Electricity consumer behaviour survey

Residential consumers and small businesses

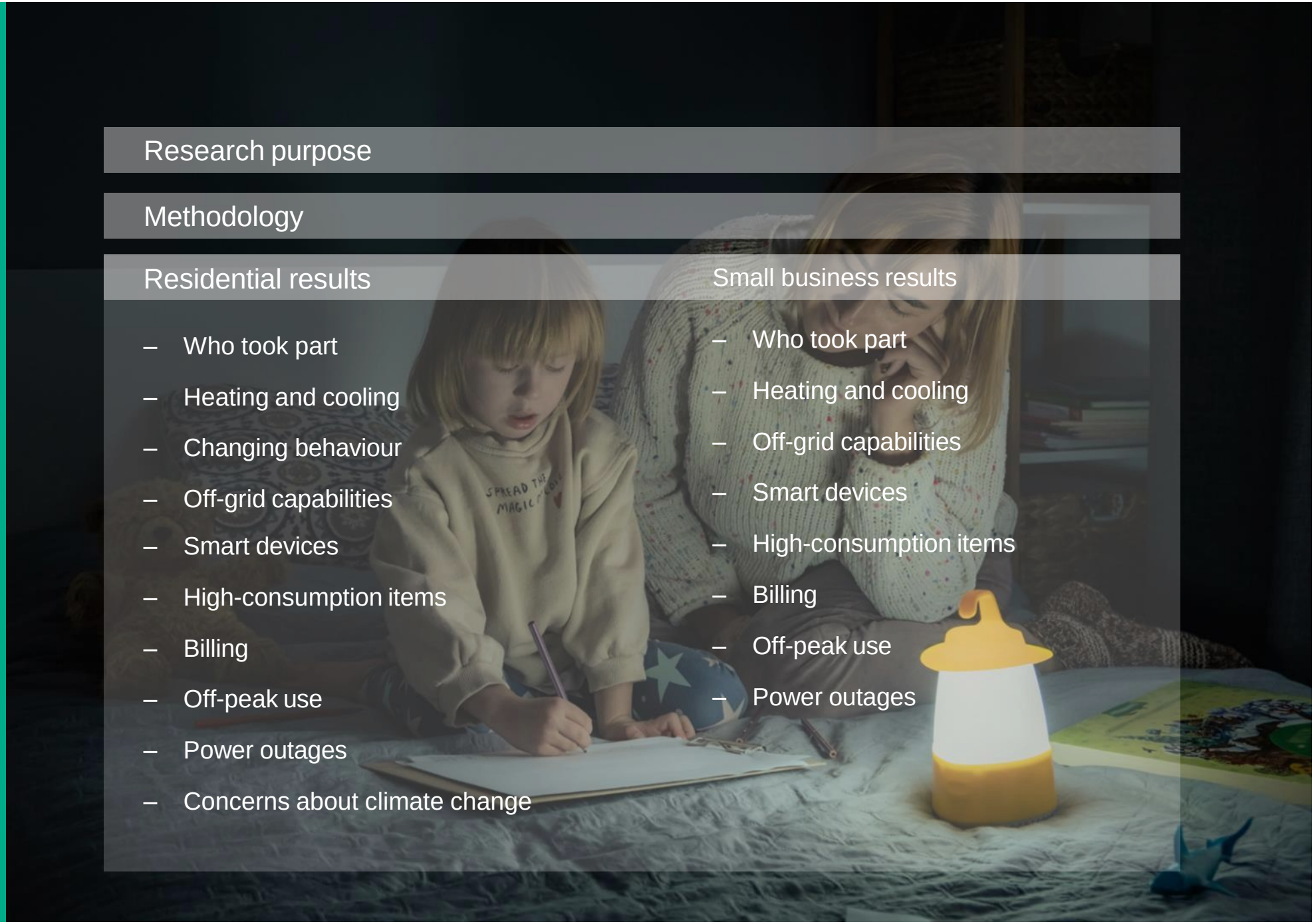
2023 baseline survey results

December 2023

verian

Consumer Advocacy Council

Contents



Research purpose

The Consumer Advocacy Council (the Council) is an independent body established to advocate on behalf of small electricity consumers (households and small businesses).

These consumers face barriers to making their voices heard and influencing decisions that may affect them in relation to electricity provision. This reflects:

1. the complexity of the sector
2. the time and resource required to be involved in decision-making processes
3. cultural differences and language barriers.

The Council's job is to effectively advocate for small electricity consumers and navigate these barriers on their behalf.

The Council commissioned Verian to conduct research with households and small businesses to:

- understand small consumers' views and behaviour regarding electricity in New Zealand
- provide a baseline for future research, and
- create a high quality and robust survey which can be used to build understanding year-on-year and inform the Council's work.

Key areas of interest are:

Small consumers' electricity use, their motives for what they use, and their intention to change their use over time, focusing on:

- heating and cooling
- off-grid capabilities
- smart devices
- high-consumption items
- billing, including the cost, type of bill and motivation to get savings
- anticipated changes to lifestyle and behaviour in the future.

Methodology

	Fieldwork dates	Sample source	Number of online interviews	Survey length	Margin of error	Quotas
Households	4th – 25th July 2023	Kantar's consumer online research panel	1,001	15 minutes	Findings based on the full sample have a maximum margin of error of +/- 3.1% (at the 95% confidence level)	Quotas were set on age by gender, region, household size and ethnicity
Small businesses (fewer than 20 employees)		Kantar's business online research panel	500	11 minutes	Findings based on the full sample have a maximum margin of error of +/- 4.4% (at the 95% confidence level)	Quotas were set on business size

- Any differences reported in this research are significant at the 95% confidence level.
- Individual percentages do not always equal the 'nett percentages'. This is due to rounding.

Residential results

01

Sample profile

Who took part – New Zealand residents

Gender

Women 51%

Men 49%

Age

18-29	22%
30-39	17%
40-49	17%
50-59	17%
60-69	13%
70+	14%

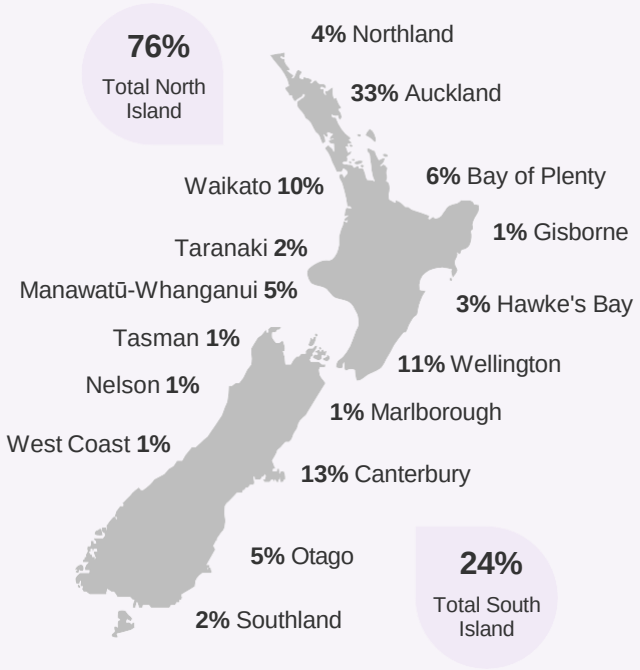
Ethnicity

NZ European/Pākehā	69%
Māori	12%
Asian	14%
Pacific peoples	6%
Another ethnicity	4%

Languages spoken

English	93%
Te reo Māori	5%
Cantonese	3%
Samoan	2%
Gujarati	2%
NZ Sign Language	1%
Another language	8%

Region



Household size

Small (1-2 people) | **Medium** (3-4 people) | **Large** (5+ people)

Property type

Standalone house	78%
Unit/flat/apartment	11%
Townhouse/duplex	8%
Other	2%
Not sure	1%

Property ownership

Own - with mortgage	36%
Own - no mortgage	31%
Rent	25%
With family/boarding	6%
Other	1%
Prefer not to say	1%

Dependent children

Yes 35%

No 65%

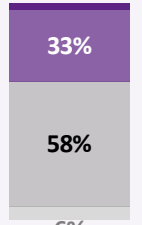
Work location

Employer's place of business	48%
Home	24%
Mobile	4%
Not working	7%
Retired	15%
Other	2%

Household income

Up to $70k	30%
$70-120k	20%
$120k+	34%
Don't know	3%
Prefer not to say	12%

Financial assistance



Arrangement with power company due to hardship

Winter energy payment/ Work and Income assistance

No assistance

Don't know/prefer not to say

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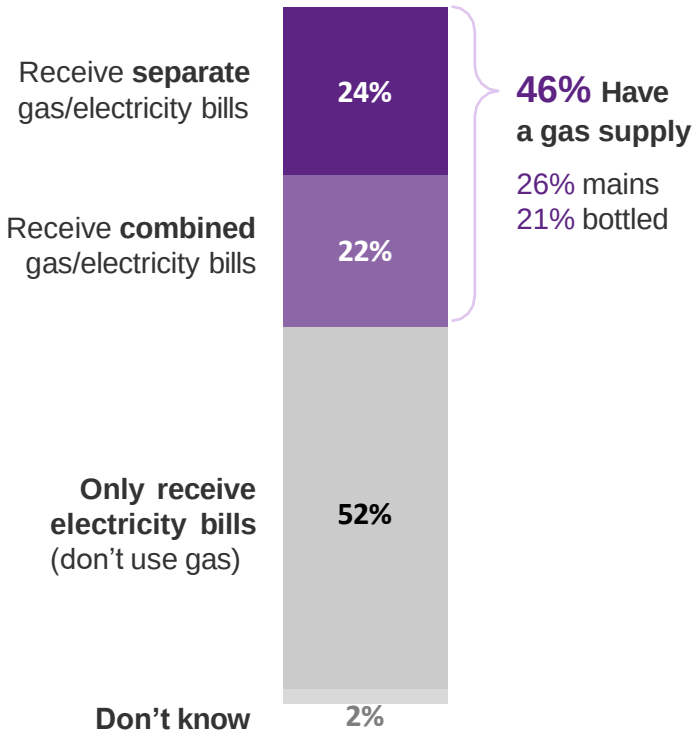
S4 Gender, S5 Age, S7 Ethnicity, HD16 Languages spoken, S6 Region, S8 Household size, HD10 Property type, HD9 Property ownership, HD12 Dependent children, U2 Work location, HD11 Household income, HD15 Financial assistance

Base: Total New Zealanders (n=1,001)

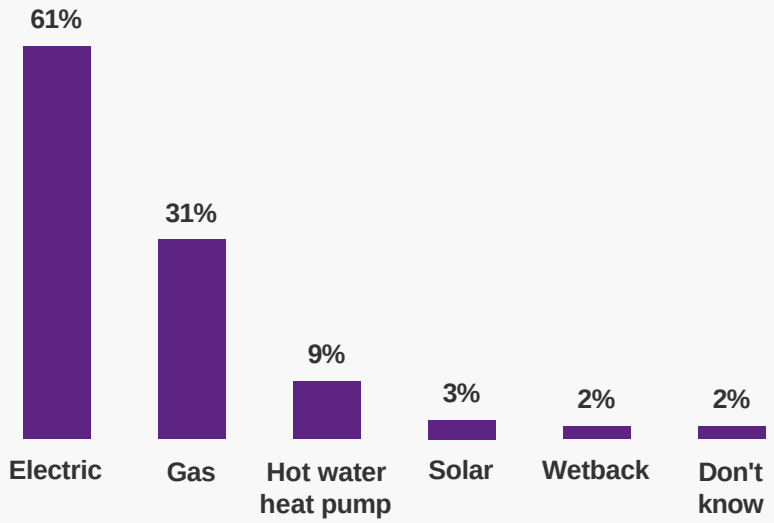
Half of New Zealand households rely totally on electricity and don't use bottled or reticulated gas. Three out of 10 use gas for water heating. The same proportion use it for cooktops

Gas and electricity use

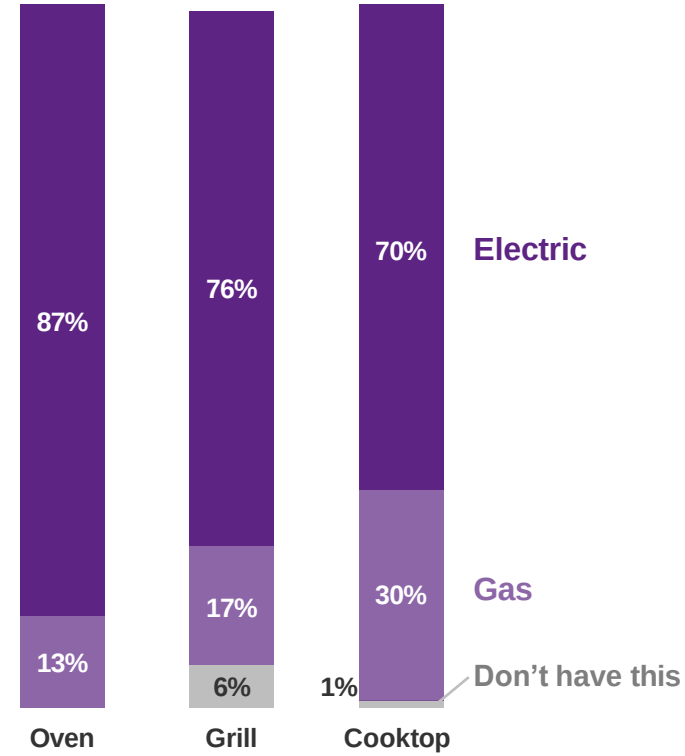
Gas supply



Hot water



Cooking



U4 Do you have a gas supply to your property, HD2 Do you get separate bills for electricity and gas?
A4 Which hot water systems do you use at your property?
A7 Which energy source do you use for the following cooking appliances at your property?
Base: Total New Zealanders (n=1,001)

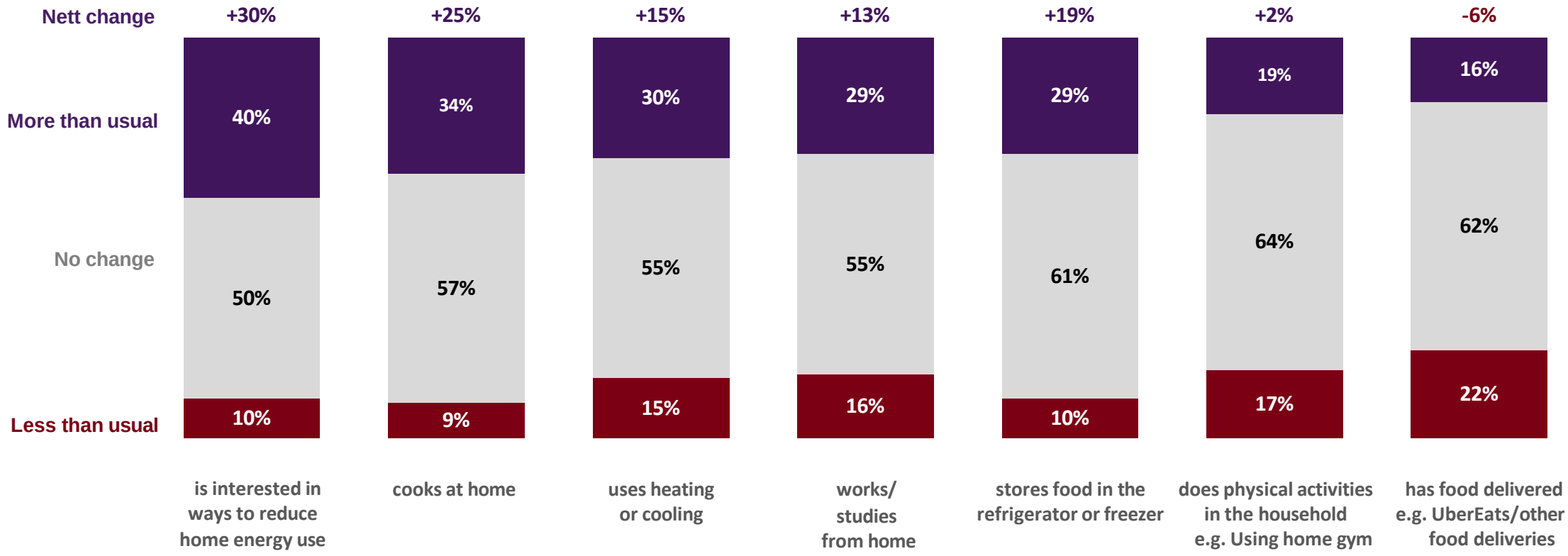
02

Changing behaviour

Four in 10 households are more interested in finding ways to reduce their energy use than they were a year ago. Overall, behaviour has changed with households doing more activities at home, including cooking, working, studying and physical activity, suggesting they're likely to be using more power at home than previously. Households are also getting less food delivered, hinting at a desire to save money.

Change in electricity use/behaviour over time

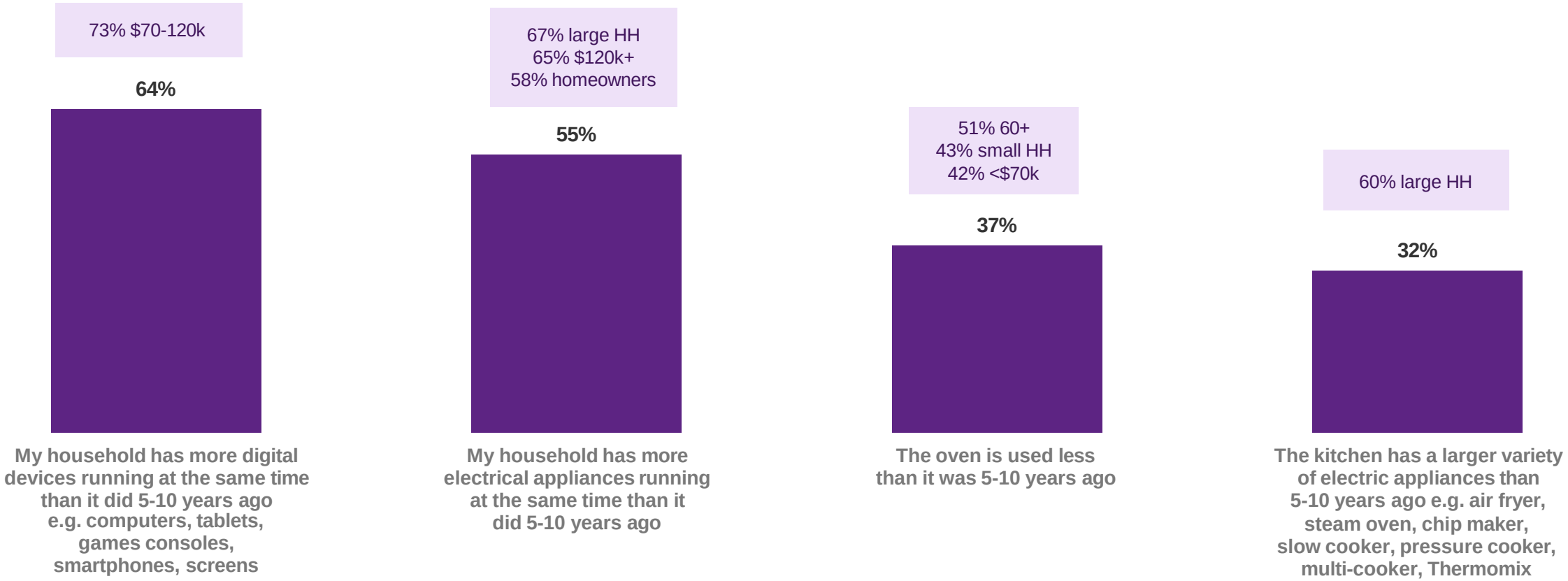
In the last 12 months, my household...



MO2 How have these activities in your household changed in the last 12 months?
Base: All New Zealanders (n=1,001)

Compared with 5-10 years ago, two thirds of households say they have more digital devices running simultaneously. Just over half feel they have more appliances running simultaneously and a third have more electric kitchen appliances. Older, smaller households are more likely to feel they're using their oven less now than they did 5-10 years ago.

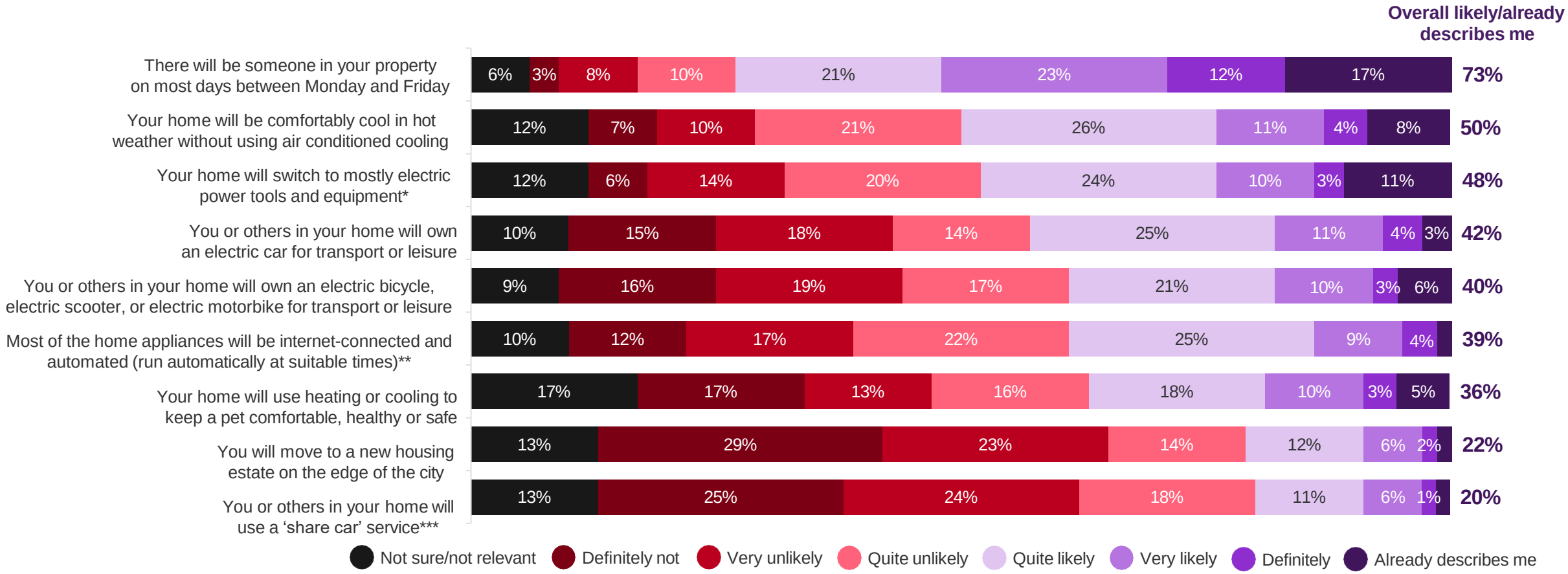
Changes to device/appliance use over time



MO3 Which of the following statements apply to how you charge electrical devices in your household?
Showing the total who said this is 'similar to my household'
Base: All New Zealanders (n=1,001)

In the next 5-10 years, 73% of households anticipate someone being at home most days from Monday to Friday. About half say their household will have switched to using mostly electric garden tools while 42% will have an electric car and 40% will have an electric bike or scooter.

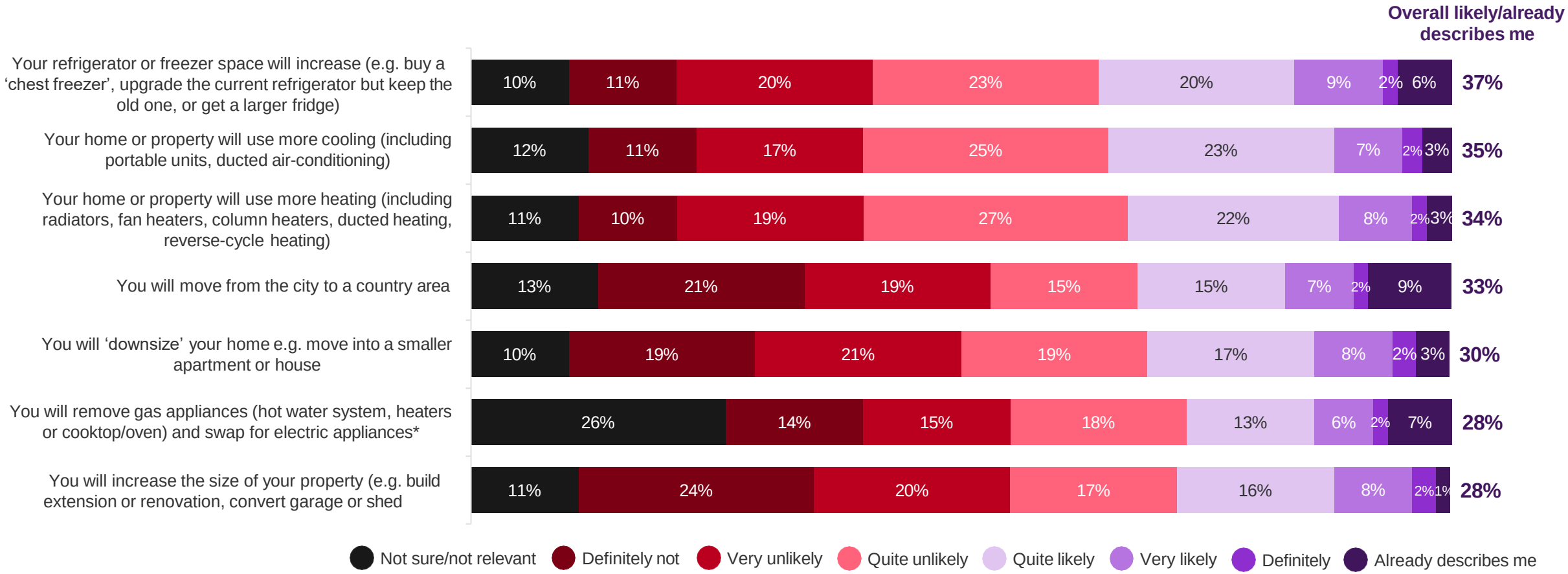
Anticipated changes to device/appliance use over next 5-10 years



MO4 Over the next 5-10 years, how likely do you think it is that the following scenarios will apply to your household?
Base: All New Zealanders (n=1,001)
*e.g. Electric lawnmower, electric drill, electric hedge trimmer, electric whipper snipper, electric chainsaw
**e.g. Robotic vacuum, smart washing machine, smart heating and cooling system, smart dishwasher
***e.g. Cityhop, Mevo, coseats, Zoomy etc.

About a third of households anticipate using more cooling or heating in the next 5-10 years. Of those with mains gas, 32% are likely to remove gas appliances and swap them for electric while 22% of those with bottled gas are likely to switch to electric appliances.

Anticipated changes to lifestyle over next 5-10 years



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MO5 Over the next 5-10 years, how likely do you think it is that the following scenarios will apply to your household?
Base: All New Zealanders (n=1,001)
*Of those with mains gas, 32% say they are likely to remove gas appliances and swap them for electric while 22% for those with bottled gas are likely to switch to electric appliances.

