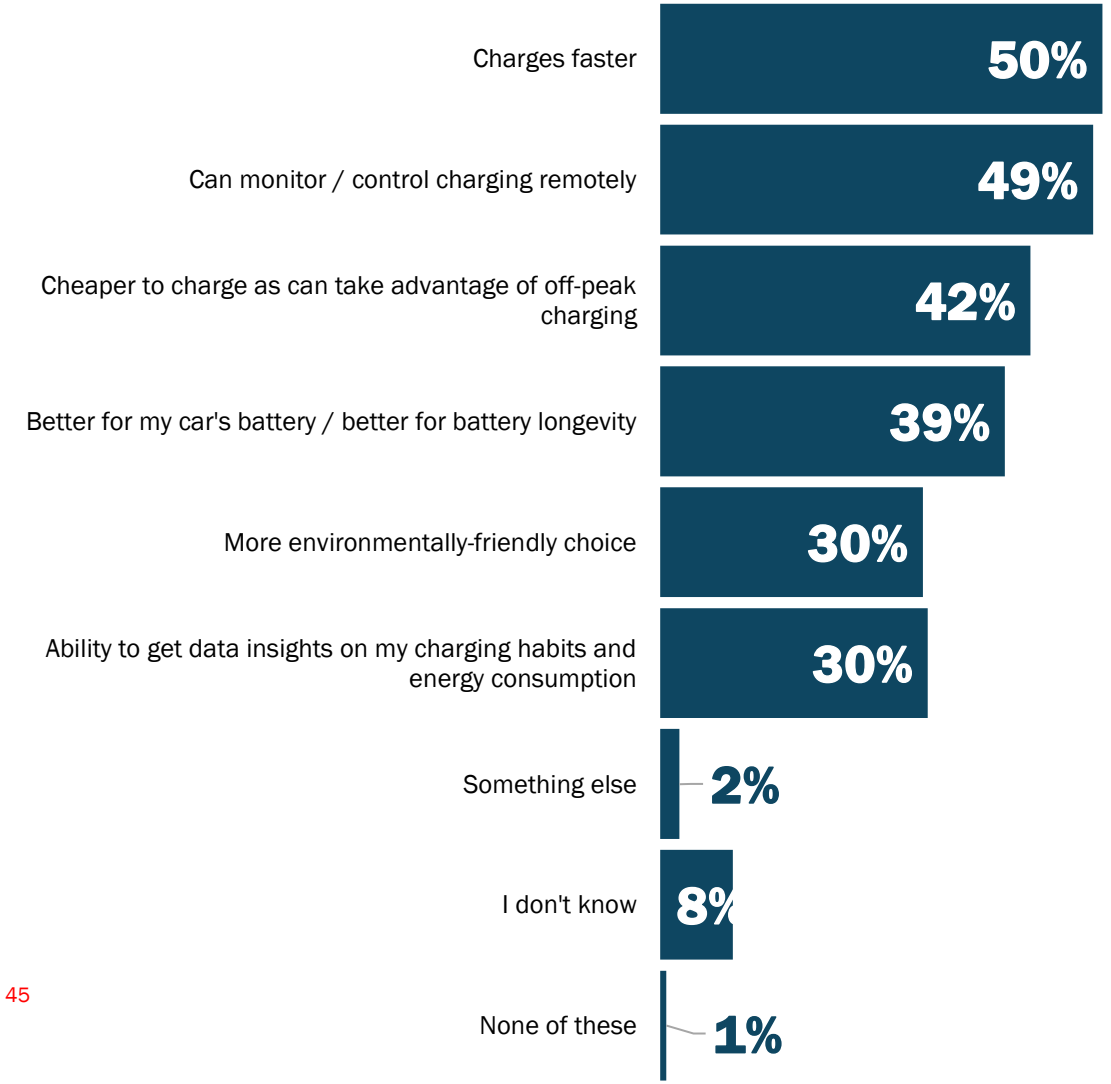


Q61: Do you have a smart charger for your electric vehicle?
BASE: those with an EV (Battery or Plug-in Hybrid), n=123

Speed of charging followed by controlling or monitoring charging remotely are the most common perceived benefits of smart chargers

Cost savings (through taking advantage of off-peak charging) are the third most common perceived benefit at just over 4 in 10.