03

Heating/heat retention and cooling

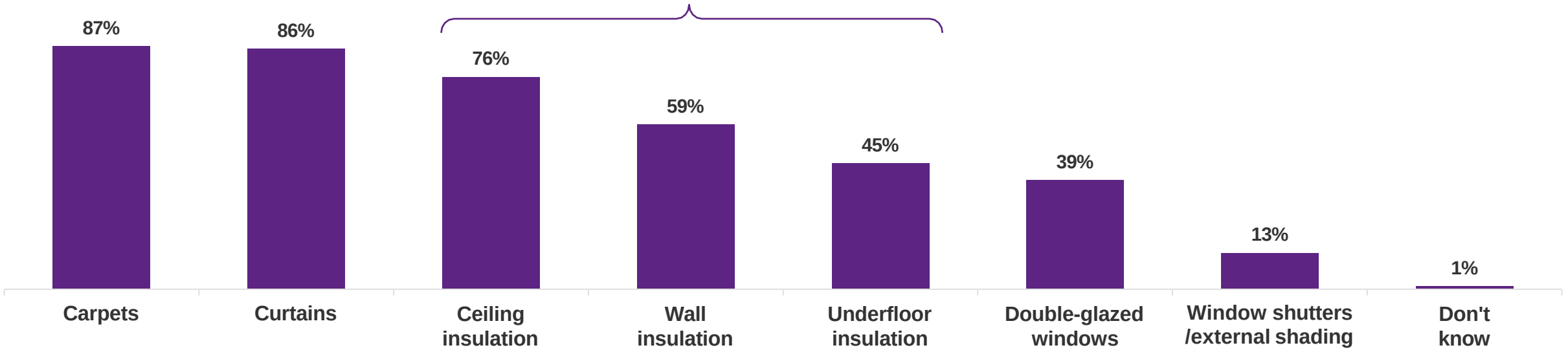
All New Zealanders have at least one method of heat retention (of those listed in the survey). Eighty-eight percent report having at least some insulation, while 12% have none. Having no insulation is most common for younger, low-income renters.

Keeping the warmth in

88% have at least one type of insulation

12% have no insulation. This is higher for those who are:

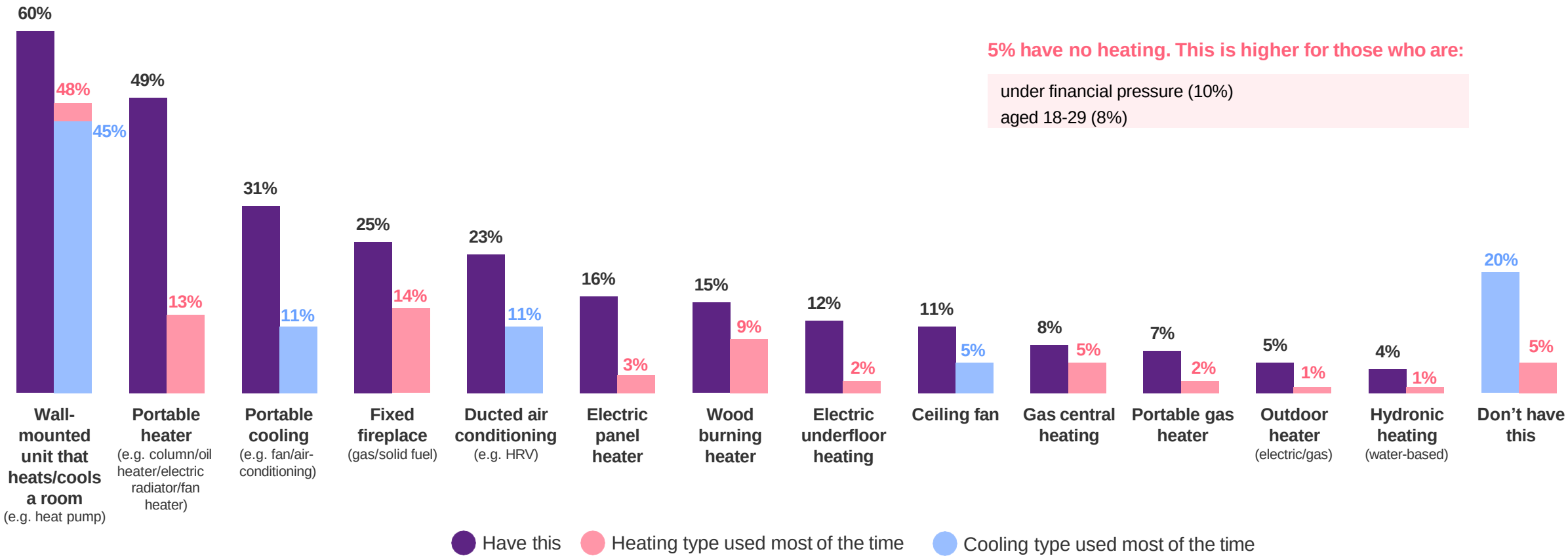
- renting (20%)
- living in Auckland (17%)
- in young households with no children (20%)
- earning <$70k (16%)



A8 Does your property have any of the following?
Base: Total New Zealanders (n=1,001)
Note: Multiple can be selected, so totals may not add to 100%

Heat pumps are the most common appliance both for heating and cooling. Portable heaters are common, but don't get as much use. Five percent forgo heating altogether. This is slightly more common for young New Zealanders and those under financial pressure.

Heating and cooling



5% have no heating. This is higher for those who are:

under financial pressure (10%)
aged 18-29 (8%)

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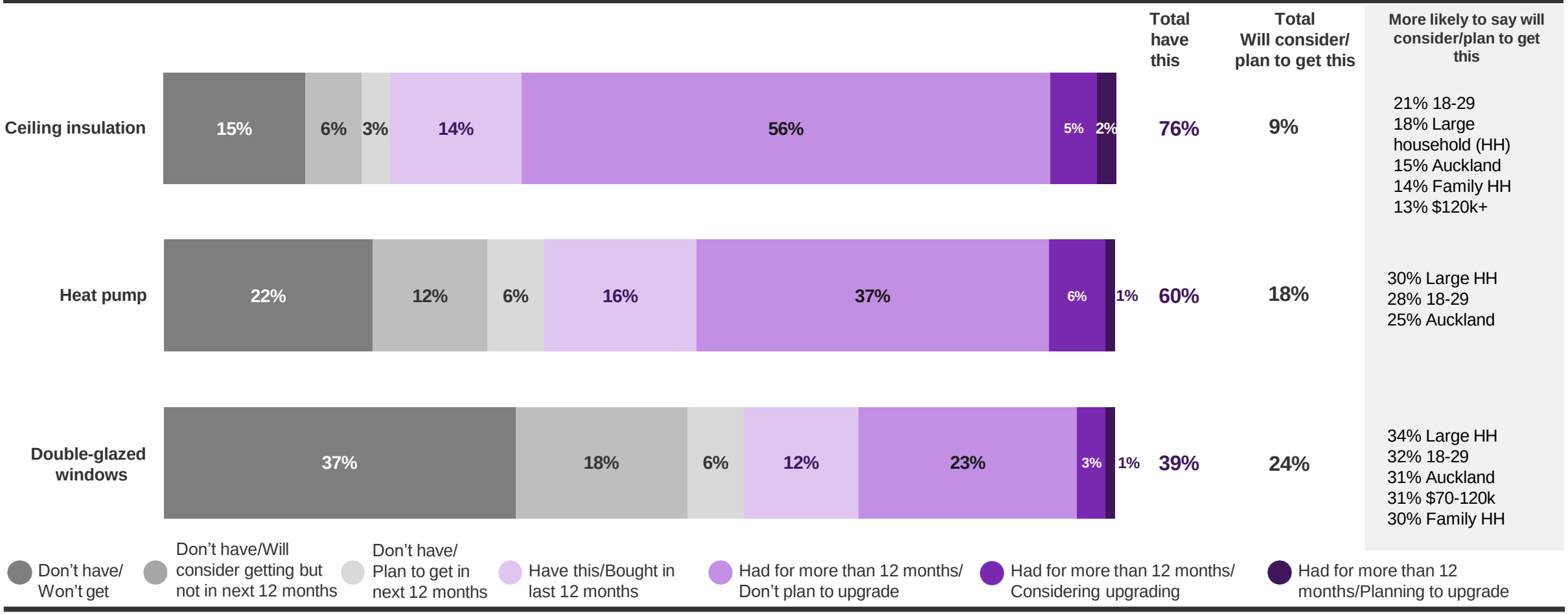
A1 Which of the following do you have at your property?
A2 - Which of the following do you use most of the time to heat your property/place of business? (not showing 1% who don't know)
A3 - Which of the following do you use most of the time to cool your property/place of business? (not showing 2% who don't know)
Base: Total New Zealanders (n=1,001)
Note: Multiple can be selected, so totals may not add to 100%

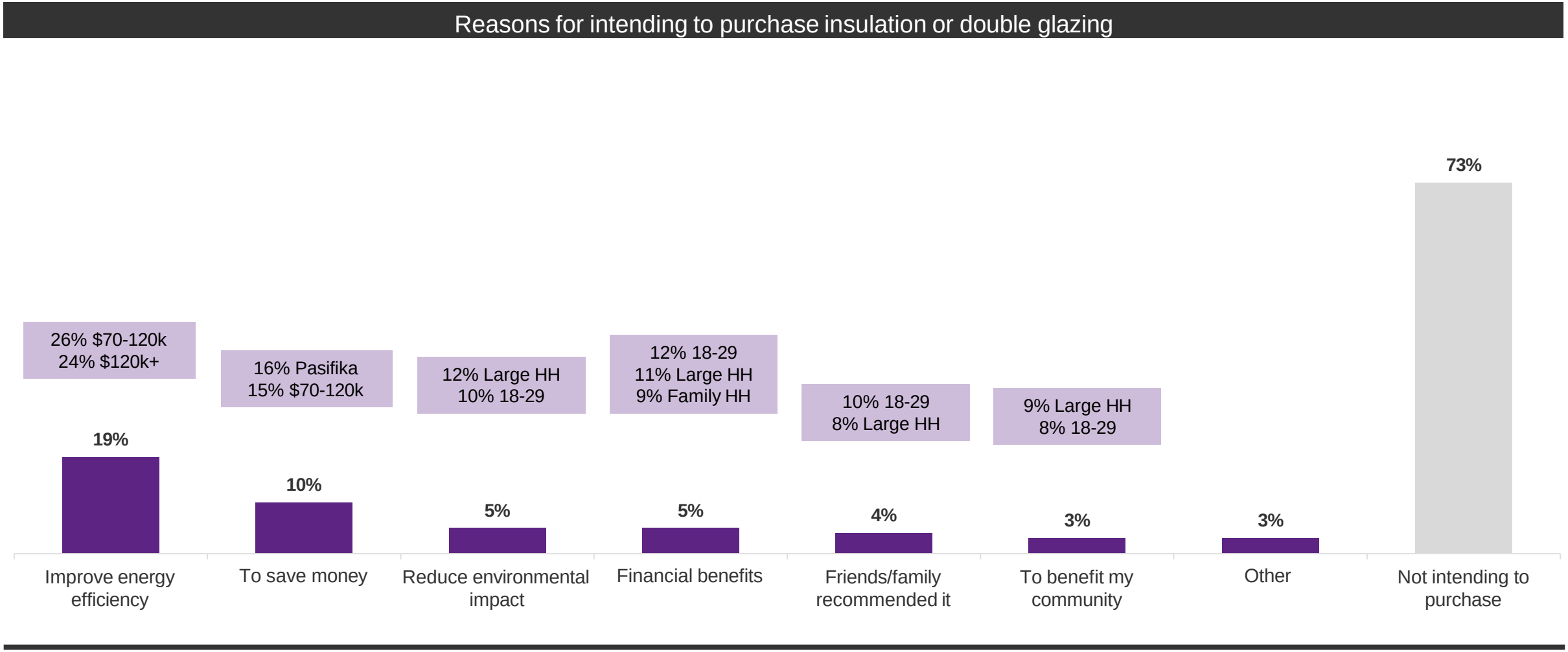
Just over three quarters (76%) of New Zealanders say they have ceiling insulation and 60% have a heat pump. Double-glazed windows are less common, although one in four are considering or planning to install double glazing.

Intention to purchase insulation, double-glazing or heating



I1 Did you have this appliance or system installed in your property in the last 12 months?
I2 Which of the following are you intending to replace or upgrade in your property?
I3 Which of the following are you intending to purchase for your property?
Base: Total New Zealanders (n=1,001)

New Zealanders who intend to invest in double glazing or insulation tend to be motivated most by improving energy efficiency and saving money. These motivations are more common among mid-to-high income earners.



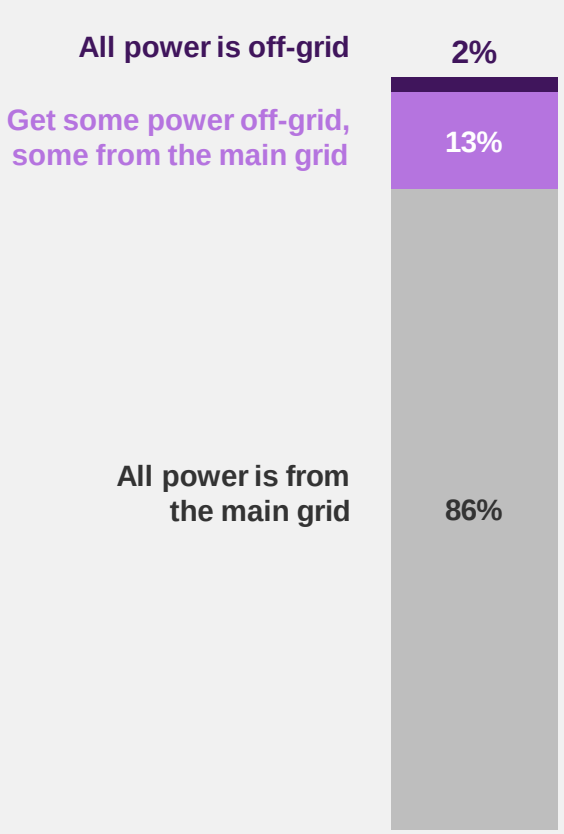
I4 What are the main reasons you are intending to purchase or considering the following?
Showing combined results for those who intend to install ceiling insulation or double-glazed windows
Base: Total New Zealanders (n=1,001)

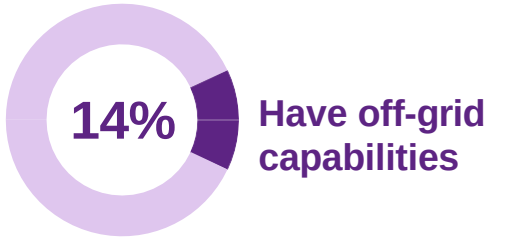
04

Off-grid capabilities

One in seven households report having some capacity to go off-grid. Currently just 2% do not rely on the main grid and a further 5% think it is likely they will be able to stop using the main grid altogether in the next couple of years.

Off-grid energy supply





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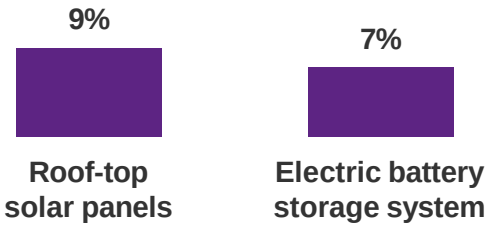
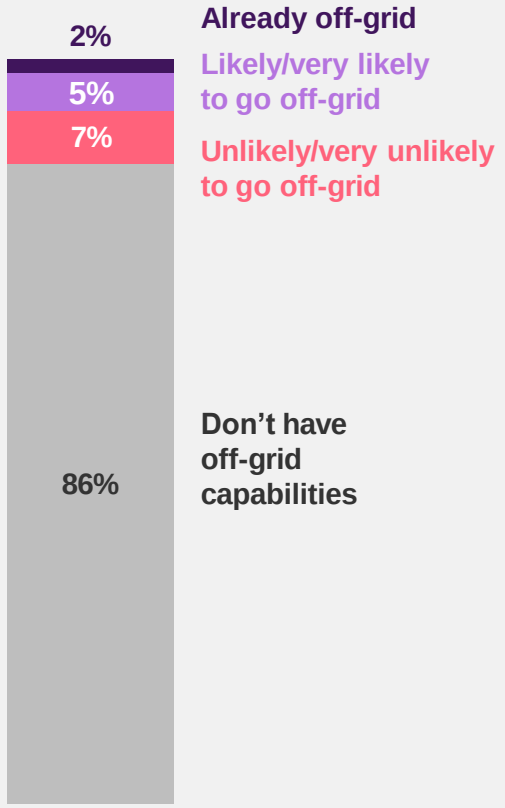


Likelihood of going off-grid in the next 1-2 years



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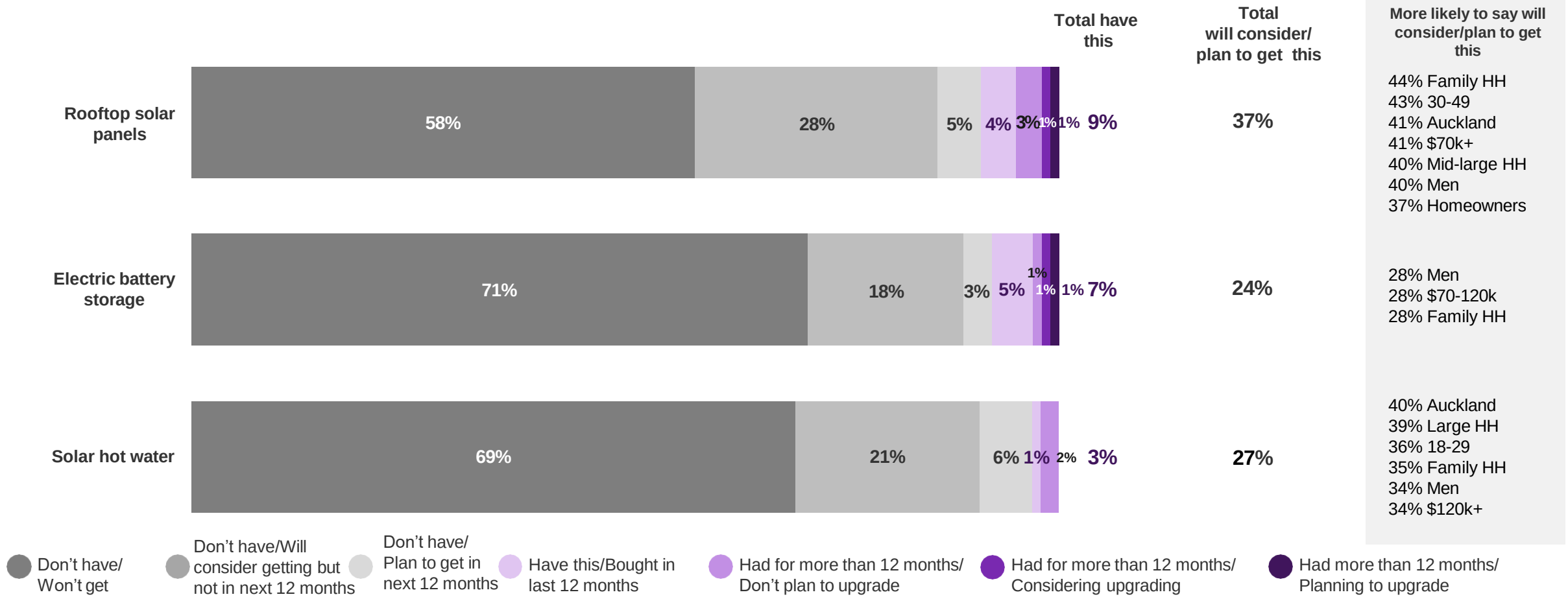
SA1 Which of the following best describes the electricity supply at your property?
A5 Do you have either of the following at your property?
SA2 How likely are you to disconnect your mains electricity in the next 1-2 years?
Base: Total New Zealanders (n=1,001)

Nine percent of New Zealanders have rooftop solar panels, 7% have electric battery storage and 3% have solar hot water. Younger people are more interested in adding off-grid capabilities to their home, as are larger households with higher incomes, especially those in Auckland.

Intention to purchase items to enable off-grid capabilities



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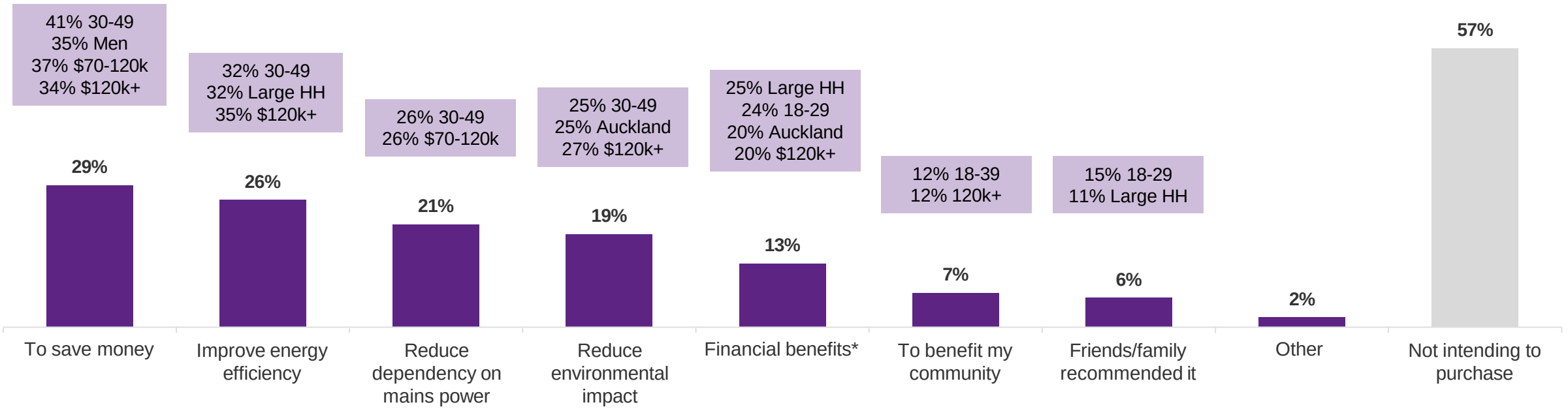
I1 Did you have this appliance or system installed in your property in the last 12 months?
I2 Which of the following are you intending to replace or upgrade in your property?
I3 Which of the following are you intending to purchase for your property?
Base: Total New Zealanders (n=1,001)

New Zealanders intending to buy solar panels or batteries are motivated most by savings, energy efficiency and the ability to reduce their dependency on mains power. Across the board, drivers to move off-grid are more common for people in their 30s to 40s, as well as for mid-high income households.

Reasons for intending to purchase items to enable off-grid capabilities (solar panels/batteries)



I4 What are the main reasons you are intending to purchase or considering the following?
Showing combined results for those who intend to install rooftop solar panels, sonal hot water or an electric battery storage system
Base: Total New Zealanders (n=1,001)
*e.g. grants, subsidies or tax incentives

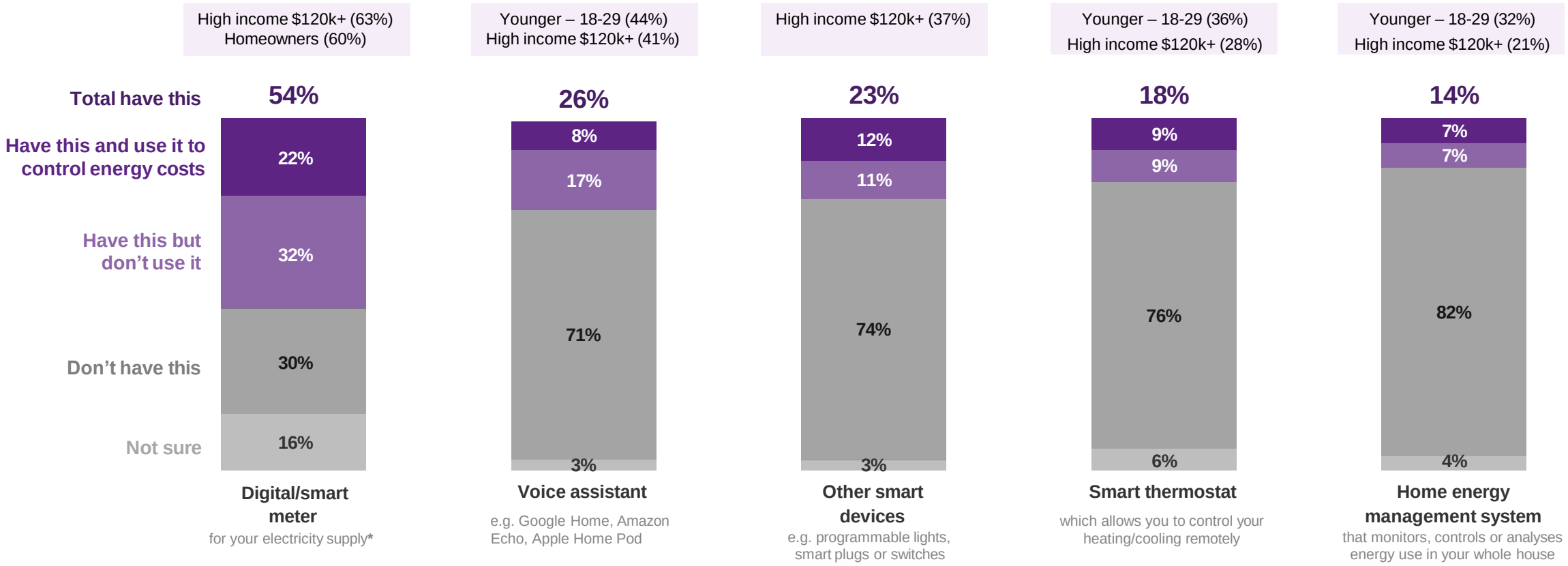
05

Smart devices

Use of smart devices (such as smart plugs or switches) to control energy costs is not widespread. They are more common among high-income New Zealanders, meaning low-income households are less likely to be benefitting from the energy savings these devices may provide.

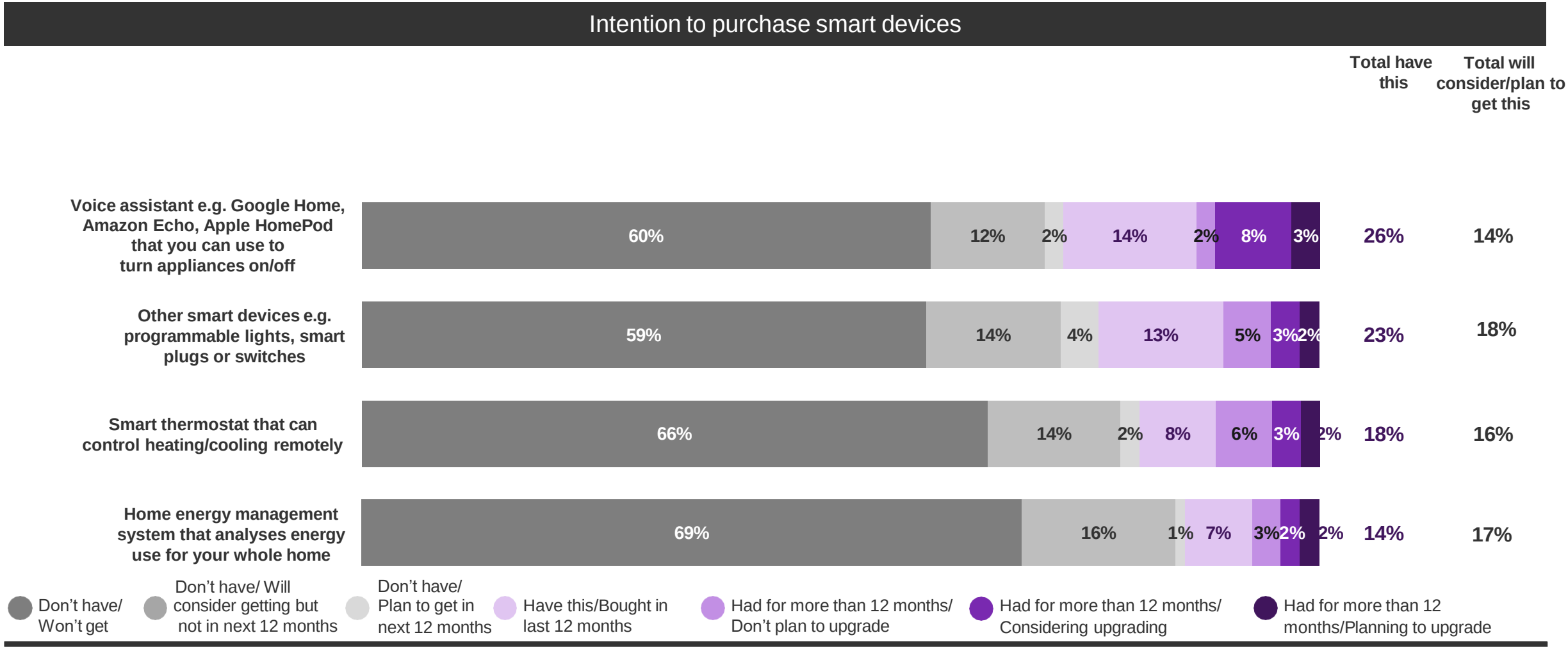
Smart device use

More likely to have smart devices:



M1 Which of the following technology do you have in your property and which do you use to help control your energy costs?
Base: Total New Zealanders (n=1,001) *Most households now have smart meters installed. Responses to this question indicate low awareness of these meters.

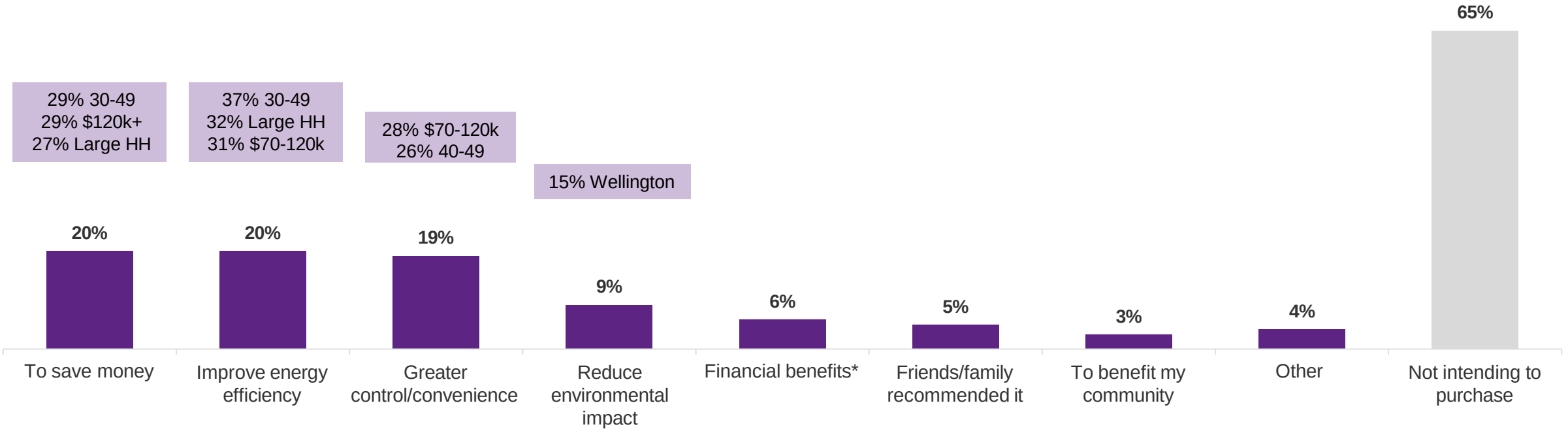
While use of smart devices is still relatively low, close to one in five (18%) New Zealanders is thinking about purchasing a device such as a smart plug or switch, or programmable lights.



I1 Did you have this appliance or system installed in your property in the last 12 months?
I2 Which of the following are you intending to replace or upgrade in your property?
I3 Which of the following are you intending to purchase for your property?
Base: Total New Zealanders (n=1,001)

The main motivations for those intending to purchase a smart device are financial savings, energy efficiency and convenience. People aged 30-49, larger households and mid-high income households are more likely to identify these factors as motivations.

Reasons for intending to purchase smart devices (digital meters/thermostats/energy management systems/voice assistants)



I4 What are the main reasons you are intending to purchase or considering the following?
Showing combined results for those who intend to install digital meters for electricity supply, smart thermostats, home energy management systems or a stand-alone digital voice assistant
Base: Total New Zealanders (n=1,001)
*e.g. grants, subsidies or tax incentives

Just under half (47%) of New Zealanders would be likely to use smart appliances that can be controlled remotely by a power company to run at off-peak times when electricity is cheaper. A third are undecided while 16% say they would not use these appliances.

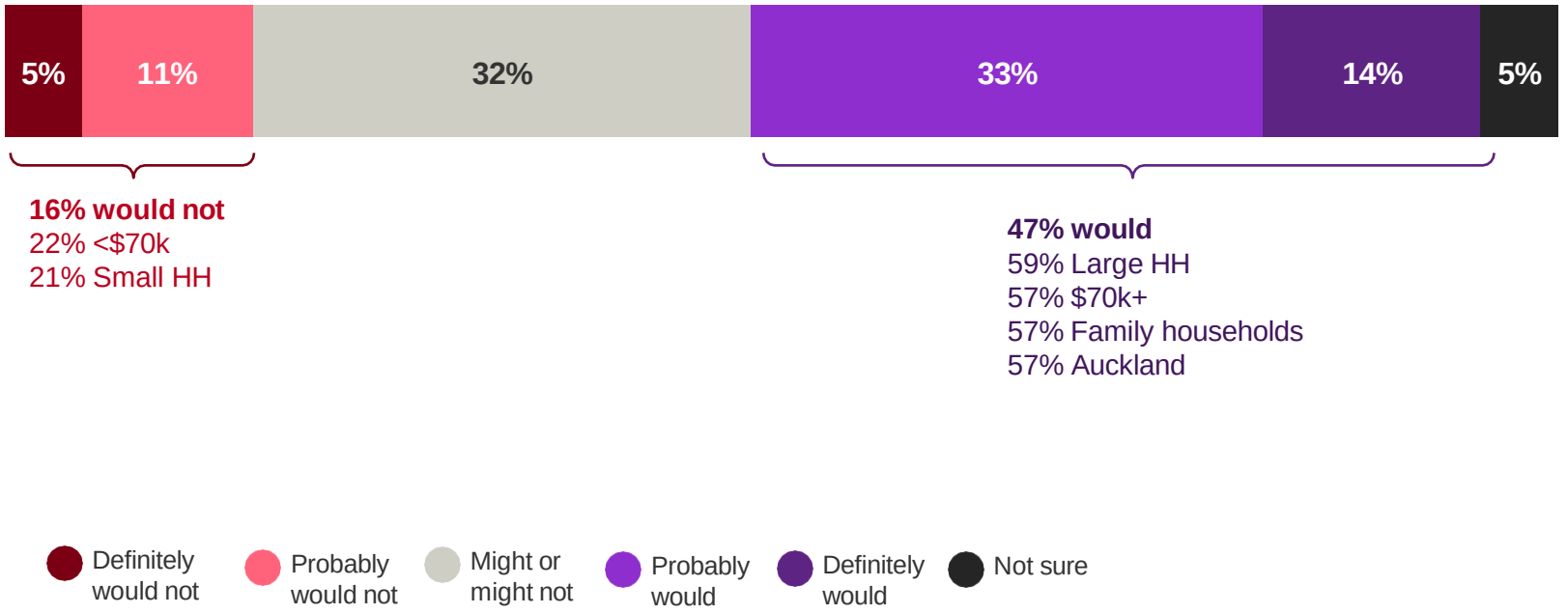
Likelihood to use smart appliances in the home

Respondents to the survey read the below text and were asked how likely they would be to use smart appliances.

In the next few years, smart appliances could become more available. These would help people reduce their energy bills by running at times when electricity is cheaper, such as during the middle of the day when solar energy is abundant.

Smart appliances such as hot water systems, pool pumps, dishwashers and in the future electric vehicle chargers, could be linked to an external company, such as your energy supplier. The external company would monitor when the cost of energy falls, and with your agreement would remotely send signals to your appliances so they can run at times when electricity costs are lower and reduce usage when electricity costs are higher.

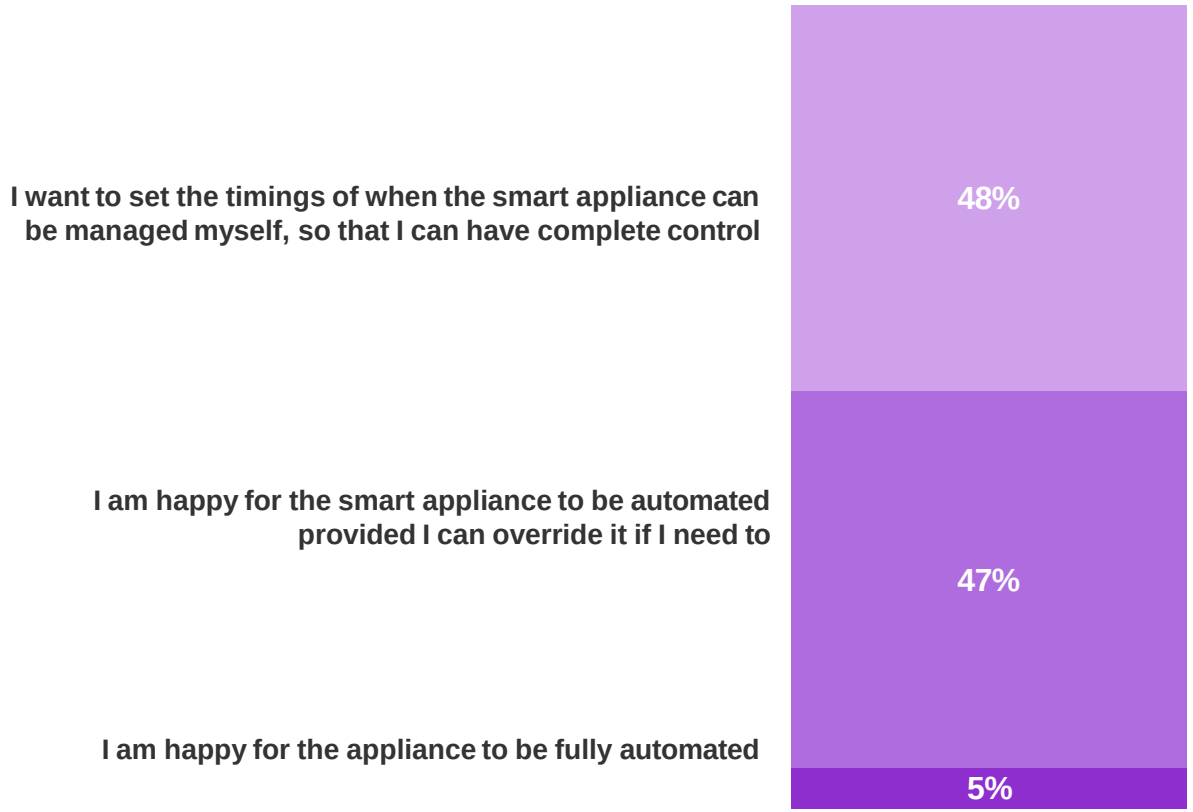
Only smart appliances would be controllable, which means that critical appliances such as life support equipment could not be switched off remotely.



SA3 How likely would you be to use smart appliances like this?
Base: All New Zealanders (n=1,001)

Among those who are open to having this type of smart appliance in their home, there is little appetite for these appliances to be fully automated; 47% are happy with automation so long as they can override it, while 48% would want complete control to decide when the appliances are used.

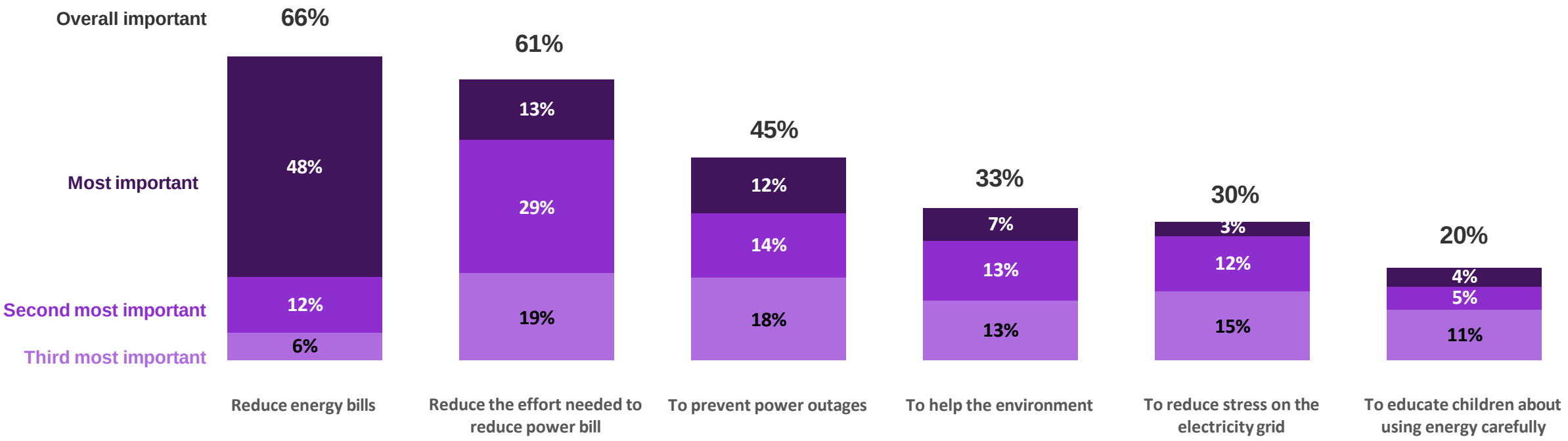
Preference for managing smart appliances



SA5 Which of the following ways of using smart appliances would you prefer?
Base: New Zealanders who probably or definitely would use smart appliances (n=476)

For the 47% of New Zealanders who would be open to using smart appliances that can be controlled remotely, the key motivator is reducing energy bills.

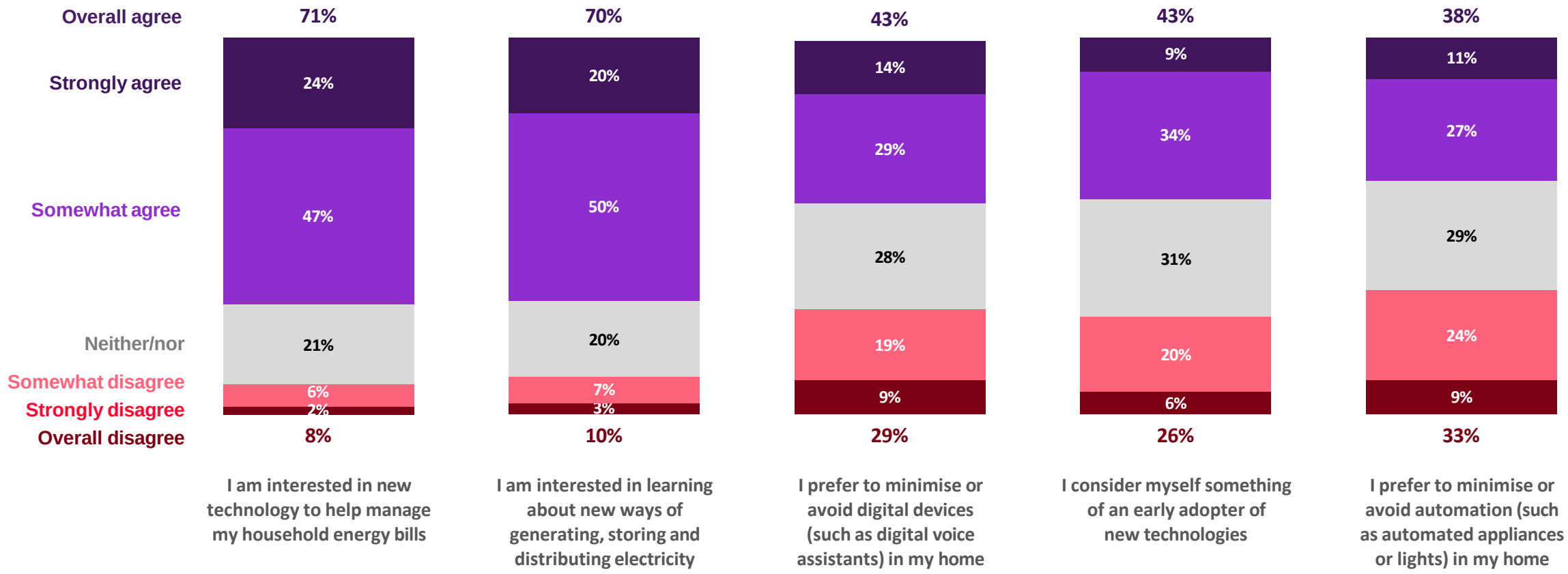
Reasons for being likely to use smart appliances



SA4 What would be the main reason you would permit an external company to monitor and control smart applicances?
Base: New Zealanders who probably or definitely would use smart appliances (n=476)

The majority (71%) of New Zealanders are interested in new technologies for help manage power bills. However, fewer than half (43%) think of themselves as an "early adopter" of new technologies. Thirty-eight percent prefer to avoid or minimise the use of automated appliances and devices in the home.

Attitudes towards digital devices and new technologies



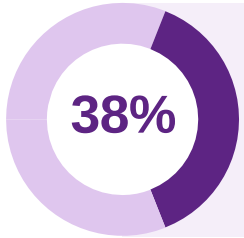
U3 How much do you agree or disagree with the following statements?
Base: All New Zealanders (n=1,001)

06

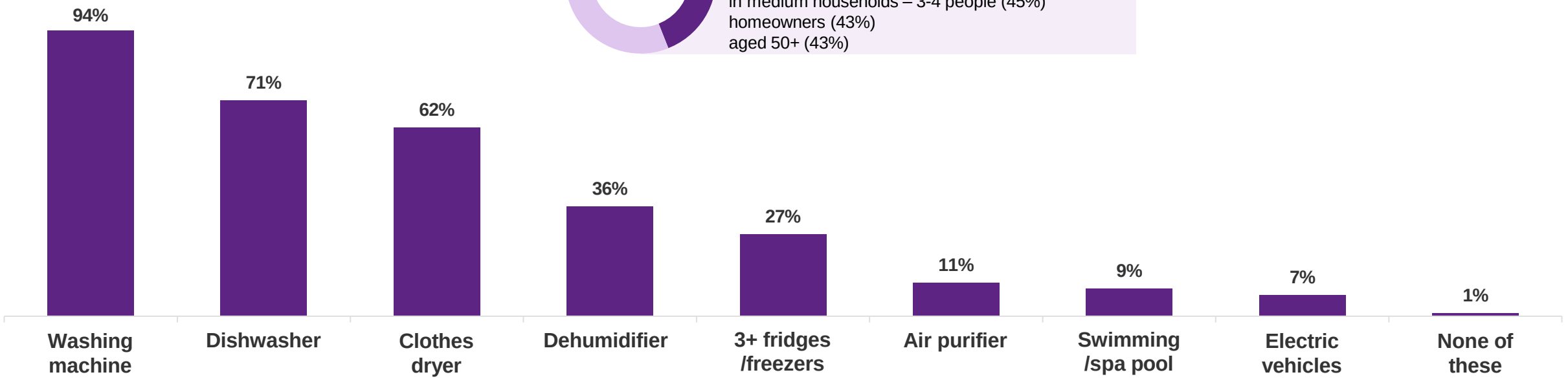
High-consumption items

Machines for washing and drying clothes or dishes are the most common high-consumption appliances. Unsurprisingly, ownership of these appliances (particularly multiple appliances) increases with income and financial stability.

High-consumption items



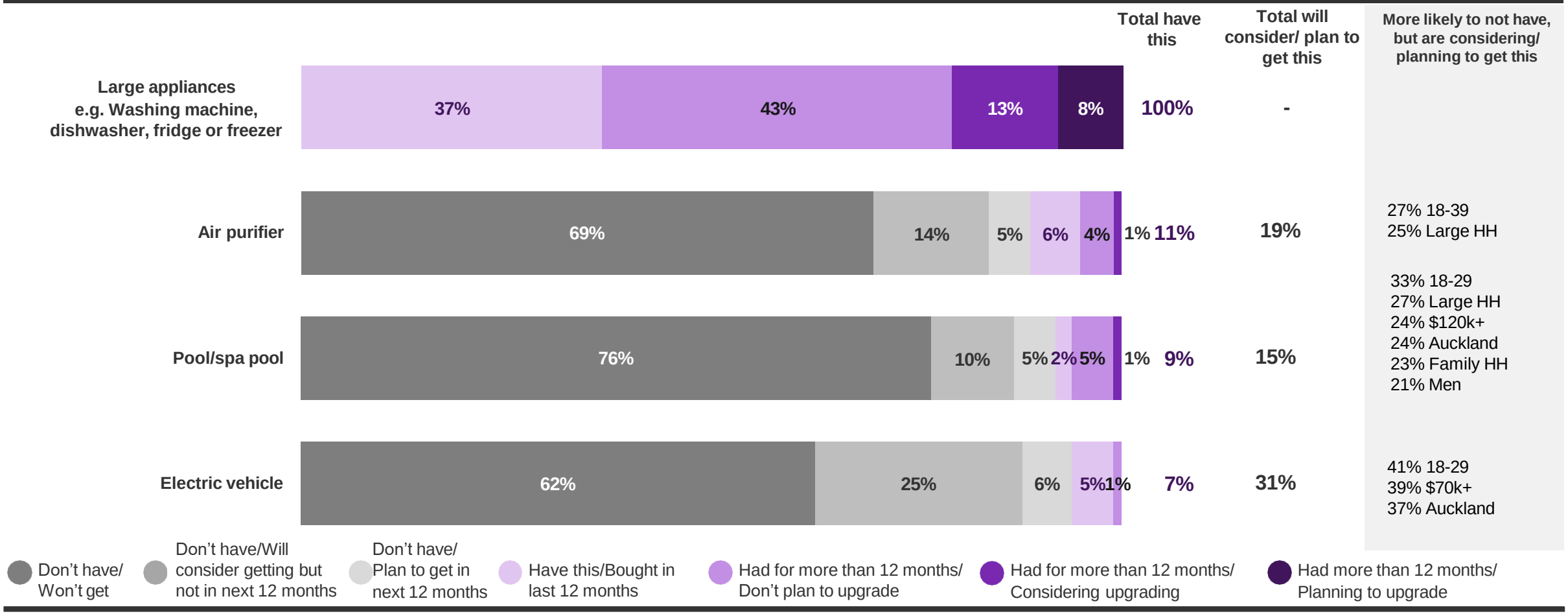
Have four or more of these appliances.
This is higher for those who are:
high income – $120k+ (46%)
financially comfortable (43%)
in medium households – 3-4 people (45%)
homeowners (43%)
aged 50+ (43%)



A6 Which of the following electrical appliances do you have at your property?
Base: Total New Zealanders (n=1,001)
Note: Multiple can be selected, so totals may not add to 100%

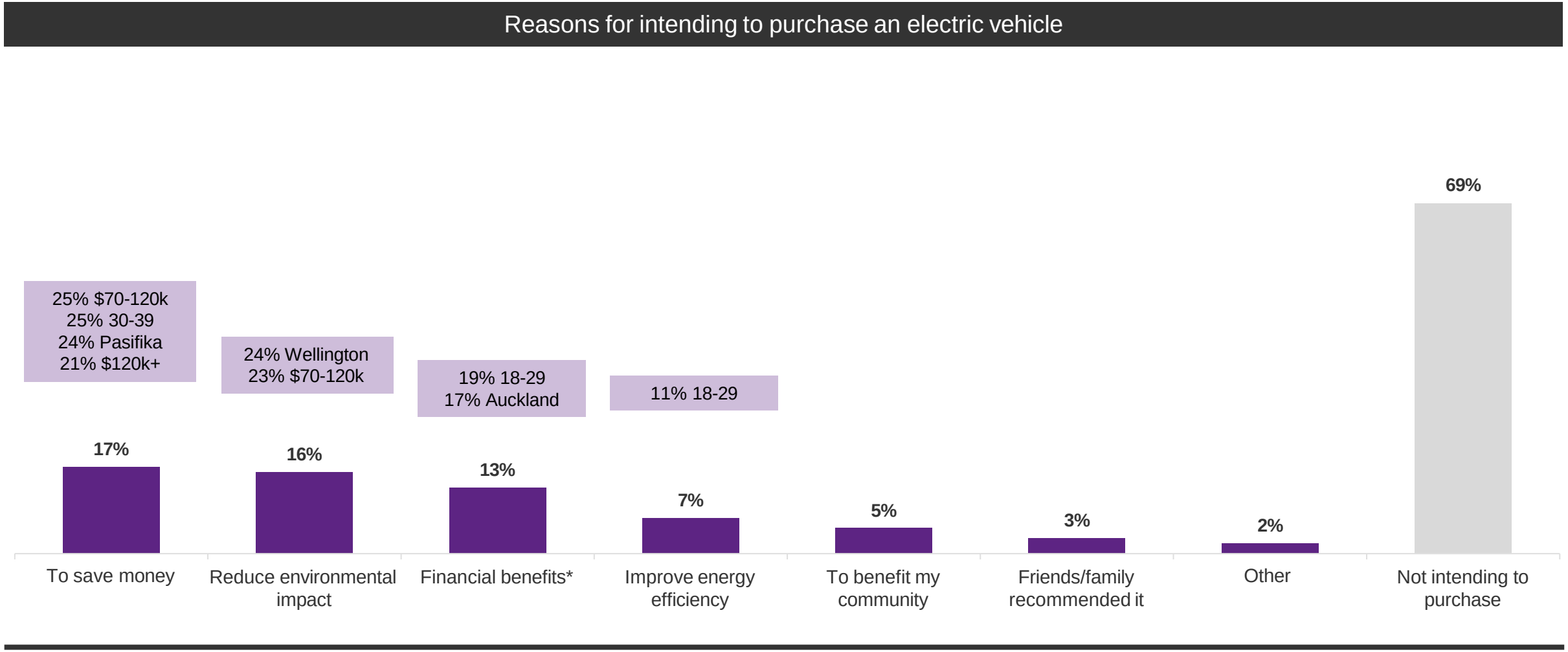
Nearly one in three (31%) New Zealanders are considering or planning to get an electric vehicle (EV) for their household. Younger New Zealanders, Aucklanders and mid-to-high-income households are more interested in doing so.