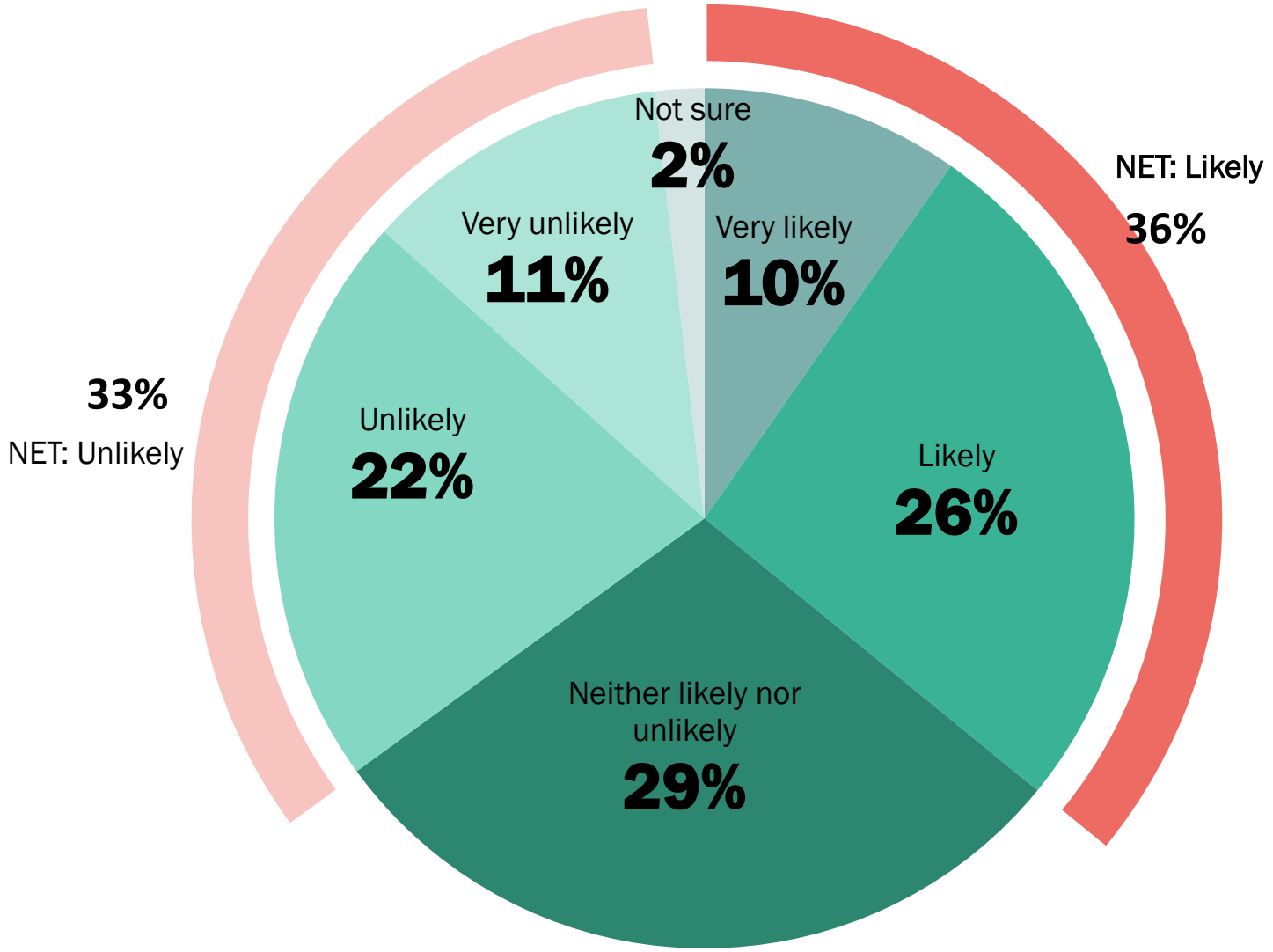
Perceived advantages of smart chargers (among BEV and plug-in hybrid owners who don't own a smart charger but know a bit about them).