Intention to purchase other high-consumption items



I1 Did you have this appliance or system installed in your property in the last 12 months?
I2 Which of the following are you intending to replace or upgrade in your property?
I3 Which of the following are you intending to purchase for your property?
Base: Total New Zealanders (n=1,001)

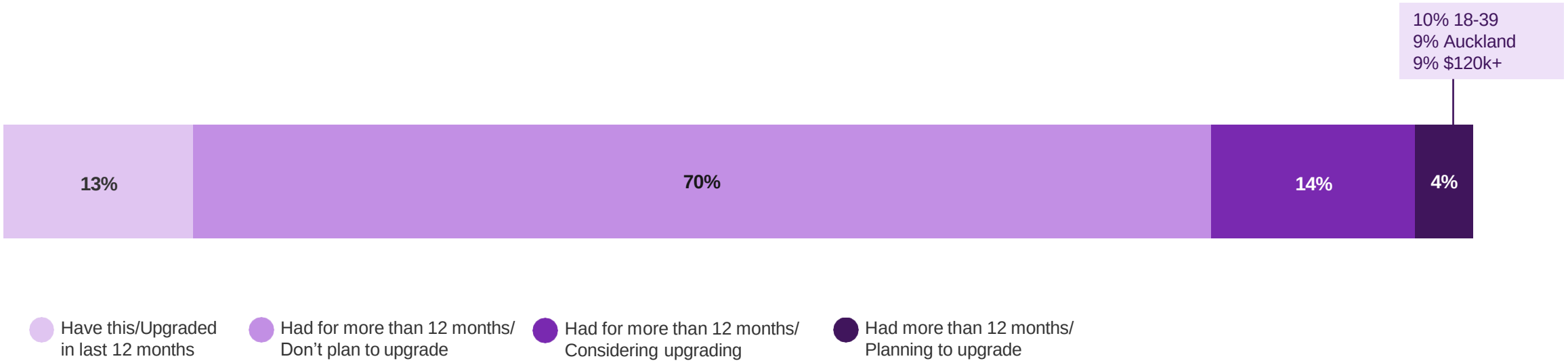
Of those intending to purchase an EV, the key motivations are saving money and reducing environmental impacts.



I4 What are the main reasons you are intending to purchase or considering the following?
Showing results for those who intend to buy an electric vehicle
Base: Total New Zealanders (n=1,001)
*e.g. grants, subsidies or tax incentives

Thirteen percent of New Zealanders have recently upgraded their hot water system while 18% are considering or planning to upgrade. Those thinking of upgrading in the next 12 months tend to be younger, with higher incomes, or living in Auckland.

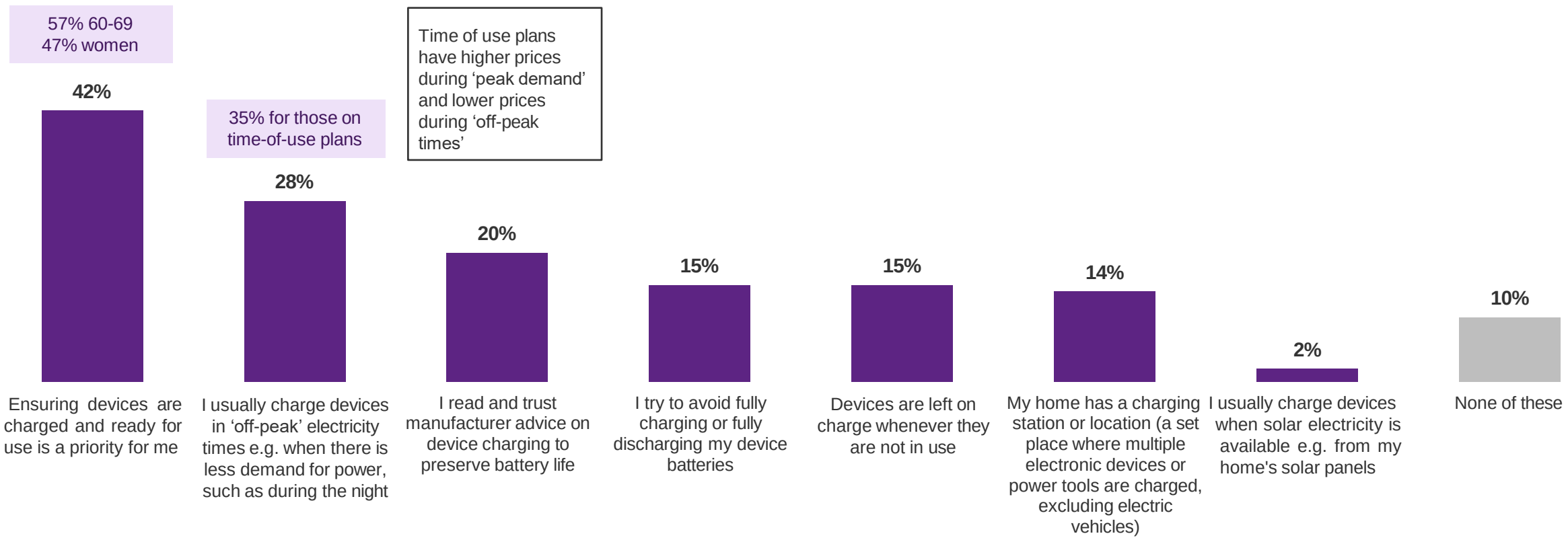
Intention to replace/upgrade hot water systems



I1 Did you have this appliance or system installed in your property in the last 12 months?
I2 Which of the following are you intending to replace or upgrade in your property?
Base: Total New Zealanders (n=1,001)

When it comes to charging electrical devices, 42% say they're mostly concerned about whether their devices are charged or not and think less about when they charge them. Those on time-of-use plans are more likely to charge devices at off-peak times.

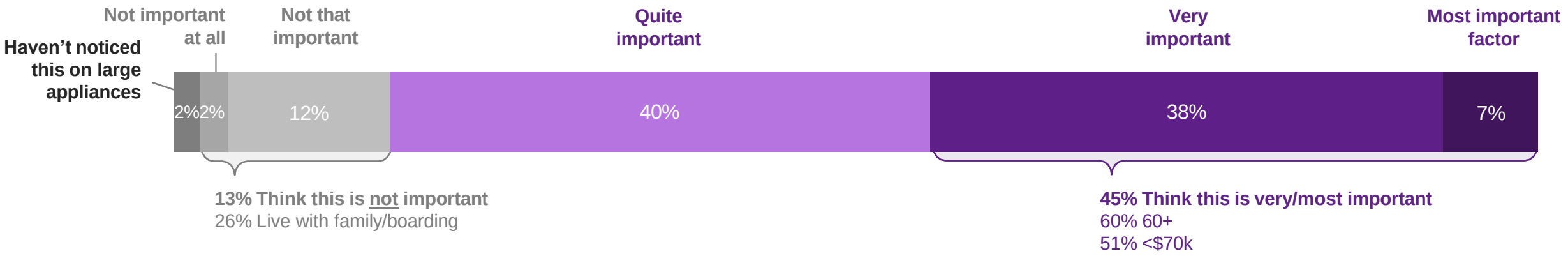
Charging behaviour



MO1 Which of the following statements apply to how you charge electrical devices in your household?
Base: All New Zealanders (n=1,001)
Note: Multiple can be selected so totals may not add to 100%

Most households (85%) feel that energy ratings are important to some extent when buying large appliances and almost half place a lot of importance on this. Older New Zealanders and low-income households tend to find this more important.

Importance of energy ratings



I5 When purchasing large electronic appliances such as TVs, washing machines, fridges etc, how important to you is it for the product to have a high energy efficiency rating?
Base: Total New Zealanders (n=1,001)

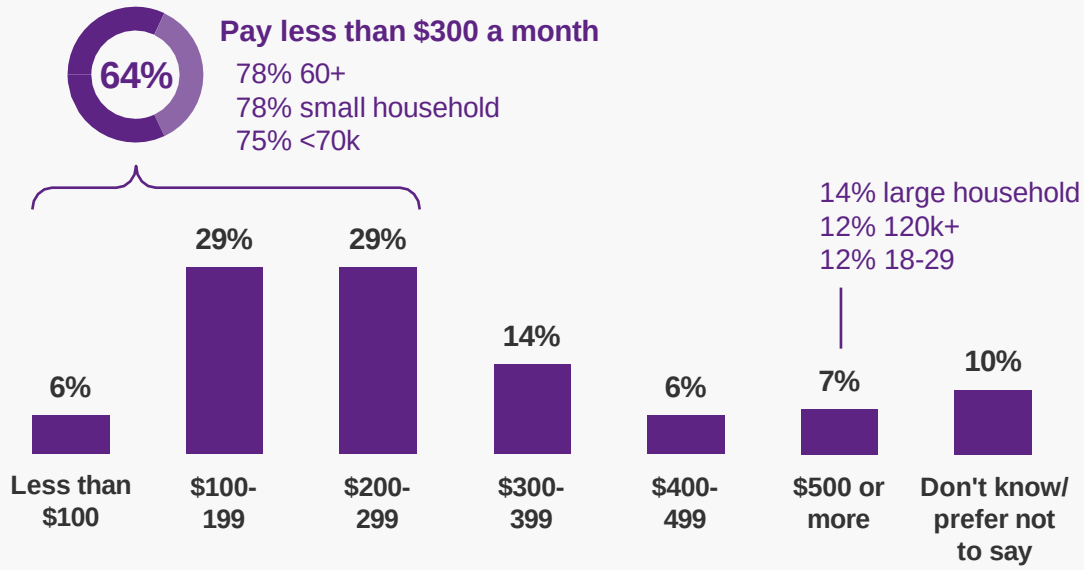
07

Billing

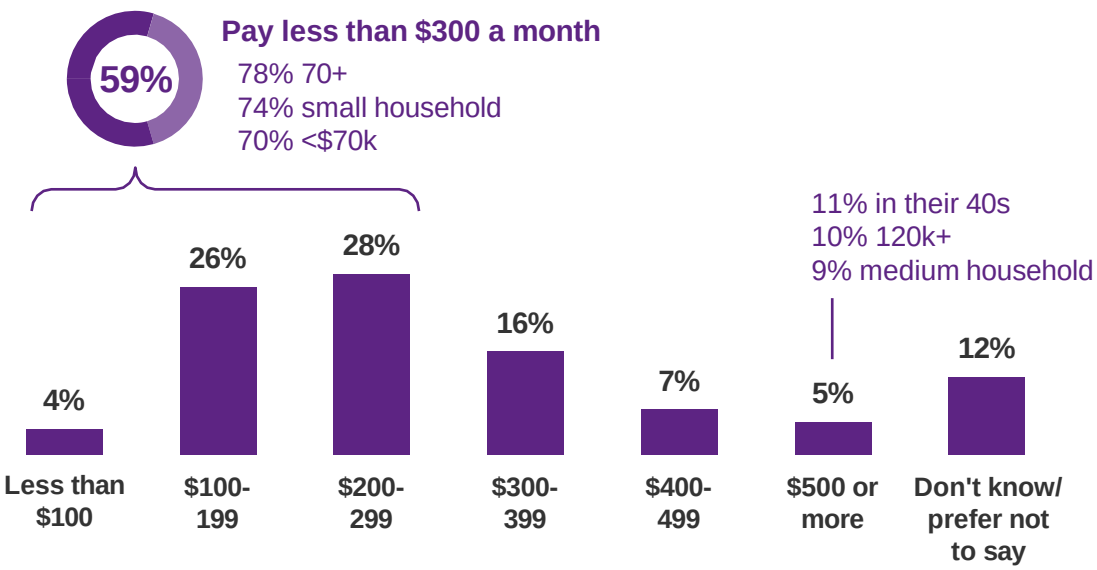
About three in five households pay less than $300 a month for energy. Bills tend to vary most by household size (larger households typically pay more), as well as income (higher income households typically pay more).

Monthly bill costs

Electricity bills only*



Total energy bills (electricity and/or gas)**



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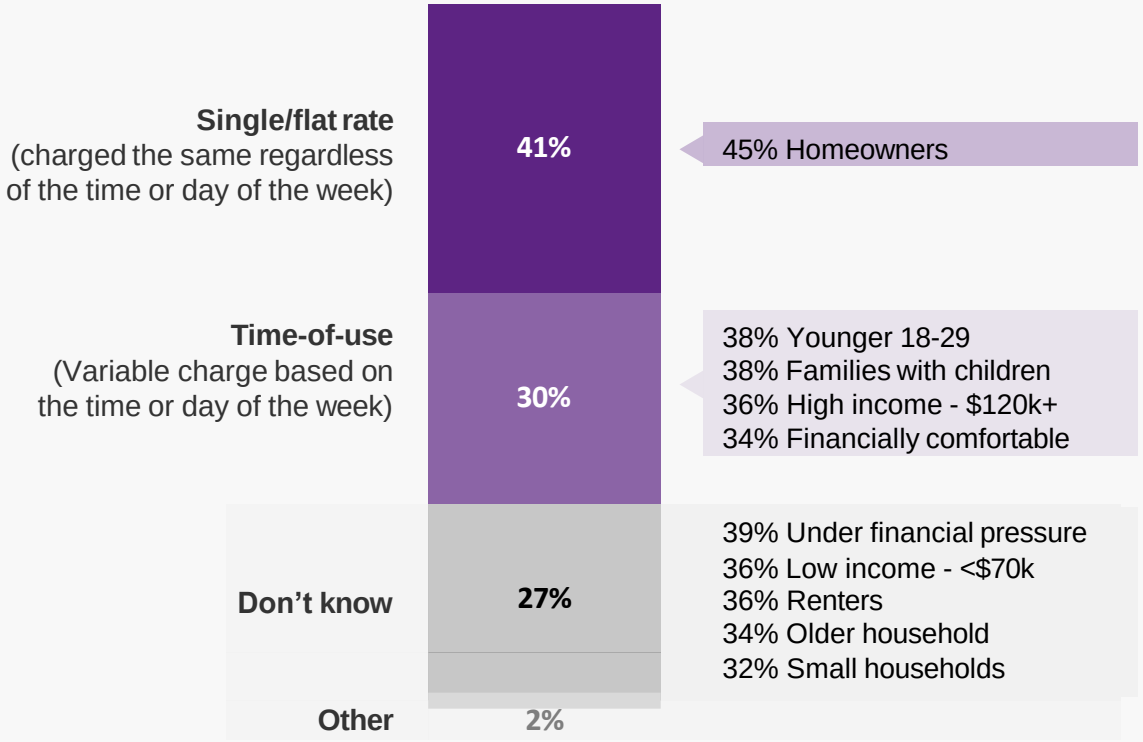
HD3/5/7 Approximately how much was your most recent bill for electricity/gas? HD4/6/8 How many months did that bill cover?
Base: *New Zealanders who only receive a separate electricity bill (i.e. excluding any who receive a combined electricity/gas bill)
**Total New Zealanders (n=1,001), including those who receive separate electricity/gas bills or those who get combined bills
Note, the question asked how much a recent bill was and what time period this was for. For comparability, this has been adjusted so all bills above are monthly

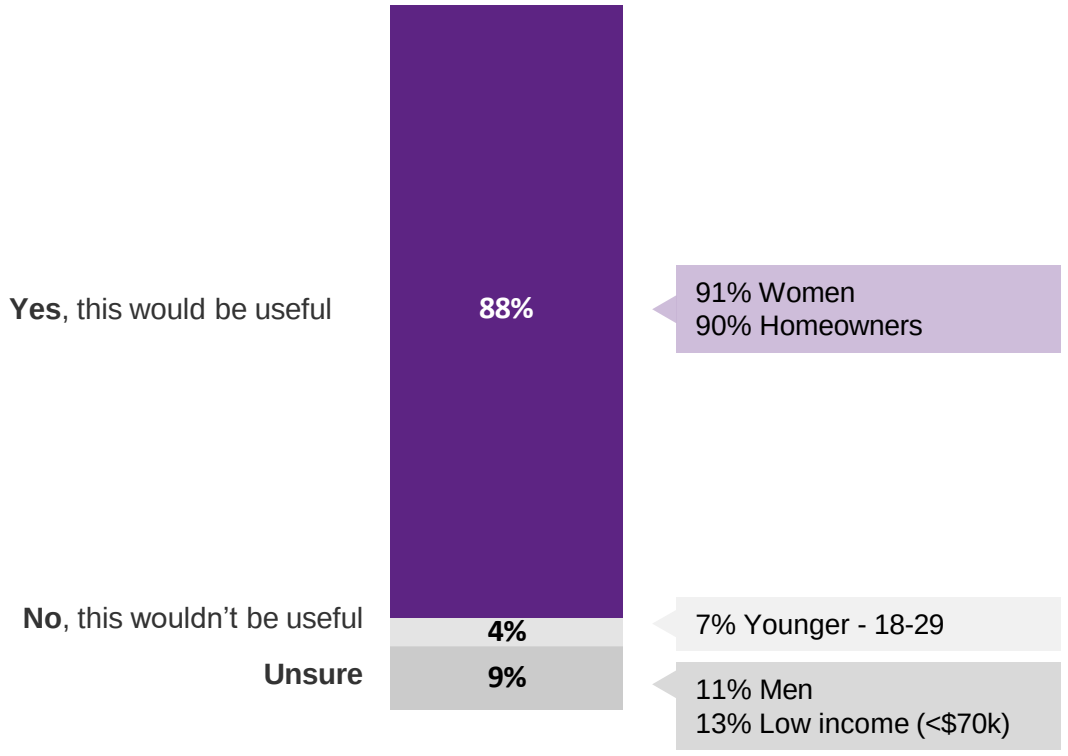
High-income households are also more likely to have a time-of-use power plan. Low-income households are less likely to know their tariff structure: 36% do not know what type of tariff they are on compared with the average of 27%.

Billing

Tariff structure



Usefulness of showing customers on their bills how they could save by switching to a lower-cost plan (like in Australia)



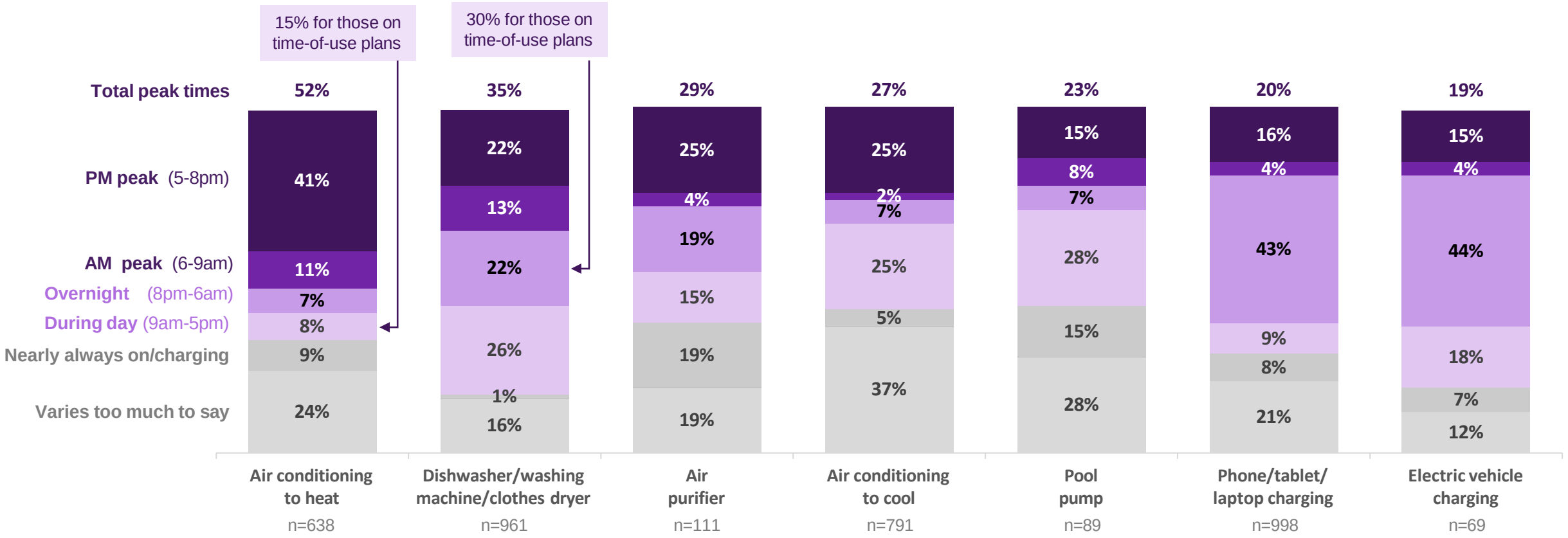
HD1 Which of the following best describes the tariff structure of your electricity supply i.e. How you pay for the electricity supply to your property?
HD17 In Australia, electricity bills will soon need to include information telling customers if they can reduce their bill by switching to a lower-cost power plan. This information must provide an estimate of how much the customer's bill would reduce if they switched to a lower-cost plan. Do you think this information would be useful to have on electricity bills in New Zealand?
Base: New Zealanders who are connected to the main grid (n=951).

08

Off-peak use

Heat pumps, large appliances and air purifiers get the most use in peak times, particularly with heating being used in the evening. Those on time-of-use plans behave slightly differently, using more off-peak power for their heating (using this more during the day) and large appliances (using these overnight).

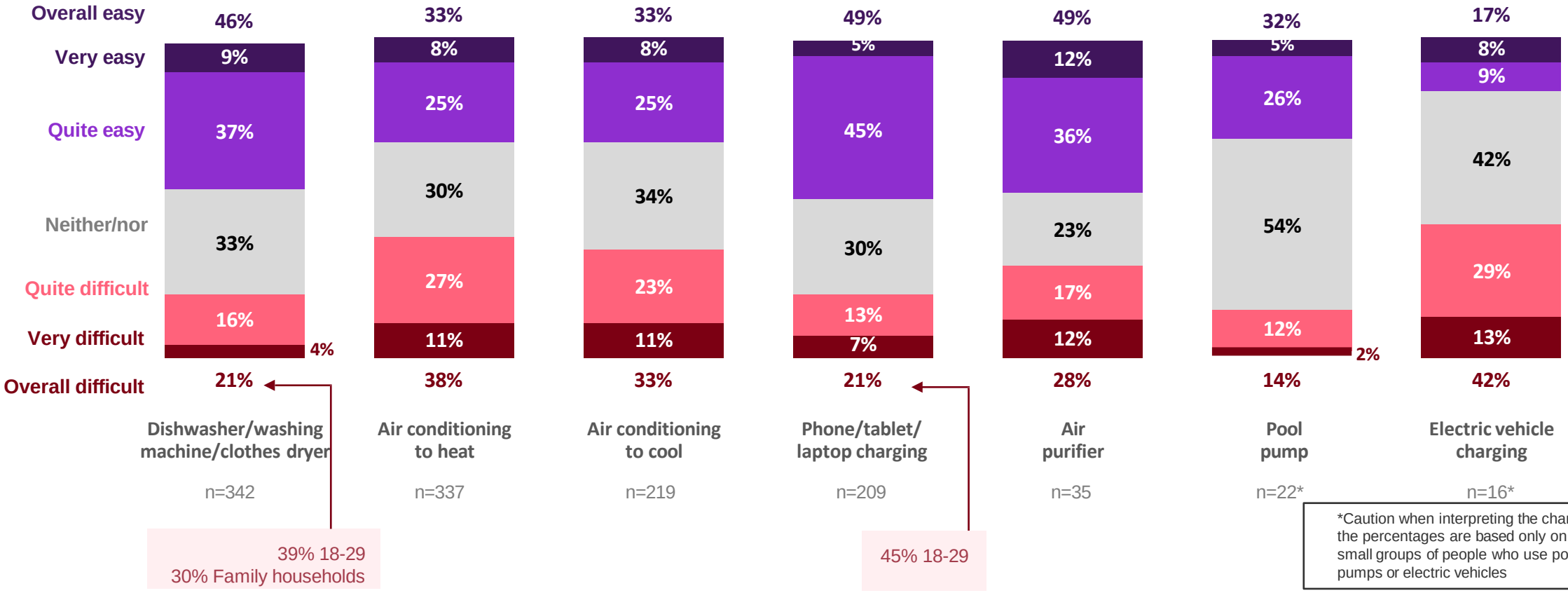
Time of use for high-consumption appliances



W1 Typically, at what time of the day does your household do the following?
Base: New Zealanders who have these types of appliances

Households that currently use appliances during peak times feel that it would be easiest to change the time when they charge personal devices (such as phone and laptops) or use large appliances (such as dishwashers and washing machines). Perhaps not surprisingly, just one third thought it would be easy to change when they use air conditioning.

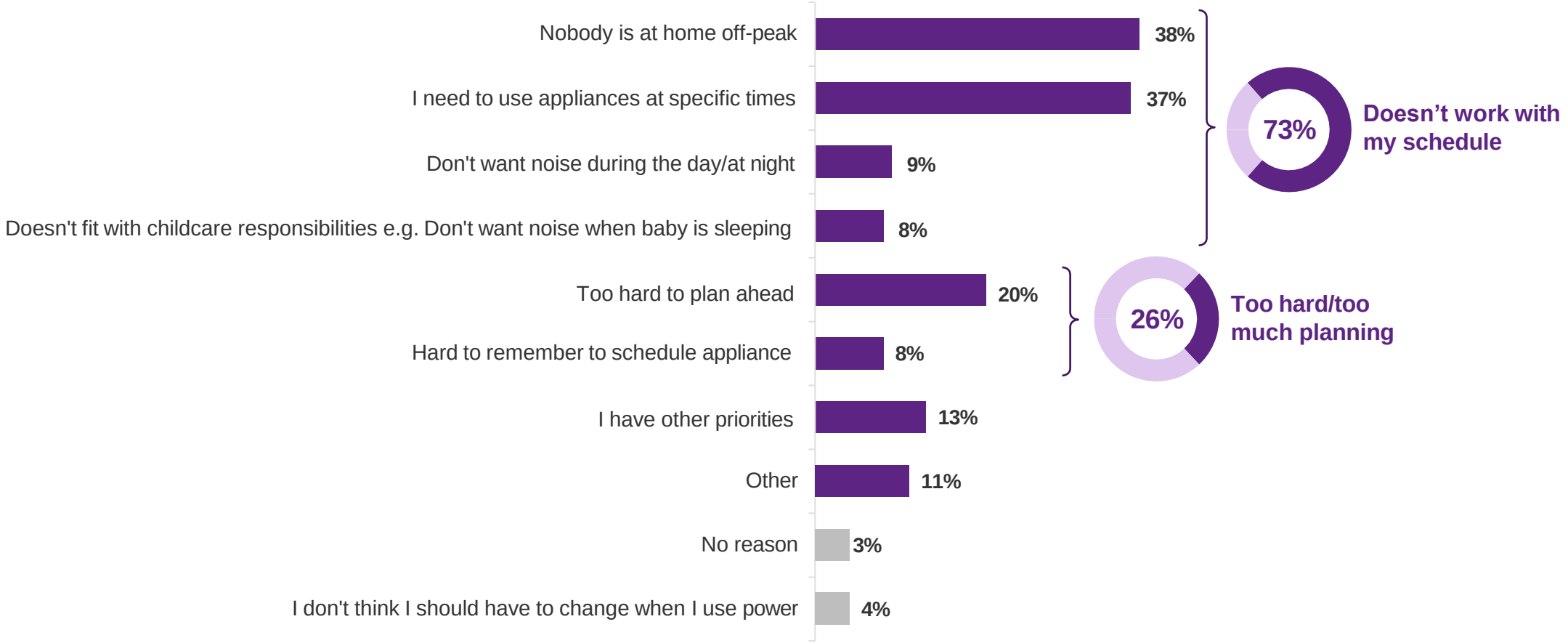
Ease of changing appliance use to off-peak



W2 How easy or difficult would it be for your household to change when you do these things to a time when there is less demand for energy (e.g. to the middle of the day or overnight)?
Base: New Zealanders who have these types of appliances and use them at peak times

The main barrier stopping households from using appliances off-peak is that it does not work with the households' schedule. The second most common barrier is the difficulty of planning ahead and scheduling when appliances will run.

What is stopping households from changing electricity use to off-peak

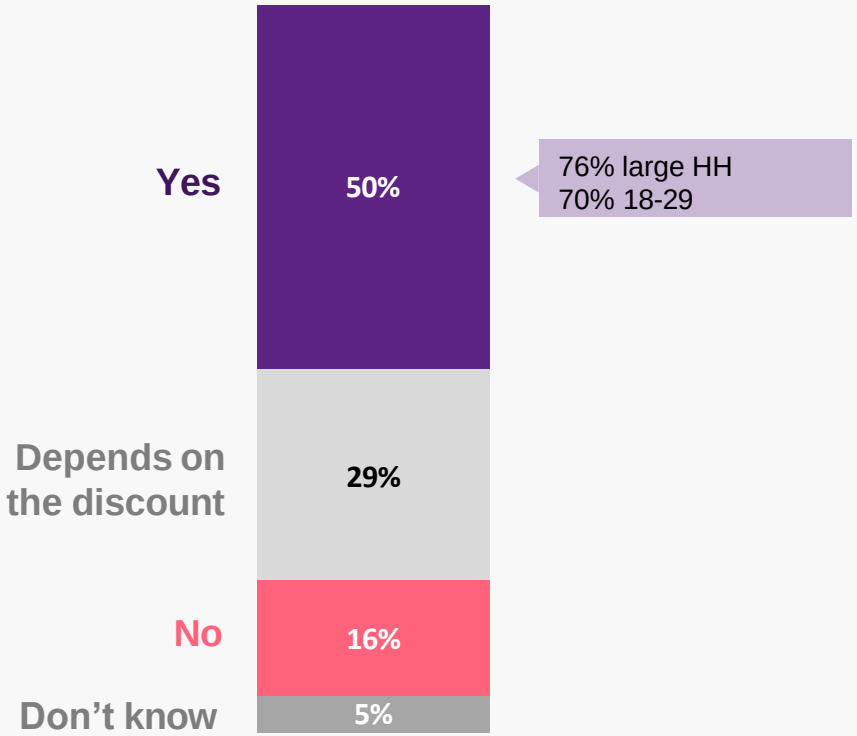


W3 What prevents your household from being able to do these tasks at a time when there is less demand for energy (e.g. to the middle of the day, or overnight)?
Base: New Zealanders who said it is difficult to use large-consumption appliances off-peak (n=229)

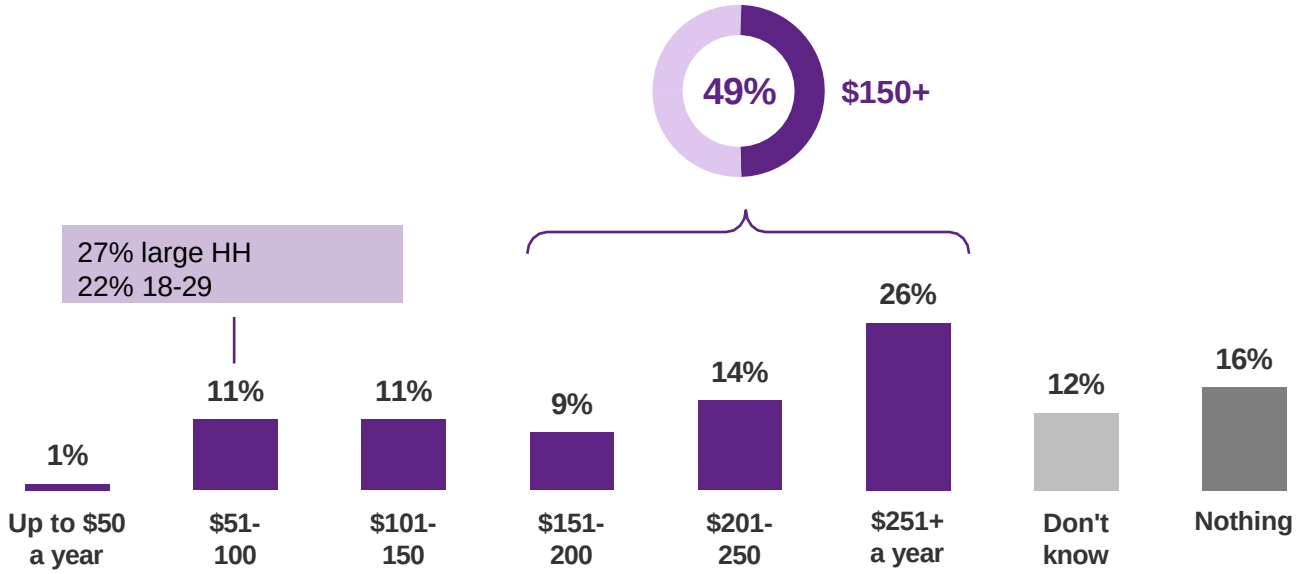
Of the 23% of households that think it would be hard to use appliances off-peak, half said they would move to off-peak use if they received a discount. Half would expect savings of $150 or more a year to make it worthwhile. Young people and large households are most receptive to changing their behaviour and would accept smaller savings to do so.

Would a discount encourage off-peak use?

Would a reduction in your bill help compensate for the difficulty of using power off-peak?



Size of discount needed to encourage a switch to off-peak use



W7 Depending on your retailer, using electricity at off-peak times when there is less demand can reduce your power bill. Would a reduction in your bill help to compensate you for the difficulty of using power at off-peak times?
W8 - How much of a reduction in your bill per year do you think might be enough to compensate you?
Base: New Zealanders who said it is difficult to use large-consumption appliances off-peak (n=229)

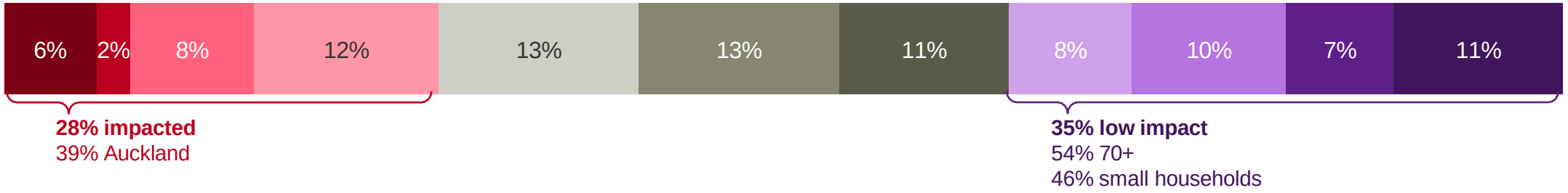
09

Power outages

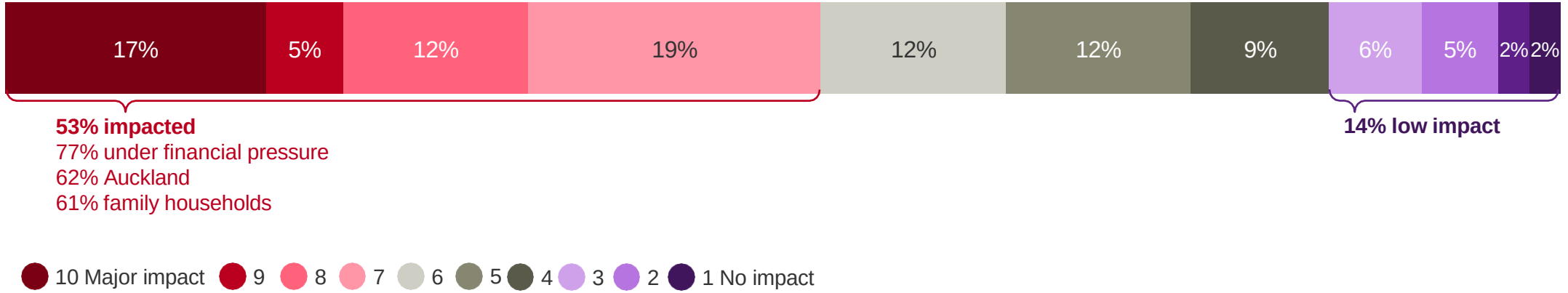
Just under two in five households have experienced a planned power outage and just over two in five have experienced an unplanned outage. Housholds in Auckland tend to be impacted the most, and unplanned outages in particular have more of an impact on households that are under financial pressure.

Power outages

37% have experienced a planned outage. For them, the impact was…



44% have experienced an unplanned outage. For them, the impact was…



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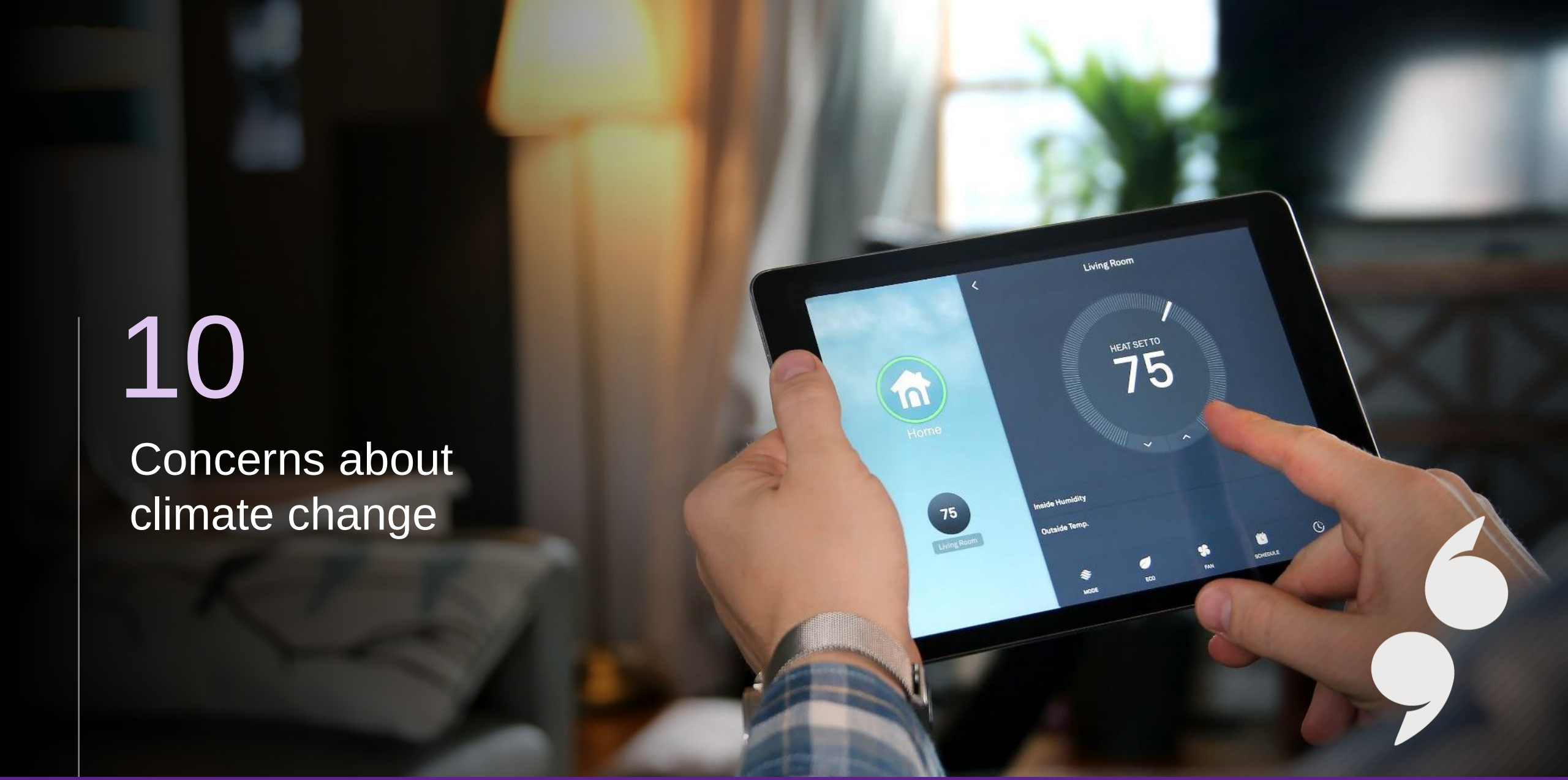
W4 Which of the following have you experienced in the In the past 12 months? Base: Total New Zealanders (n=1,001)
W5 How would you rate the impact of the planned outage on you and your household? Base: Those who experienced planned outages (n=368)
W6 How would you rate the impact of the unplanned outage on you and your household? Base: Those who experienced **un**planned outages (n=444)

10

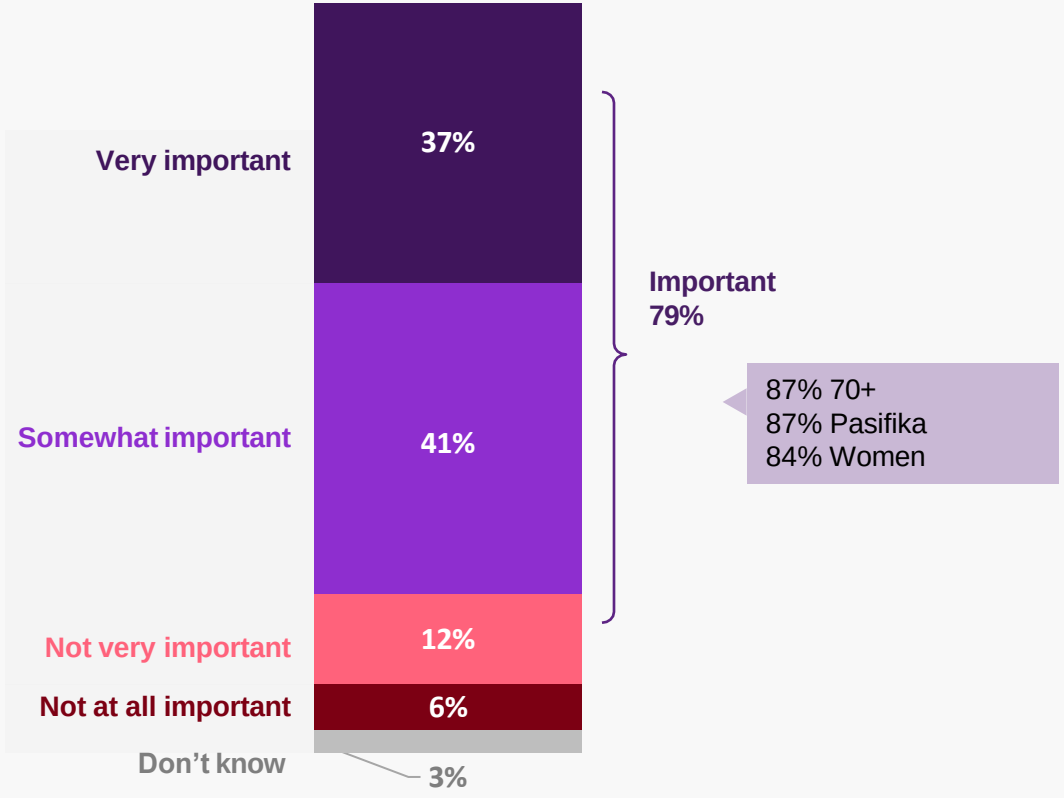
Concerns about climate change



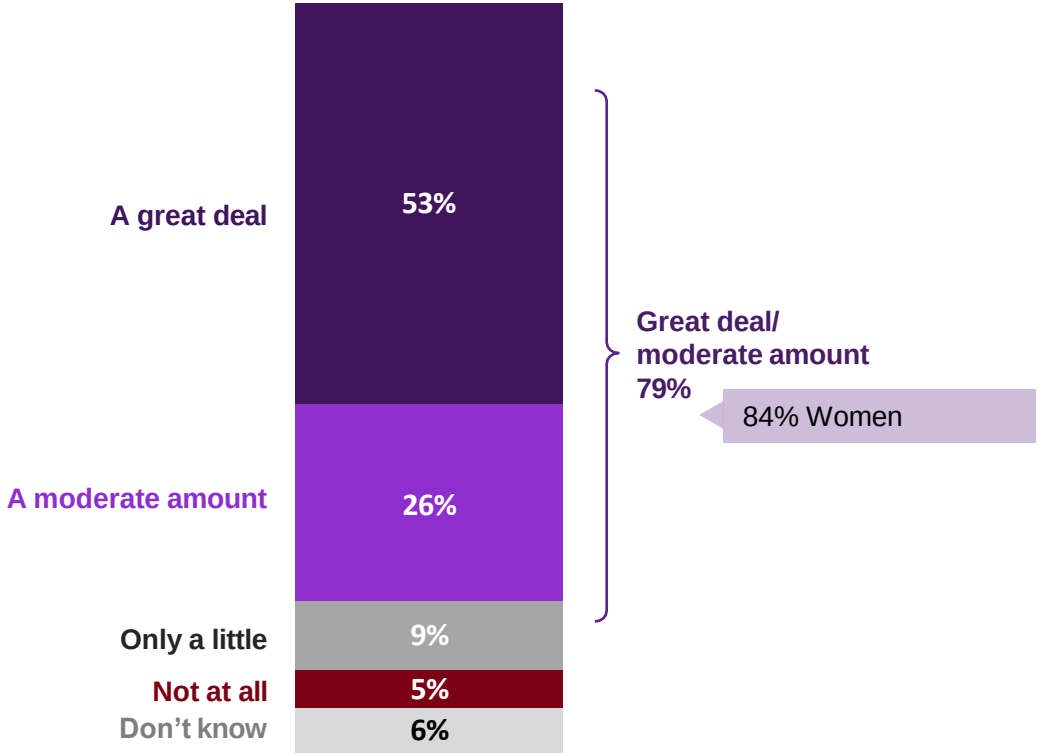
Four in five people feel that climate change is important and two in five think it is very important. A similar number of people feel that climate change will harm future generations, with half thinking it will have a great deal of harm. Women in particular are most concerned.

Perceptions of climate change

Importance of climate change

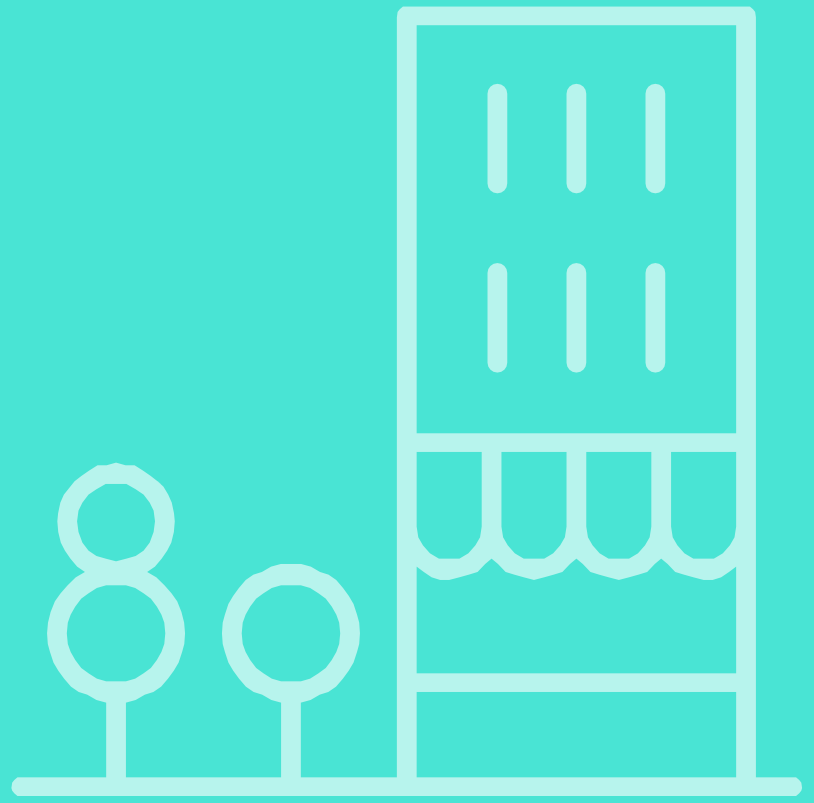


Perceived future harm of climate change



CS1 How important is the issue of climate change to you personally?
CS2 How much do you think climate change will harm future generations of people?
Base: All New Zealanders (n=1,001)

BUSINESS

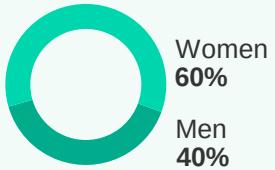


01

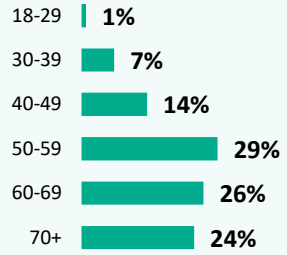
Who took part

Who took part – New Zealand Small businesses (Decision makers)

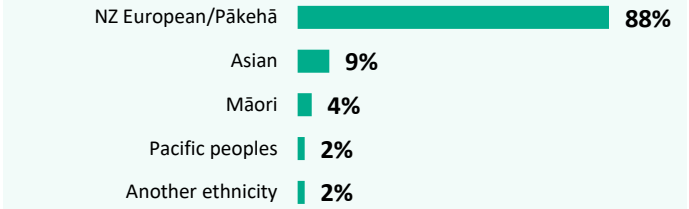
Gender



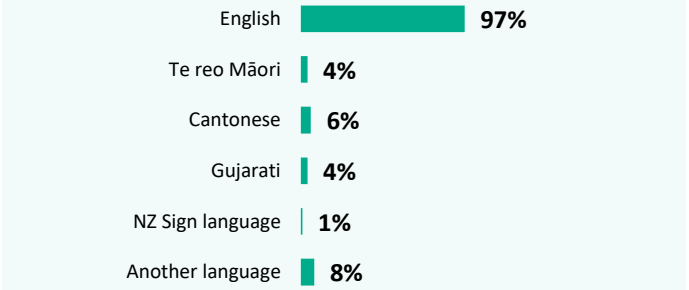
Age



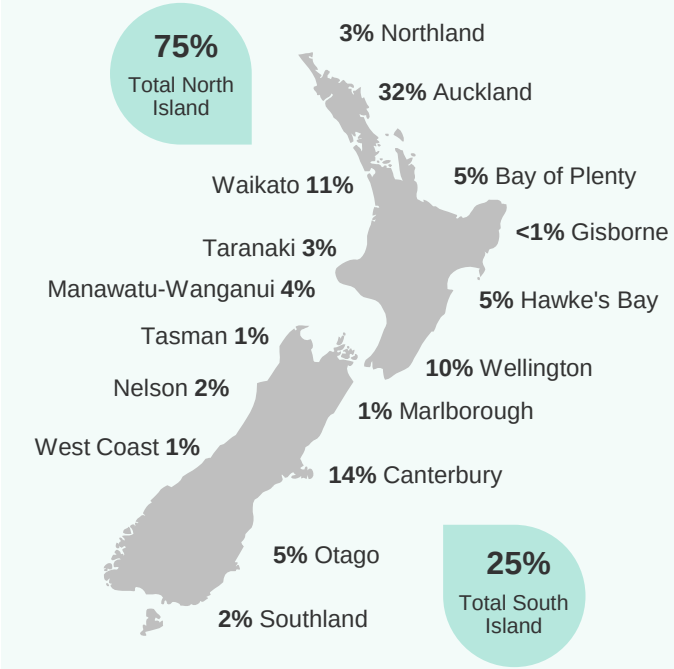
Ethnicity



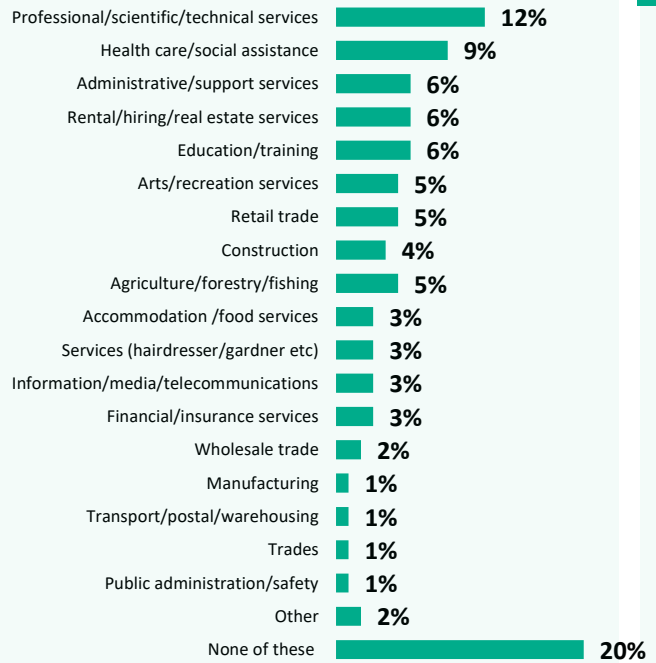
Languages spoken



Region

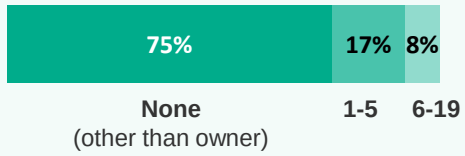


Industry

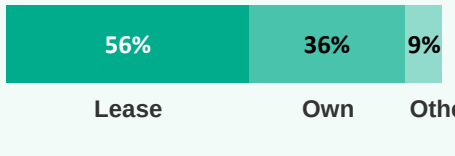


Operation hours*

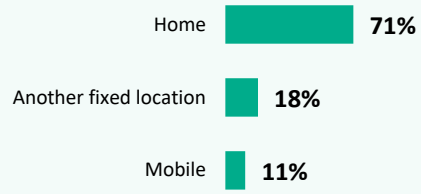
Number of employees



Property ownership



Work location



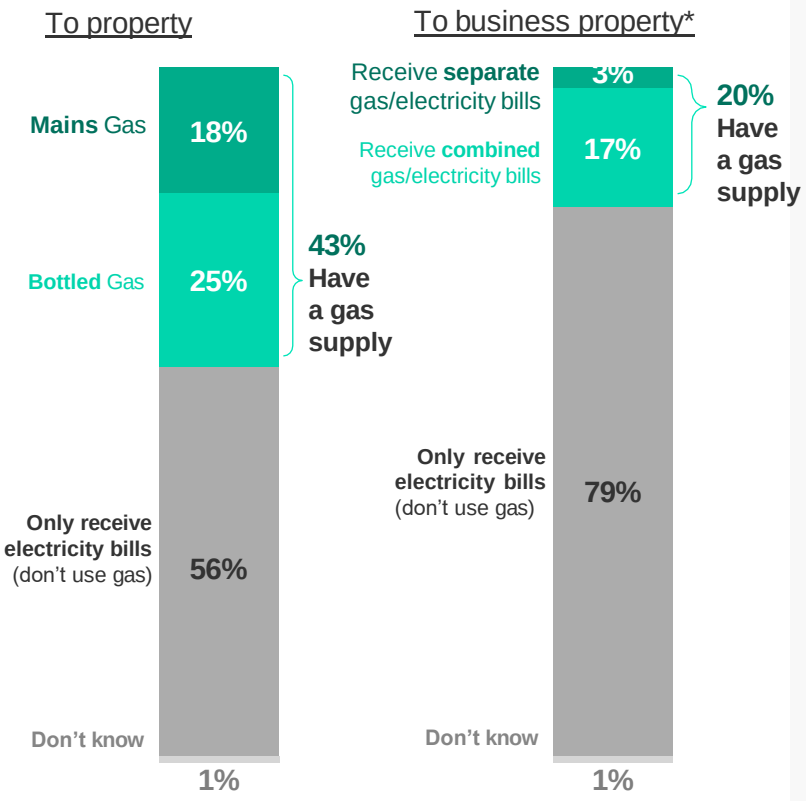
S4 Gender, S5 Age, S7 Ethnicity, BD10 Languages spoken, S3 Business size, S1 Industry, S3 Number of employees, U1 Working location, BD8 Property ownership, BD9 Operating hours.