Q63: What are the advantages of having a smart charger?
BASE: those with an electric vehicle, without a smart charger but with some knowledge of them, n= 45
SMALL SAMPLE SIZE

Over one-third of BEV and plug-in hybrid owners are likely to purchase a smart charger in future.

Likelihood of purchasing smart charger in future (among BEV and plug-in hybrid owners)



Q64: Knowing this, how likely are you to buy a smart charger?
BASE: those without a smart charger for an EV (and own a BEV or plug-in hybrid), n=77

Appendix

Further detail on sample structure

The following tables include unweighted results for key profiling information, alongside the % point difference to the weighted result. The bigger the difference, the larger the weighting factor applied to this type of response.

Age		vs Weighted
18-34	18%	3%
35-54	33%	-1%
55+	49%	-3%

Gender		vs Weighted
Male	48%	1%
Female	52%	-1%
Another gender / Prefer not to say	<1%	

Household Income		vs Weighted
Up to $50,000	18%	-8%
$50,001-$100,000	27%	2%
$100,001-$150,000	24%	4%
$150,001 or more	21%	2%
Rather not say	11%	0%

Homeowner status		
Own home with mortgage	55%	3%
Own home outright	45%	-3%

Ethnicity		
NZ European or Pākehā	71%	-5%
New Zealand Māori	16%	+9%
NET Pasifika	5%	+3%
NET Asian	14%	+3%
Other	10%	-2%

Region		vs Weighted
Northland	3%	+0%
Auckland	34%	+1%
Waikato	8%	+1%
Bay of Plenty	6%	+0%
Gisborne	1%	+0%
Hawke's Bay	4%	+0%
Taranaki	2%	+0%
Manawatū – Whanganui	5%	+0%
Wellington	13%	+0%
Tasman	1%	+0%
Nelson	1%	+0%
Marlborough	0%	+0%
West Coast	1%	+0%
Canterbury	13%	-1%
Otago	6%	+0%
Southland	2%	+0%

An estimated 19% of homeowners have an induction cooktop

Is your main cooktop powered by electricity, gas or something else? (n=926, homeowners)

Electricity	73%
Gas	27%
Something else / don't know	0%

And is your electric cooktop a conventional (coil / solid plate) or a ceramic / radiant / induction cooktop? Please be guided by the pictures and what it looks like if you're unsure. (n=673, have electric cooktop)		Rebased to be of total sample
Conventional coil / solid plate	26%	19%
Ceramic / radiant / induction cooktop	73%	53%
Don't know	0%	0%

BASE: nationally representative sample of homeowners, n=926

The data from this study suggested a high uptake of induction cooktops, with signs that respondents were over-stating ownership due to not always knowing the difference between ceramic and induction cooktops.

For this reason, we ran a second study in February – March 2025, asking explicitly about cooktop ownership.

And, more specifically, is your cooktop induction OR ceramic / radiant / halogen? (n=504, has ceramic / radiant / induction cooktop)

Induction cooktops only heat the pan itself (not the surrounding air / cooktop) and normally automatically switch off when you remove the pan. You need pans with a special magnetic base to use an induction cooktop.

Ceramic / radiant / halogen cooktops stay hot for a while after cooking and don't turn off automatically. You can use any type of pan with this type of cooktop.

		Rebased to be of total sample
Induction	35%	19%
Ceramic / radiant / halogen	62%	33%
Don't know	3%	2%

Likelihood of buying different appliances when next replacing / upgrading (among non-owners)

	Induction stove / cooktop	Heat pump	Hot water heat pump system	Solar power system	Batteries for a solar power system	Smart charger for an EV (among owners who don't currently have SC)
Very unlikely	13%	14%	9%	25%	11%	12%
Unlikely	16%	15%	12%	26%	22%	22%
Neither likely nor unlikely	31%	24%	32%	26%	29%	29%
Likely	18%	27%	28%	12%	19%	26%
Very likely	13%	16%	8%	6%	18%	10%
TOTAL UNLIKELY	29%	29%	21%	51%	32%	33%
TOTAL LIKELY	32%	43%	36%	18%	36%	36%
Base	1,065	348	1,397	1,335	86	77