Base: Small businesses (n=500) *Only asked of those who work at a fixed location outside of home (n=90)

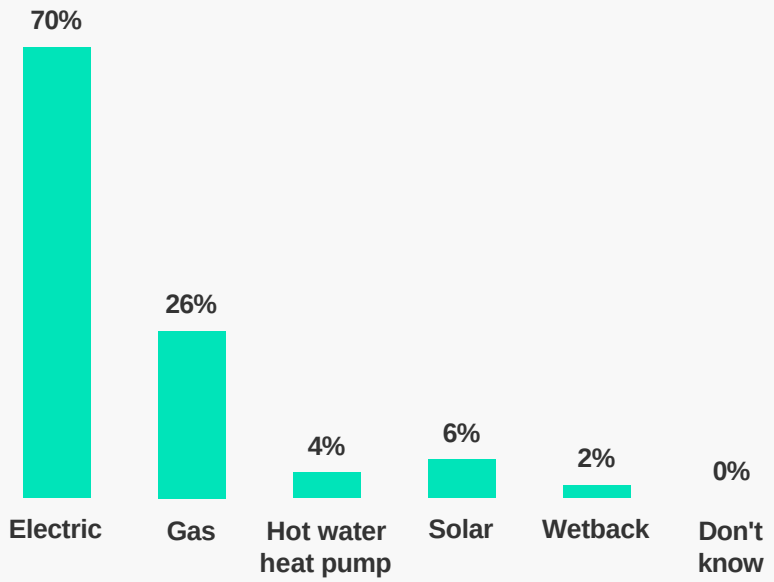
Only one in five small businesses have mains or bottled gas supply to their business property. Electricity use is generally more common for hot water and cooking.

Gas and electricity use

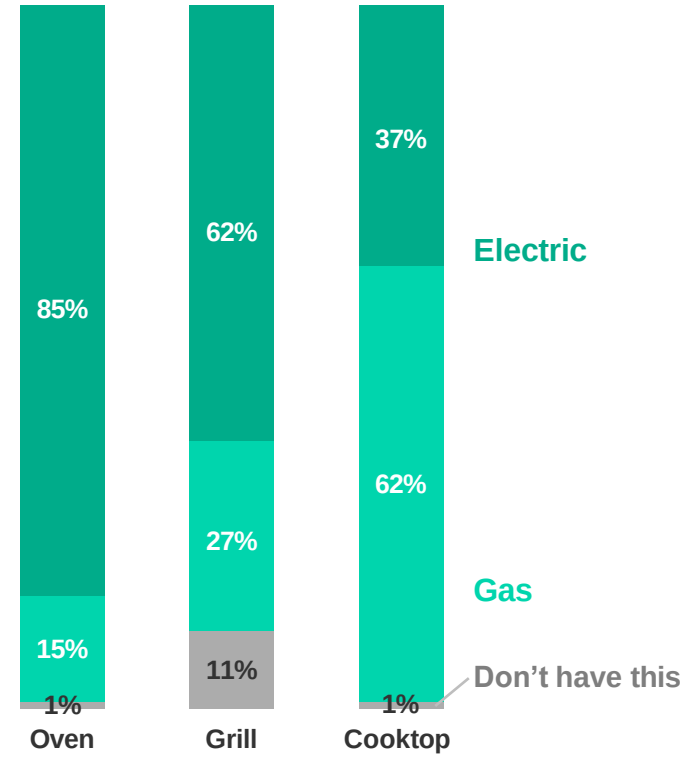
Gas supply



Hot water



Cooking



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U4 Do you have a gas supply to your property, U5 Do you have a mains gas supply to your business property?
BD1 Do you get separate bills for electricity and gas?
A4 Which hot water systems do you use at your property/ place of business?
A7 Which energy source do you use for the following cooking appliances at your property/ place of business?
Base: Small businesses (n=500) *Only asked of those who operate at a fixed location (non-home) (n=90)

02

Heating/heat retention and cooling

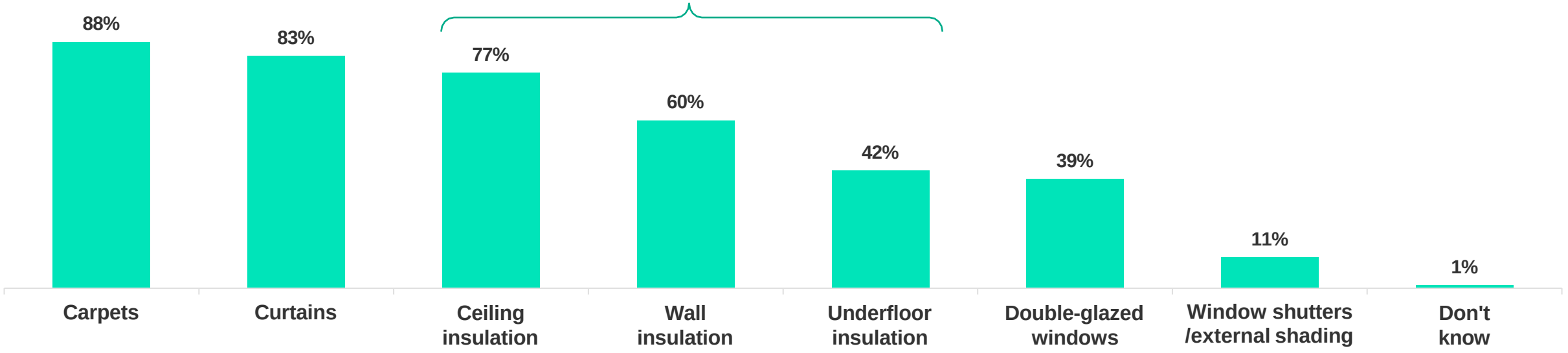
Nearly all small businesses report having at least one of the heat retention methods listed in the survey and most have at least one type of insulation.

Keeping the warmth in

85% have at least one type of insulation

15% have no insulation. This is higher for businesses:

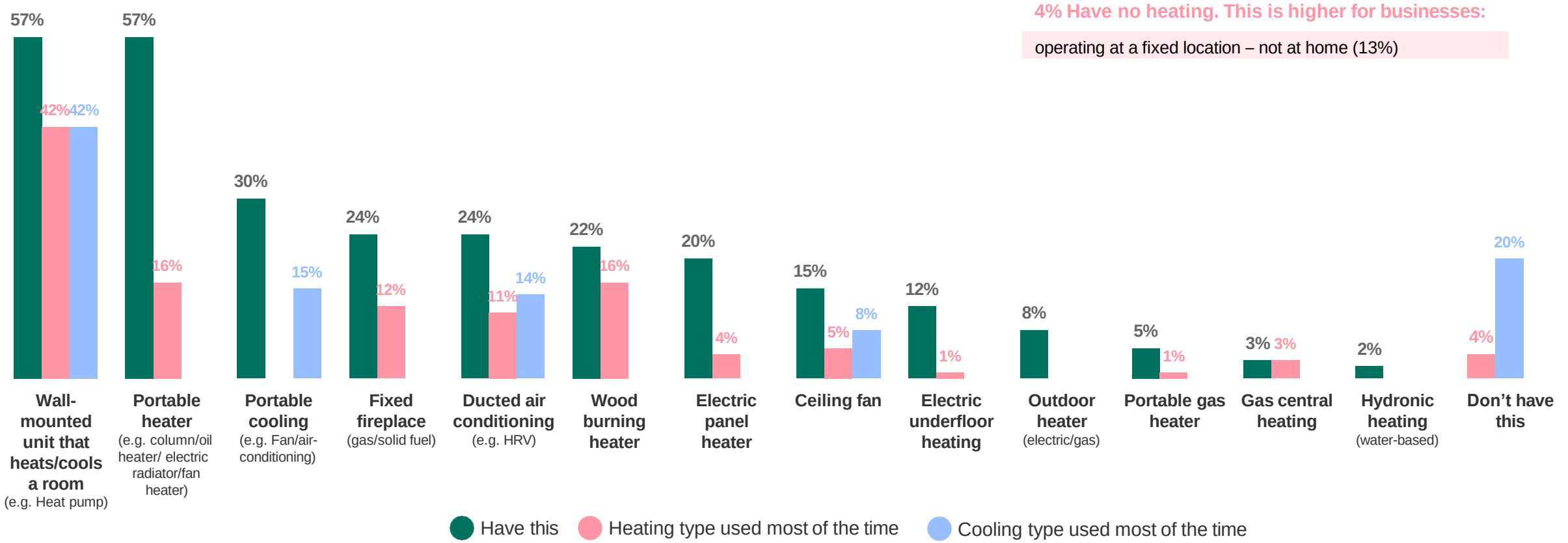
with 6 to 19 employees (36%)
based in Auckland (25%)
operating at a fixed location – not at home (46%)



A8 Does your property/ place of business have any of the following?
Base: Total small businesses (n=500)
Note: Multiple can be selected, so totals may not add to 100%

Heat pumps and portable heaters are the most common heating appliances used by small businesses. Four percent forgo heating altogether and this is especially common among those operating at a fixed location outside of their home.

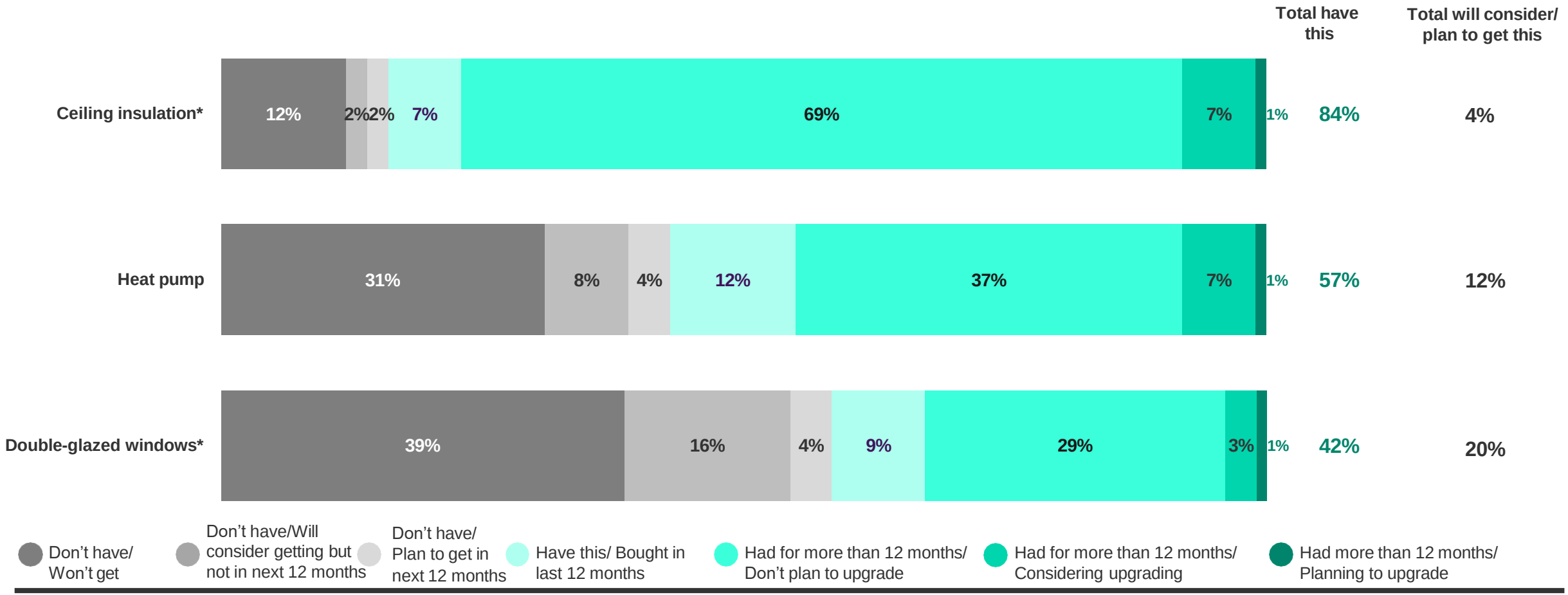
Heating and cooling



A1 - Which of the following do you have at your place of business?
A2 - Which of the following do you use most of the time to heat your place of business? (not showing 1% who don't know)
A3 - Which of the following do you use most of the time to cool your place of business? (not showing 1% who don't know)
Base: Total small businesses (n=500)
Note: Multiple can be selected, so totals may not add to 100%

Ceiling insulation is common, but less than half of small businesses have double-glazed windows. Over half of small businesses operate a heat pump.

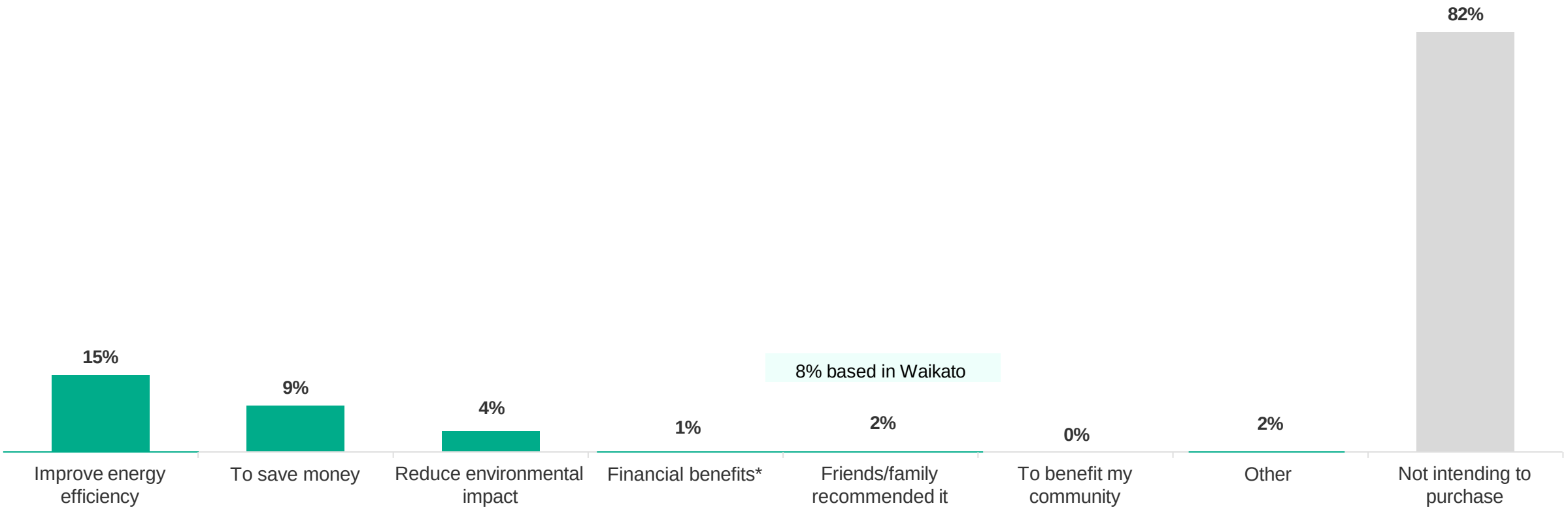
Intention to purchase insulation, double glazing or heating



I1 Did you have this appliance or system installed in your place of business in the last 12 months?
I2 Which of the following are you intending to replace or upgrade in your place of business?
I3 Which of the following are you intending to purchase for your place of business?
Base: Total small businesses (n=500) *Small businesses that operate from a fixed address (n=357)

For the 18% of small businesses planning to invest in double glazing or insulation, the most common motivations to do so are energy efficiency and saving money.

Reasons for intending to purchase insulation or double glazing



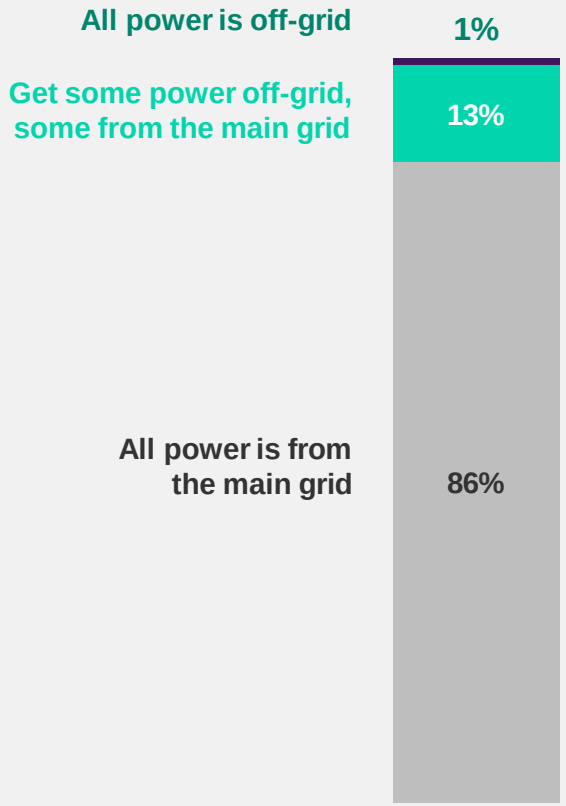
I4 What are the main reasons you are intending to purchase or considering the following?
Showing combined results for those who intend to install ceiling insulation or double-glazed windows
*e.g. grants, subsidies or tax incentives
Base: Total small businesses (n=500)

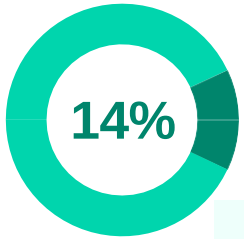
03

Off-grid capabilities

One in seven businesses have some capacity to go off-grid. Currently just 1% do not rely at all on the main grid and only 1% think it is likely that they'll be able to stop using the main grid altogether in the next 1-2 years.

Off-grid energy supply

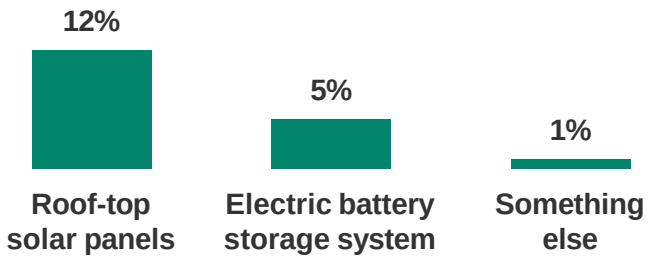




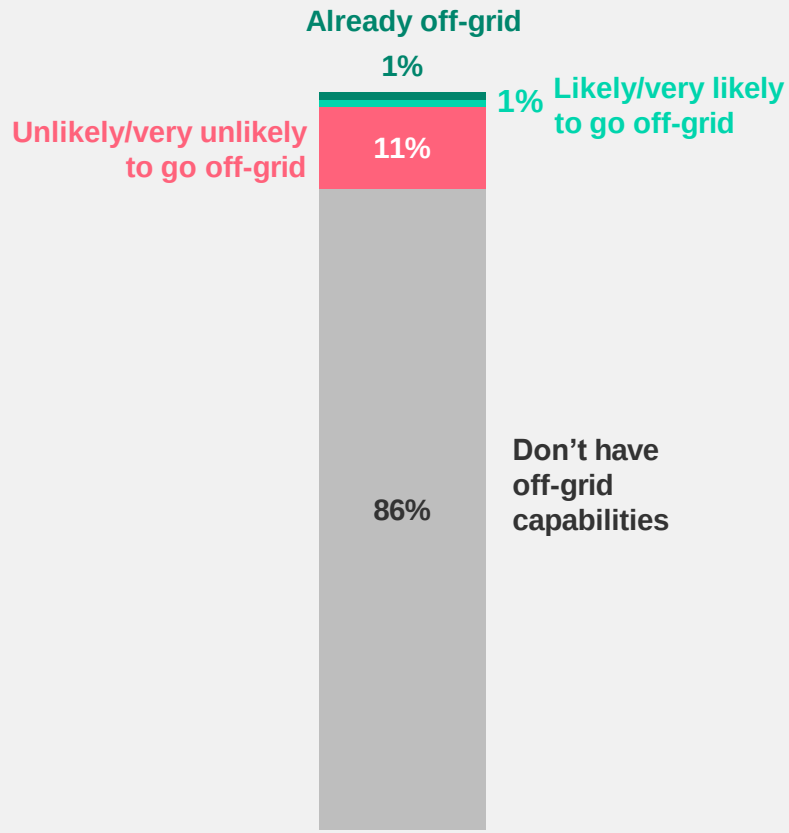
Have off-grid capabilities

This is **higher** for businesses with 6 to 19 employees (28%)

This includes…



Likelihood of going off-grid in the next 1-2 years



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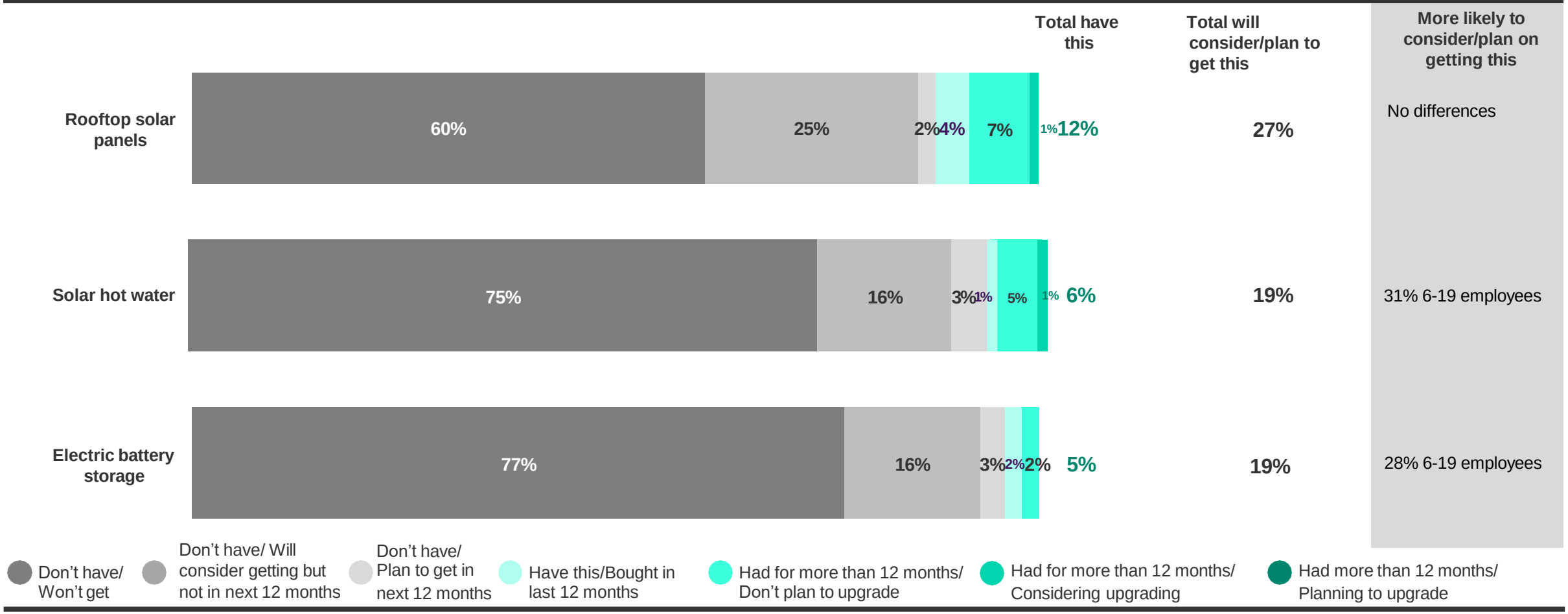
SA1 Which of the following best describes the electricity supply at your place of business?
A5 Do you have either of the following at your place of business?
SA2 How likely are you to disconnect your mains electricity in the next 1-2 years?
Base: Total small businesses (n=500)

Only 12% of businesses currently have rooftop solar panels, 6% have solar hot water, and 5% have electric battery storage. Businesses with more employees were more likely to consider solar hot water and electric battery storage.

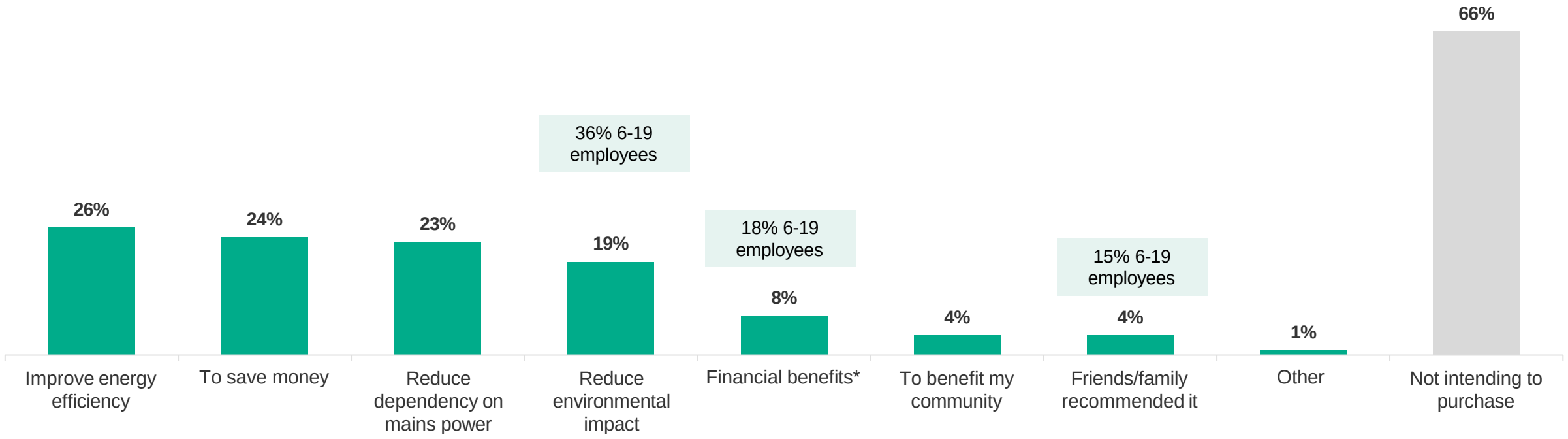
Intention to purchase items to enable off-grid capabilities



I1 Did you have this appliance or system installed in your place of business in the last 12 months?
I2 Which of the following are you intending to replace or upgrade in your place of business?
I3 Which of the following are you intending to purchase for your place of business?
Base: Total small businesses (n=500)

For the 34% of small businesses who intend to invest in off grid capabilities, better energy efficiency, financial savings, reducing dependency on mains power and reducing their environmental impact are the strongest motivators. Businesses with more employees tend to be more motivated to move off-grid.

Reasons for intending to purchase items to enable off-grid capabilities (solar panels/solar hot water/batteries)



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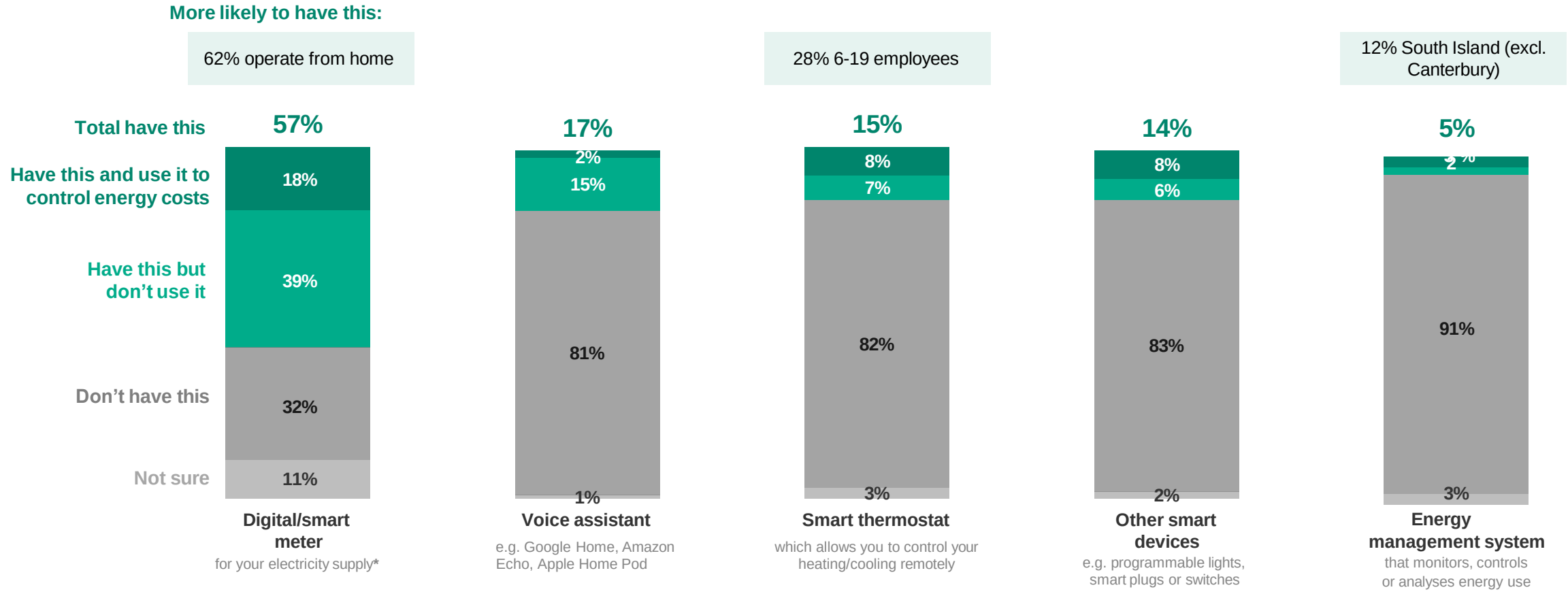
I4 What are the main reasons you are intending to purchase or considering the following?
Showing combined results for those who intend to install rooftop solar panels, solar hot water or an electric battery storage system
Base: Total small businesses (n=500)
*e.g. grants, subsidies or tax incentives

04

Smart devices

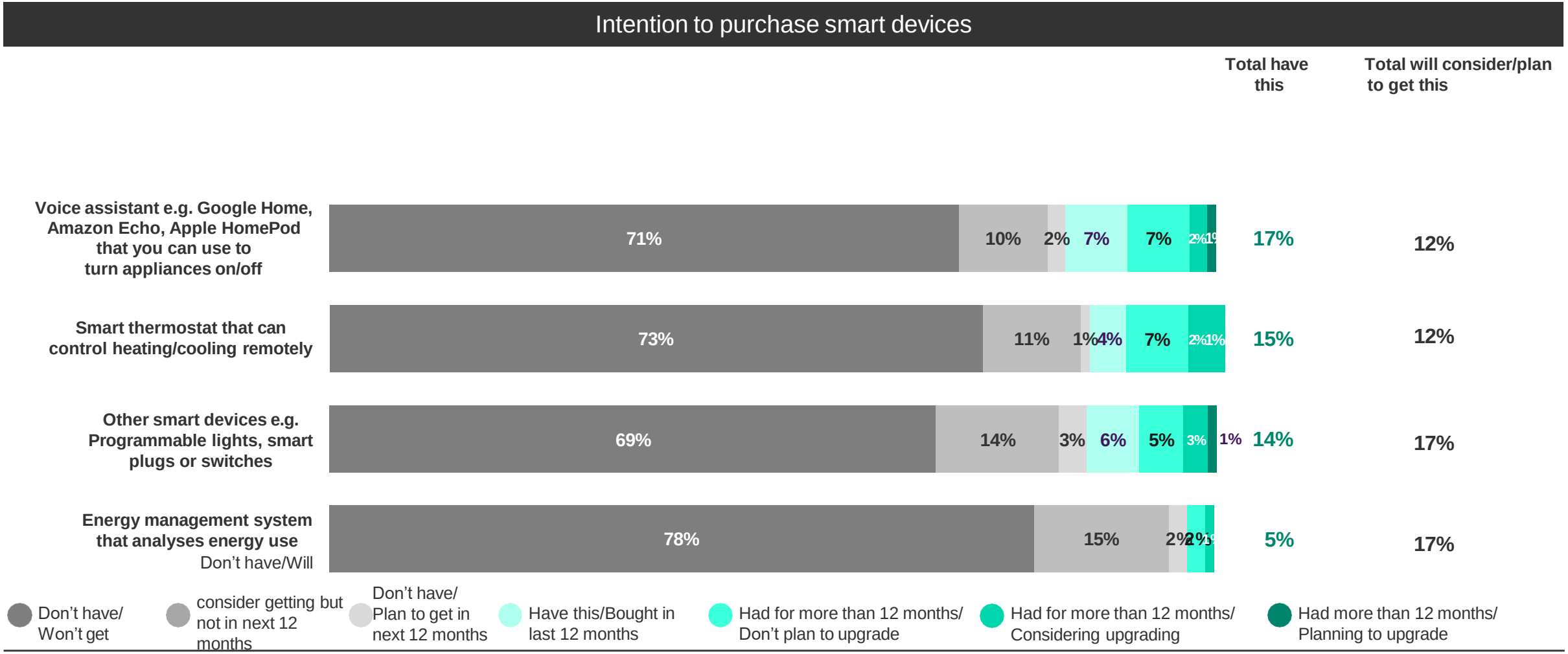
Overall, use of smart devices is not high. Businesses with six or more employees are more likely to have a smart thermostat than smaller businesses.

Smart device use



M1 Which of the following technology do you have in your place of business and which do you use to help control your energy costs?
Base: Total small businesses (n=500) *Most households now have smart meters installed. Responses to this question indicate low awareness of these meters.

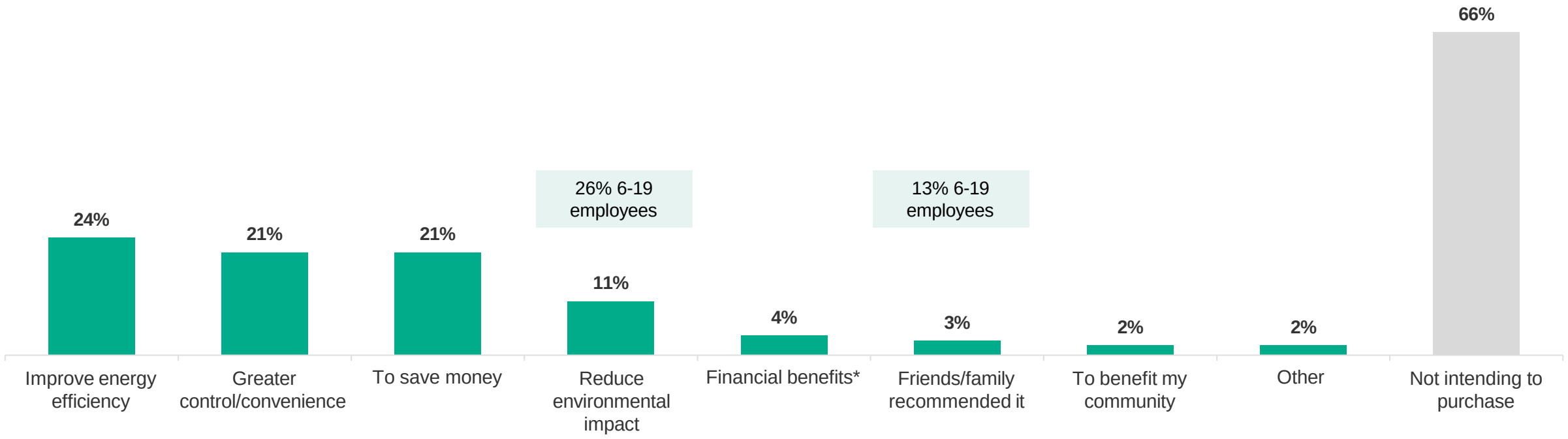
Intention to purchase a smart device ranges from 12% (for voice assistants) to 17% for devices such as smart plugs or switches. Seventeen percent intend to get an energy management system.



I1 Did you have this appliance or system installed in your place of business in the last 12 months?
I2 Which of the following are you intending to replace or upgrade in your place of business?
I3 Which of the following are you intending to purchase for your place of business?
Base: Total small businesses (n=500)

The primary reasons for planning to get, or considering, a smart device are energy efficiency, convenience, and financial savings.

Reasons for intending to purchase Smart devices (digital meters/thermostats/energy management systems/voice assistants)



I4 What are the main reasons you are intending to purchase or considering the following?
Showing combined results for those who intend to installdigital meters for electricity supply, smart thermostats, home energy management systems or a stand-alone digital voice assistant
Base: Total small businesses (n=500)
*e.g. grants, subsidies or tax incentives

About four in 10 (44%) businesses say they would be likely to use smart appliances that could be controlled remotely by a power company to run at off-peak times when electricity is cheaper. A third (32%) are undecided while 19% would not use these appliances.

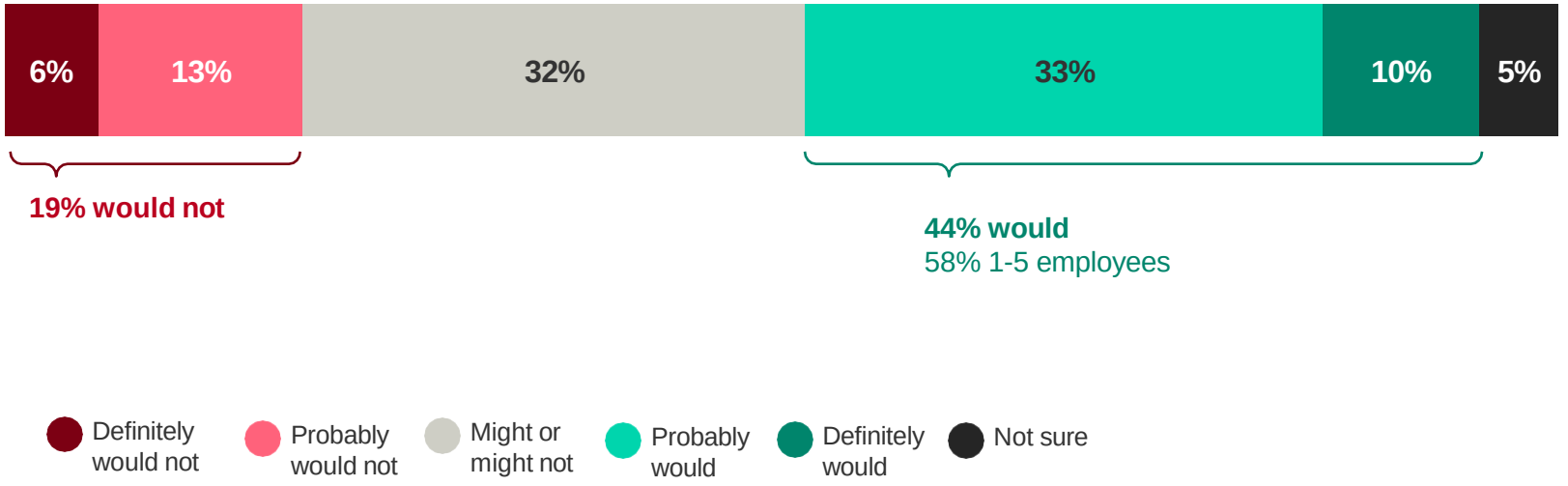
Likelihood to use smart appliances in the workplace

Respondents to the survey read the below text and were asked if how likely they would be to use smart appliances.

In the next few years, smart appliances could become more available. These would help people reduce their energy bills by running at times when electricity is cheaper, such as during the middle of the day when solar energy is abundant.

Smart appliances such as hot water systems, pool pumps, dishwashers and in the future electric vehicle chargers, could be linked to an external company, such as your energy supplier. The external company would monitor when the cost of energy falls, and with your agreement would remotely send signals to your appliances so they can run at times when electricity costs are lower and reduce usage when electricity costs are higher.

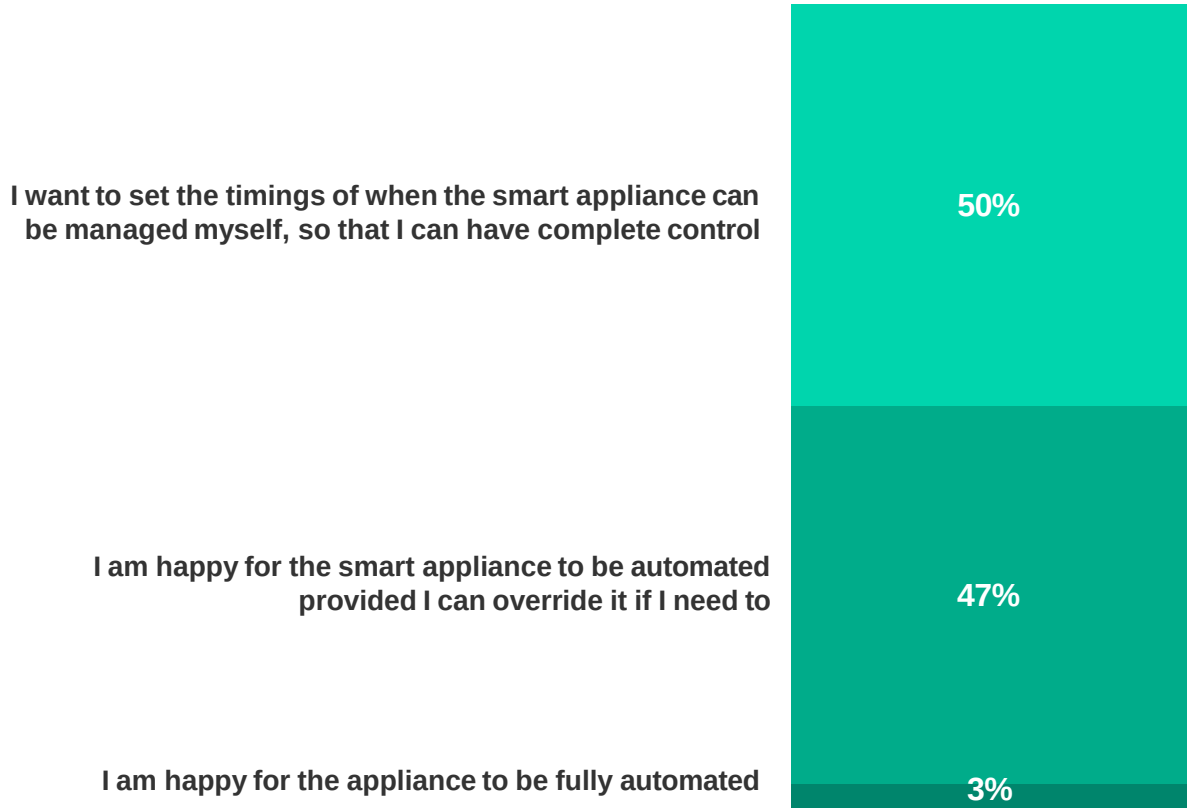
Only smart appliances would be controllable, which means that critical appliances such as life support equipment could not be switched off remotely.



SA3 How likely would you be to use smart appliances like this?
Base: All small businesses (n=500)

Among those likely to use these smart appliances in their business, there is a broadly even split between those that would want complete control and those open to automation. Few (3%) want their devices to be *fully* automated, preferring to have at least some control.

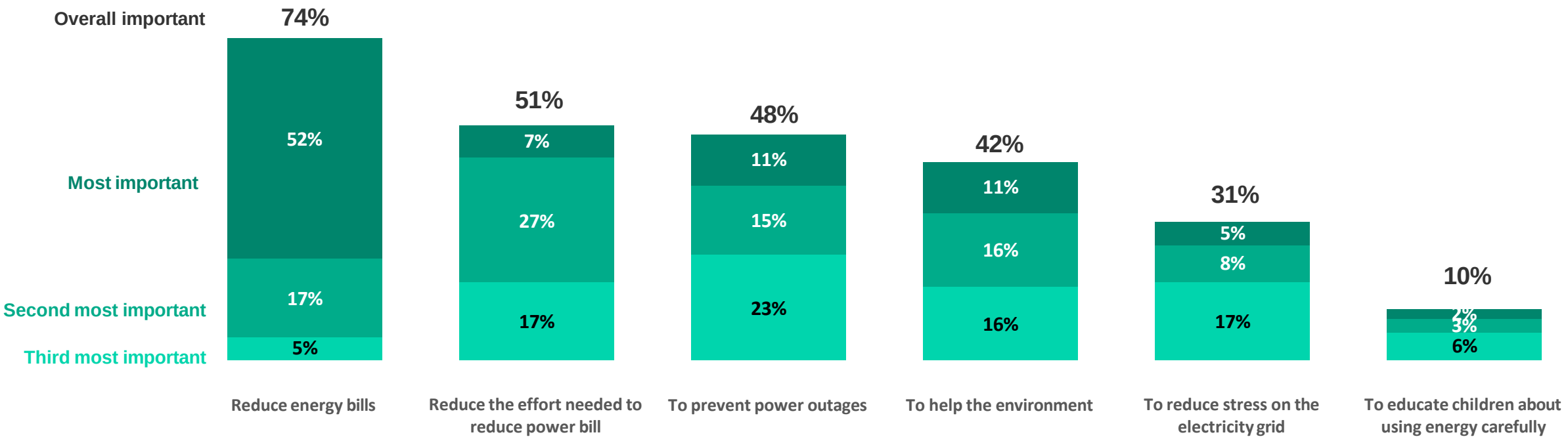
Preference for managing smart appliances



SA5 Which of the following ways of using smart appliances would you prefer?
Base: Small businesses who probably or definitely would use smart appliances (n=385)

Reducing energy bills is the main reason why some businesses might permit an external company to control the use of smart appliances.

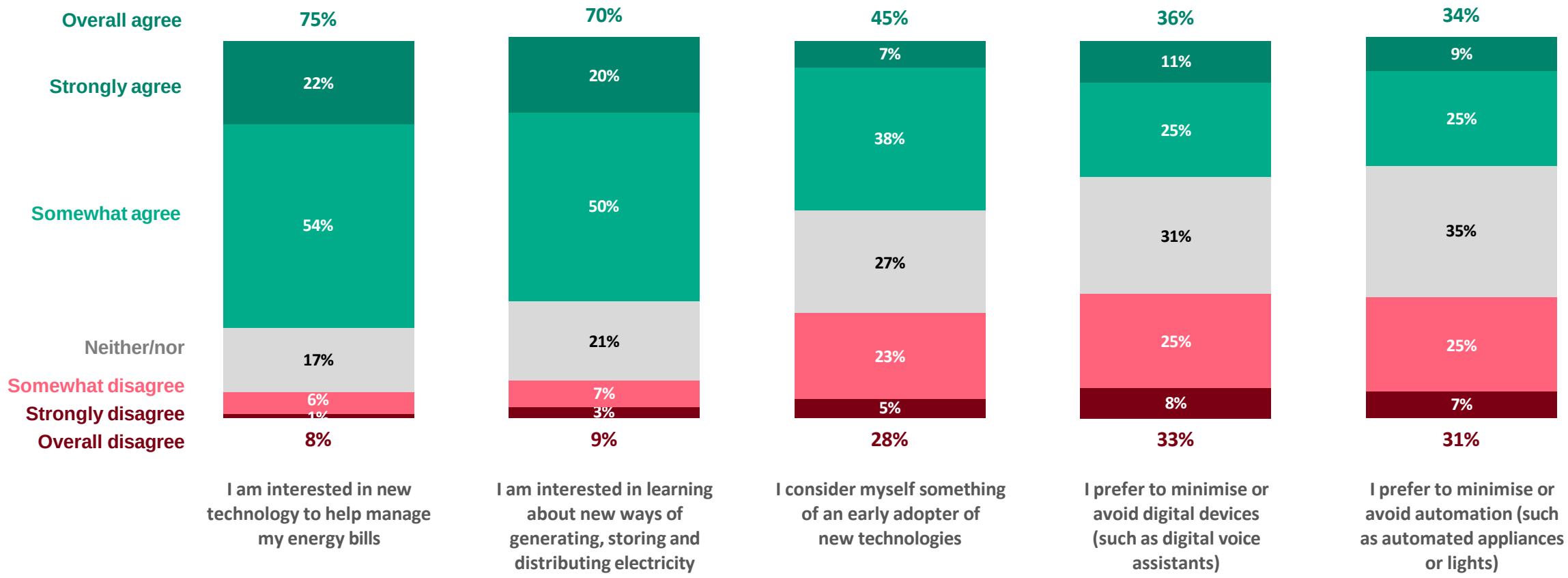
Reasons for permitting an external company to monitor and control smart appliances



SA4 What would be the main reason you would permit an external company to monitor and control smart applicances?
Base: Small businesses who probably or definitely would use smart appliances (n=180)

Most small businesses are interested in both adopting new technology to manage energy bills and learning new ways of managing electricity. However, just under half (45%) consider themselves early adopters of new technologies. Sentiments towards minimising digital devices or avoiding automation are generally mixed.

Attitudes towards digital devices and new technologies



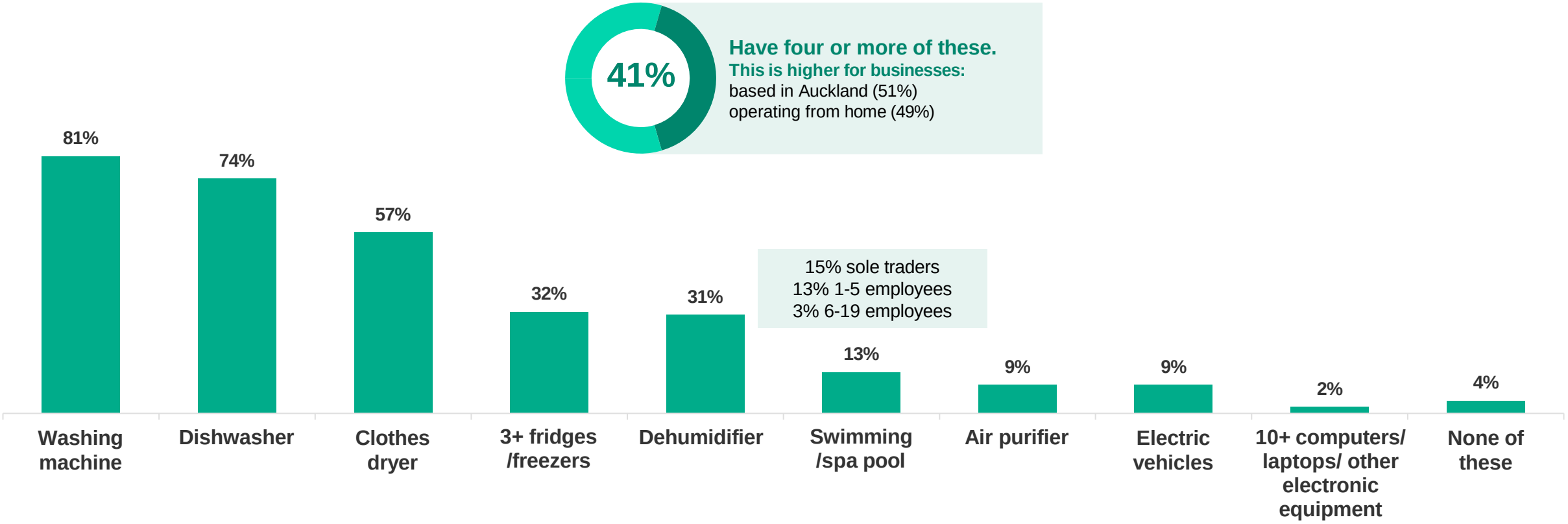
U3 How much do you agree or disagree with the following statements?
Base: All small businesses (n=500)

05

High-consumption items

Machines for washing and drying clothes or dishes are the most common high-consumption appliances among small businesses. Ownership of high-consumption items is higher for businesses in Auckland and those that operate from home.