Q22: When you next change your stove / cooktop, how likely are you to buy an induction stove / cooktop? BASE: n=1,065 (don't currently have)
Q31: If you were changing or adding to your household heating system, how likely would you be to install a heat pump? BASE: : n=348 (don't currently have)
Q39: If you were changing your hot water system, how likely are you to consider buying a hot water heat pump system? BASE: n=1,397 (don't currently have)
Q44: In the next five years, how likely are you to buy a solar power system? BASE: n= 1,335 (don't currently have)
Q49: In the next five years, how likely are you to buy batteries for any solar power system you had? BASE: have solar but not batteries n=86
Q64: Knowing this, how likely are you to buy a smart charger? BASE: n=77 (own plug-in hybrid/ battery EV but don't have smart charger)

Knowledge of different systems / appliances

	Induction stove / cooktop	Heat pump	Hot water heat pump system	Solar power system	Batteries for a solar power system
NET a lot / a little	72%	90%	27%	60%	89%
A lot	11%	13%	4%	7%	29%
A little	61%	76%	23%	53%	60%
Nothing, but I have heard of them	27%	10%	36%	27%	11%
I haven't heard of them	2%	0%	37%	13%	0%
Base	416	348	1,397	1,335	86

Q19: How much do you know about induction cooktops? BASE: n=1,065 (don't currently have)
Q28: How much do you know about heat pumps? BASE: n=348 (don't currently have)
Q36: How much do you know about heat-pump hot water systems? BASE: n=1,397 (don't currently have)
Q40: How much do you know about photovoltaic solar power? BASE: n=1,335 (don't currently have)
Q45: How much do you know about batteries that you can use to store energy from a solar power system BASE: have solar but not batteries n=86

Age of existing energy systems / appliances

	Gas stove / cooktop	Main heating system is not a heat pump	Hot water system that is not a heat pump
Less than two years	13%	8%	11%
Two to five years	25%	26%	20%
Six to ten years	28%	24%	18%
More than 10 years	30%	37%	42%
I really don't know	3%	4%	10%
Base	416	348	1,397

Q16: How old is that stove or cooktop? **BASE**: n= 416 (own gas cooktop)
Q25: How old is [your main household heating system]? **BASE:** n=365 (don't currently use a heat pump)
Q33: How old is the hot water system? **BASE:** n=1,397 (don't currently have a heat pump hot water system)

Reasons to change by appliance (among non-owners)

	Have gas cooktop	Main heating system is not a heat pump	Hot water system that is not a heat pump
When it breaks down	73%	67%	82%
When I can afford to replace it	22%	27%	22%
Part of a lifestyle or life stage change	24%	20%	18%
When the ongoing maintenance cost is too high	21%	14%	22%
When the ongoing running cost is too high	13%	22%	20%
To make a better choice for the environment / lower emissions choice	8%	10%	9%
When there are better products or technology available	9%	13%	15%
Base	416	348	1,397

Q17: What would make you buy a replacement for it (stove or cooktop)? **BASE:** n=416 (have gas cooktop)
Q26: What would make you buy a replacement for that heating system? **BASE:** n=348 (don't currently use a heat pump)
Q34: What would make you buy a replacement for the hot water system? **BASE:** n=1,477 (don't currently have a heat pump hot water system)

Things to consider when changing or upgrading, by appliance (among non-owners)

	Cooktop	Heating system	Hot water heating system	Solar power system	Batteries for a solar power system
The cost to purchase one	75%	76%	76%	82%	83%
How well it works	75%	73%	67%	63%	67%
How energy efficient it is (save money)	61%	67%	69%	67%	60%
The ongoing running costs (including maintenance)	49%	59%	56%	60%	51%
How long it will last	57%	52%	62%	61%	76%
Long-term availability of fuel type	29%	37%	25%	NA	NA
How it looks / aesthetics	42%	27%	7%	15%	2%
The carbon emissions savings / how climate friendly it is	15%	27%	20%	28%	16%
Base	416	348	1,397	1,335	86

Q18: What are the things you would consider when replacing it with a new oven / cooktop? **BASE**: n=416 (have gas cooktop, not electric)
Q27: What are the things you would consider when changing household heating systems? **BASE:** n=348 (don't currently have heat pump)
Q35: What are the things you would consider when changing hot water systems? **BASE:** n=1,397 (don't currently have hot water heat pump)
Q43: What are the things you would consider if deciding to buy a solar system? **BASE:** n=1,335 (don't currently have solar PV)
Q48: What are the things you would consider if deciding to buy batteries for your solar system? **BASE:** n=86 (don't currently have batteries but own a solar power system).

Perceived advantages of appliances (among non-owners)

	Induction stove / cooktop	Heat pump	Hot water heat pump system	Solar power system	Batteries for a solar power system	Smart charger for an EV (among EV owners)
Cool as well as heat		68%				
Constant temperature		49%				
Safer	46%					
Easier to clean	44%					
Saves money			41%	89%	89%	
Less reliant on grid and power prices				69%	81%	
Earns money				62%	65%	
More energy efficient / economical	39%	37%	49%			42%
Works faster	29%	31%	21%			50%
More environmentally-friendly choice	23%	22%	37%	67%	48%	30%
It looks better	16%					
Works better	12%					
The lower lifetime cost	11%	15%	25%			39%
It's better for health	14%					
Base	303	313	388	805	75	45

Q21: Do you think are advantages to having an induction cooktop? **BASE:** n=303 (have gas cooktop, know a lot/ a bit about induction cooktops)
Q30: Do you think are the advantages to having a heat pump? **BASE**: n=313 (don't currently have and know a lot/ a bit about them)
Q38: Do you think are the advantages to having a hot water heat pump system? **BASE**: n=433 (don't currently have and know a lot/ a bit about them)
Q42: Do you think are the advantages to having solar power? **BASE**: n=805 (don't currently have and know a lot/ a bit about them)
Q47: Do you think are the advantages to having batteries for your solar system? **BASE**: n=75 (have solar power, don't currently have and know a lot/ a bit about batteries)
Q63: Do you think are advantages to having a smart charger? **BASE:** n=45 (plug in hybrid/ battery EV and know about smart chargers)

Perceived disadvantages of appliances (among non-owners)

	Induction stove / cooktop	Heat pump	Hot water heat pump system	Solar power system	Batteries for a solar power system	Smart charger for an EV (among EV owners)
My current technology won't work	47%					13%
The cost of the appliance	47%	58%	51%	79%	82%	69%
The cost to install	29%	58%	56%	78%	64%	72%
Doesn't work as quickly	18%	18%	25%			9%
Doesn't work as well (in some conditions)	16%	31%	27%	48%		16%
The ongoing cost of running it	14%	45%	21%			15%
Noise		39%	16%			
The ongoing cost of maintaining it	10%	36%	27%	34%	30%	15%
How it looks / aesthetics / space required	7%	34%		15%	13%	
Safety					27%	
Base	303	326	388	805	75	45

Q20: Do you think are disadvantages to having an induction cooktop? **BASE:** n=303 (have gas cooktop, know a lot/ abit about induction cooktops)
Q29: Do you think are the disadvantages to having a heat pump? **BASE**: n=326 (don't currently have and know a lot/ abit about them)
Q37: Do you think are the disadvantages to having a hot water heat pump system? **BASE:** n=388 (don't currently have and know a lot/ abit about them)
Q41: Do you think are the disadvantages to having solar power? **BASE:** n=805 (don't currently have and know a lot/ abit about them)
Q46: Do you think are the disadvantages to having batteries for your solar system? **BASE:** n=75 (have solar but don't currently have batteries and know a lot/ abit about them)
Q62: Do you think are disadvantages to having a smart charger? **BASE:** n=45 (plug in hybrid/ battery EV and know about smart chargers)