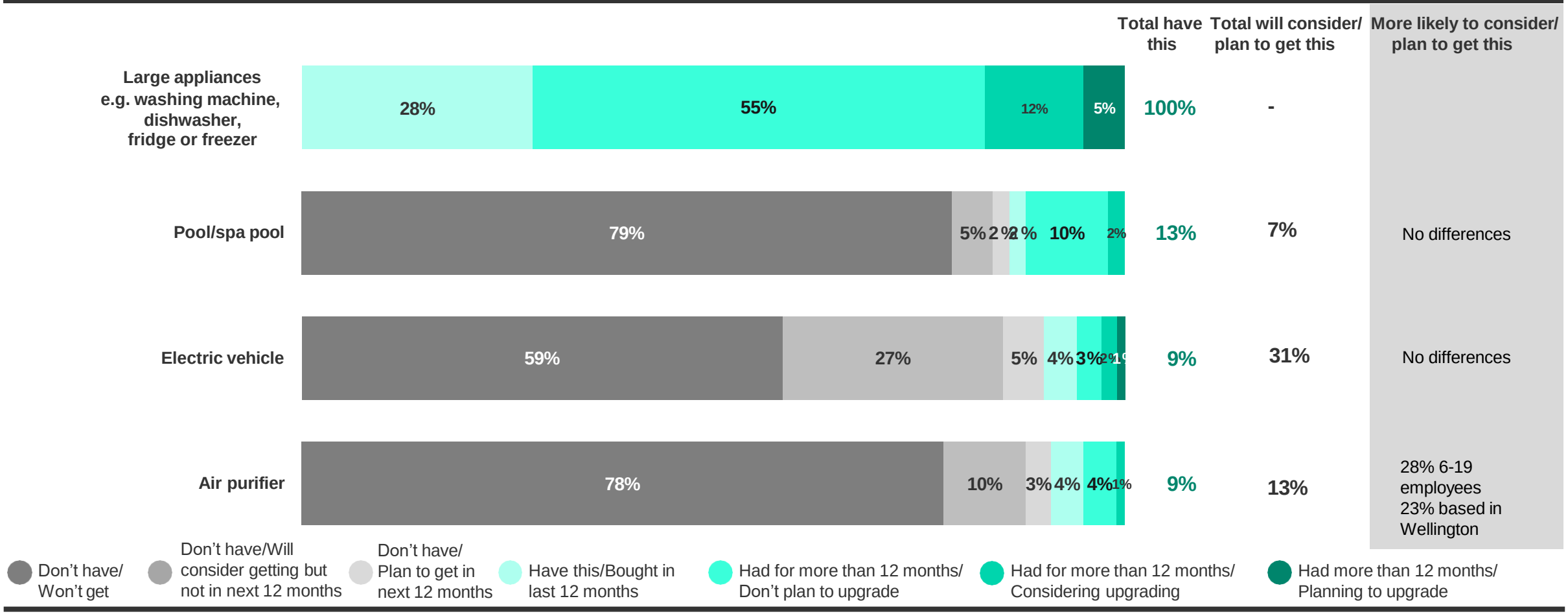
High-consumption items



A6 Which of the following electrical appliances do you have at your place of business?
Base: Total small businesses (n=500)
Note: Multiple can be selected, so totals may not add to 100%

Businesses with six or more employees are more likely to intend to purchase electric vehicles than smaller businesses.

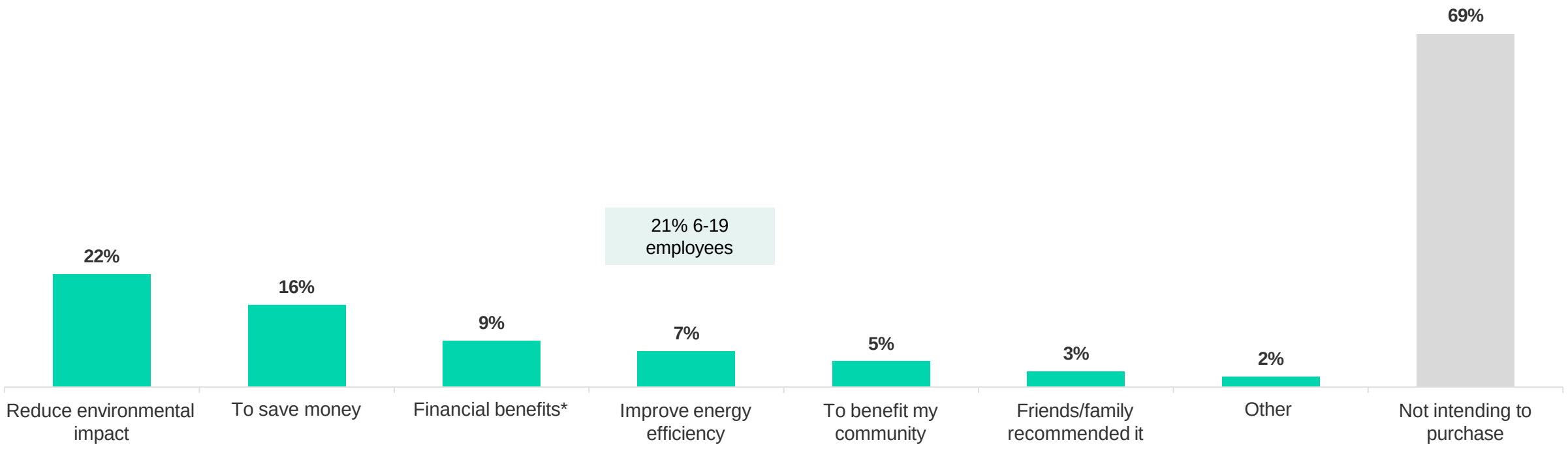
Intention to purchase other high-consumption items



I1 Did you have this appliance or system installed in your place of business in the last 12 months?
I2 Which of the following are you intending to replace or upgrade in your place of business?
I3 Which of the following are you intending to purchase for your place of business?
Base: Total small businesses (n=500)

About one in three small businesses plan to or are considering purchasing an EV for their business. The primary motivations for this are reducing environmental impacts and saving money.

Reasons for intending to purchase an electric vehicle



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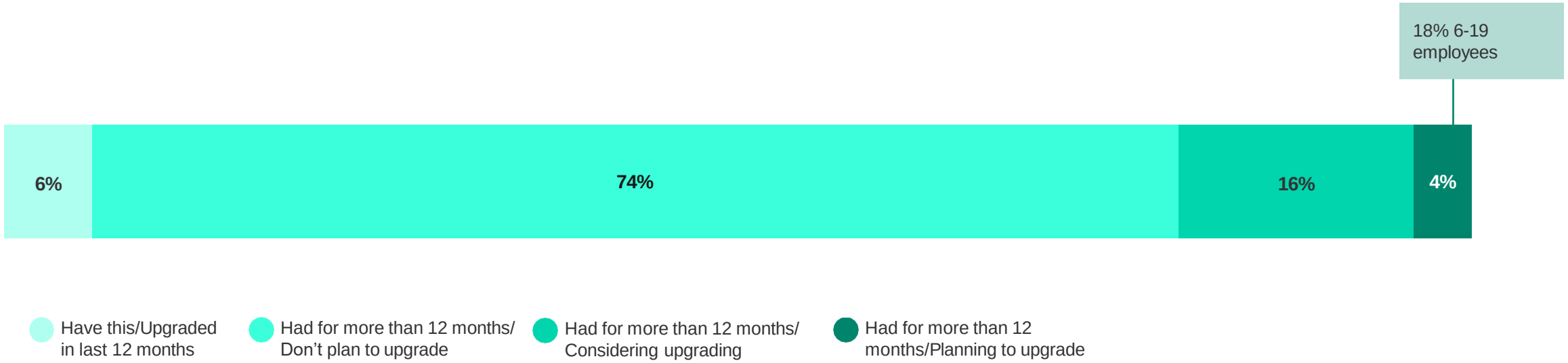
I4 What are the main reasons you are intending to purchase or considering the following?
Showing results for those who intend to buy an electric vehicle
Base: Total small businesses (n=500)
*e.g. grants, subsidies or tax incentives

Twenty percent of small businesses are either considering or planning to replace or upgrade their hot water systems. Businesses with six or more employees are more likely to have plans to upgrade.

Intention to replace/upgrade hot water systems



I1 Did you have this appliance or system installed in your property in the last 12 months?
I2 Which of the following are you intending to replace or upgrade in your property?
Base: Total small businesses (n=500)

The majority (89%) of businesses believe that high energy ratings for large appliances are important.

Importance of energy ratings

I5 When purchasing large electronic appliances such as TVs, washing machines, fridges etc, how important to you is it for the product to have a high energy efficiency rating?
Base: Total small businesses (n=500)

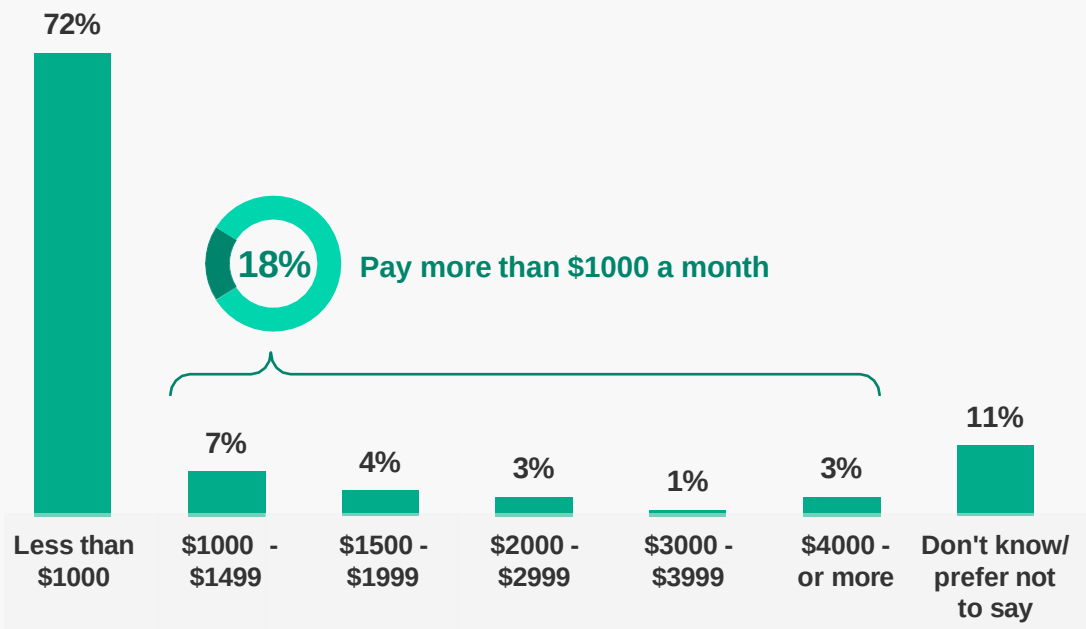
06

Billing

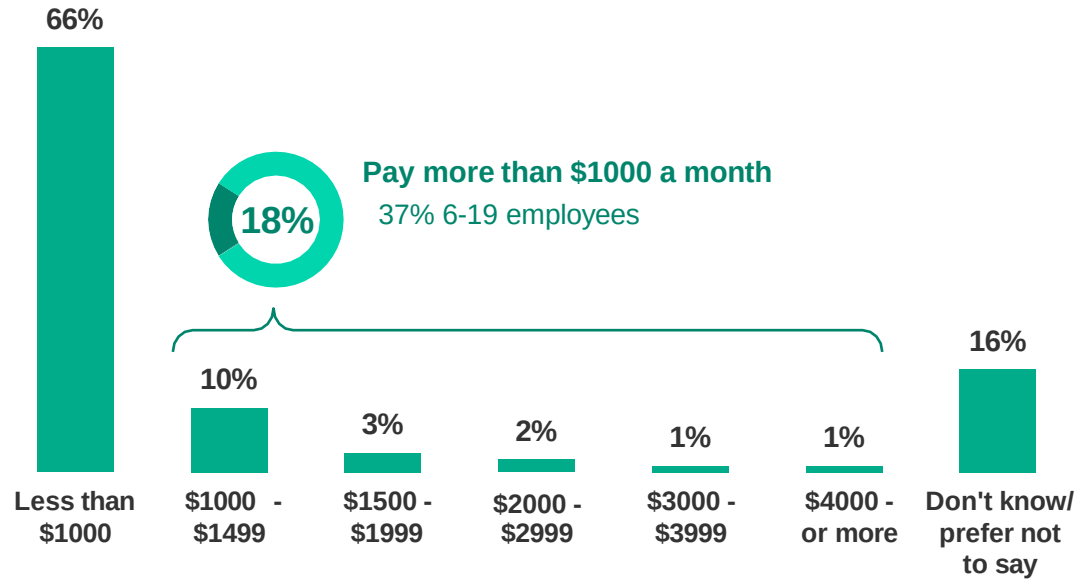
The majority of businesses that operate from a fixed (non-home) location pay less than $1000 for separate electricity bills, or total energy bills, per month on average. Unsurprisingly, businesses with more employees tend to have higher total energy costs per month.

Monthly bill costs

Electricity bills only*



Total energy bills (electricity and/or gas)**



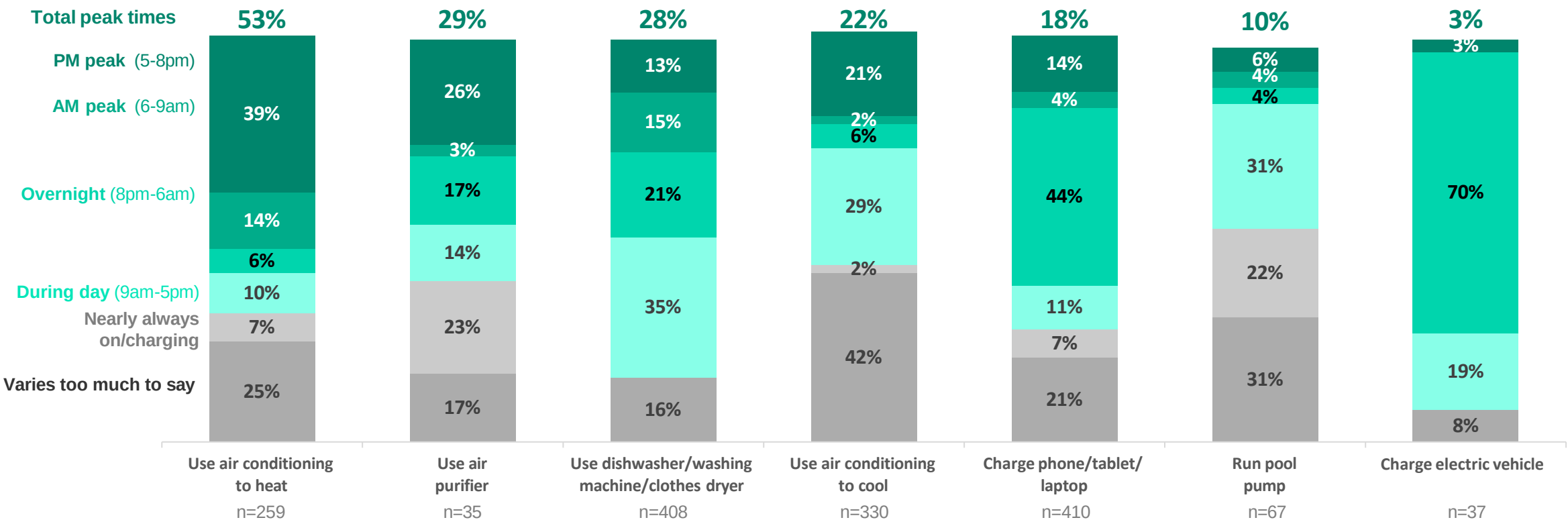
BD 2/4/6 Approximately how much was your most recent bill for electricity/gas? BD 3/5/7 How many months did that bill cover?
Base: *Small businesses that operate from a fixed (non-home) location and only receive a separate electricity bill (i.e. excludes any who receive combined electricity/gas bills) (n=75)
**Small businesses that operate from a fixed (non-home) location, including those that receive separate electricity/gas bills or those who get combined bills (n=90)
Note, the question asked how much a recent bill was and what time period it covered. For comparability, this has been adjusted so all bills above are monthly

07

Off-peak use

Charging EVs and personal electronic devices, such as laptops and phones, is more likely to occur overnight. Businesses report substantial variation in the time of use of air conditioning to cool (42% indicated it "varies too much to say").

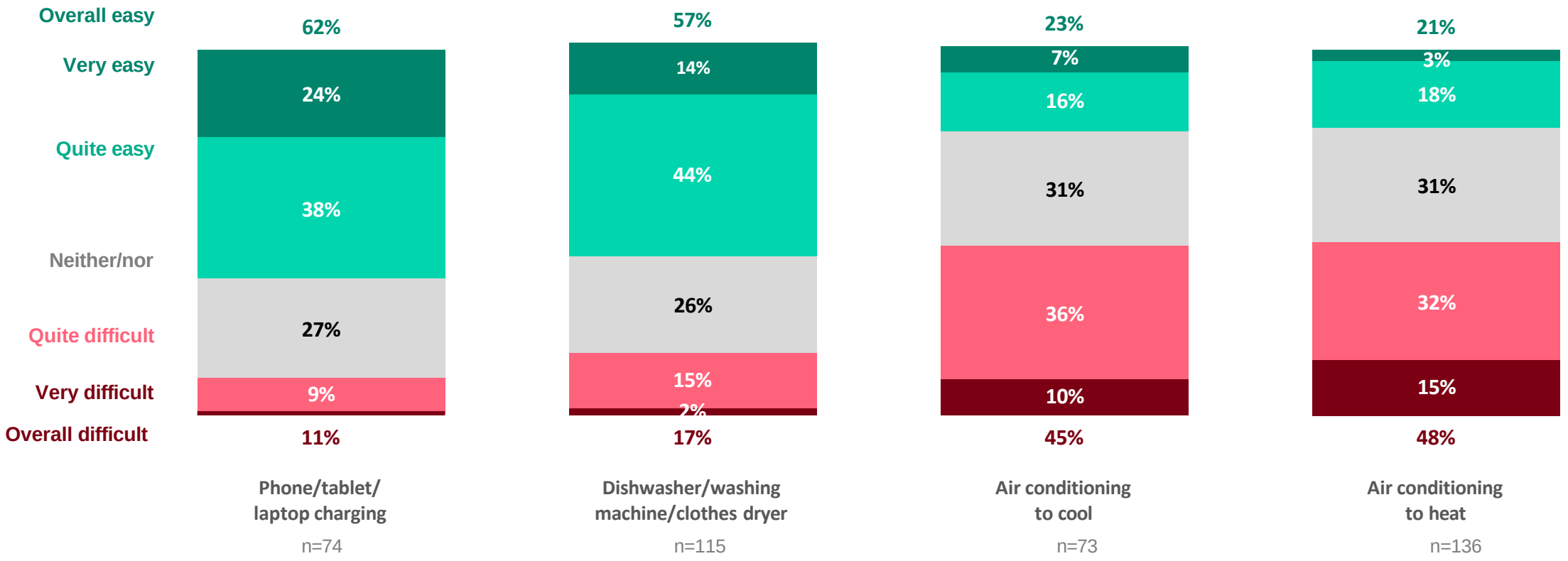
Time of use for high-consumption appliances



W1 Typically, at what time of the day does your place of business do the following?
Base: Small businesses who have these types of appliances

Among businesses that use air conditioning during peak hours, close to half would find it difficult to change use to off-peak hours. Changing when other appliances were used was considered easier.

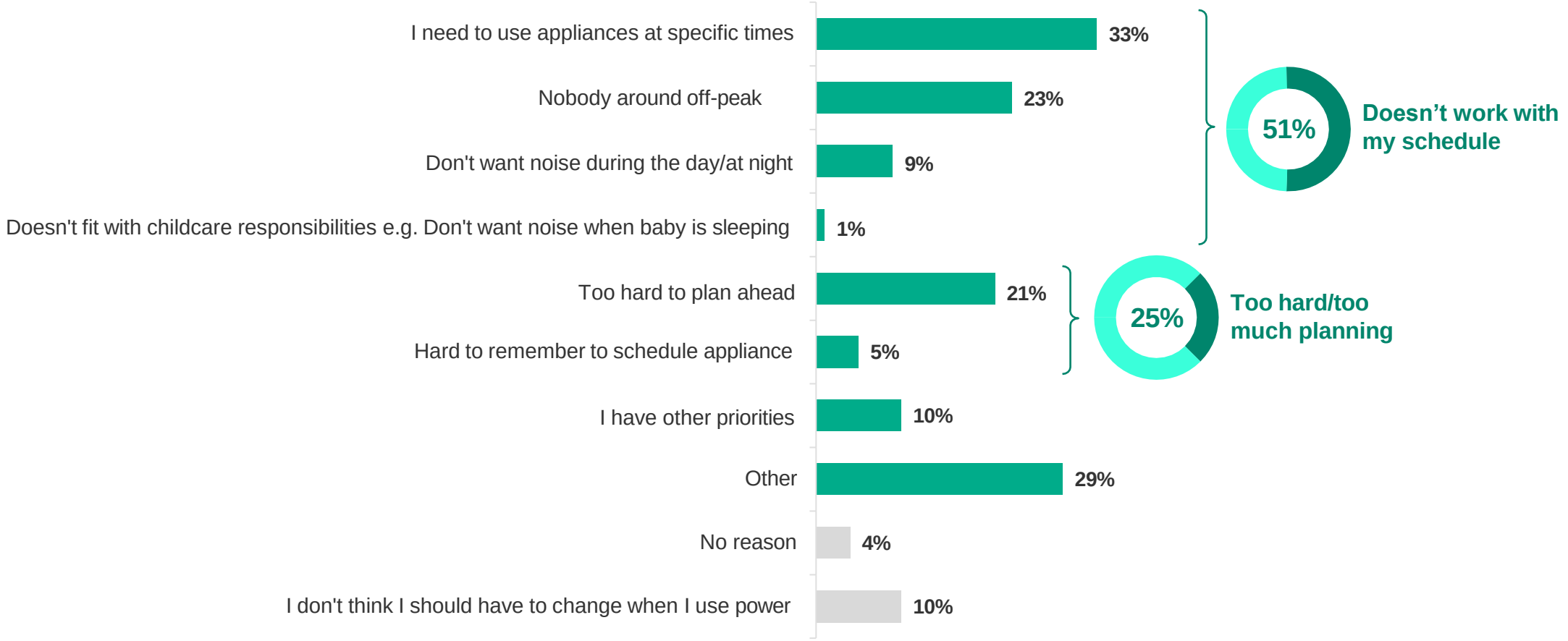
Ease of changing appliance use to off-peak



W2 How easy or difficult would it be for your place of business to change when you do these things to a time when there is less demand for energy (e.g. to the middle of the day or overnight)?
Base: Small businesses who have these types of appliances and use them at peak times
Note: Only showing results for appliances with 30 or more responses

The primary barrier that stops small businesses from using electricity during off-peak times is scheduling difficulty (e.g. needing to use appliances at specific times). About one in four say it's difficult to plan ahead.

What is stopping businesses from changing electricity use to off-peak

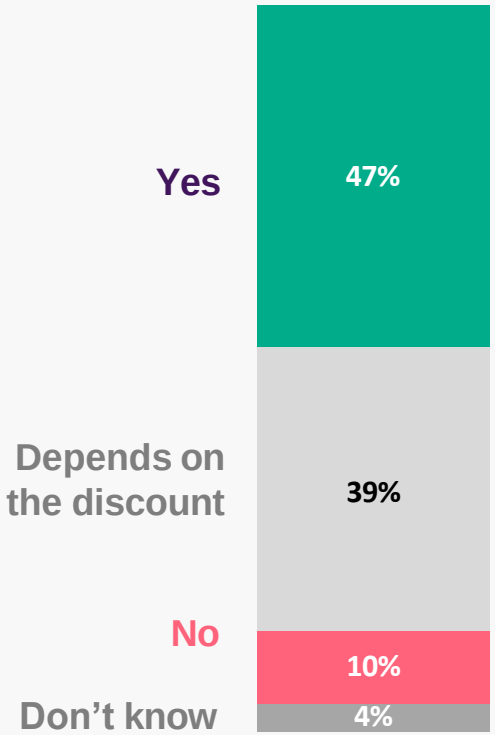


W3 What prevents your place of business from being able to do these tasks at a time when there is less demand for energy (e.g. to the middle of the day, or overnight)?
Base: Small businesses who said it is difficult to use large-consumption appliances off-peak (n=94)

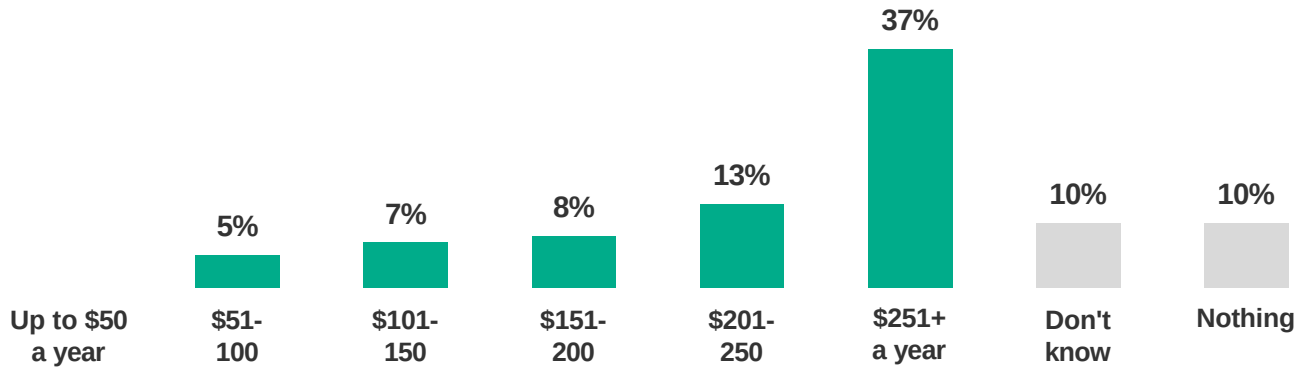
Among businesses that find it hard to use appliances off-peak, nearly half said a discount would help to encourage them. Over half (58%) expect to be compensated with more than $150 in yearly savings.

Would a discount encourage off-peak use

Would a reduction in your bill help compensate for the difficulty of using power off-peak?



Size of discount needed to encourage a switch to off-peak use



W7 Depending on your retailer, using electricity at off-peak times when there is less demand can reduce your power bill. Would a reduction in your bill help to compensate you for the difficulty of using power at off-peak times?
W8 - How much of a reduction in your bill per year do you think might be enough to compensate you?
Base: Small businesses who said it is difficult to use large-consumption appliances off-peak (n=94)

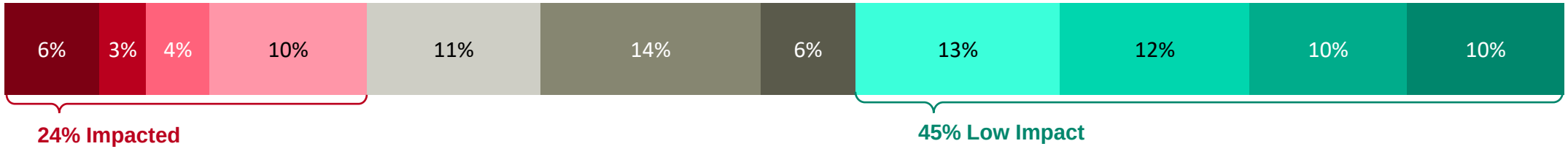
08

Power outages

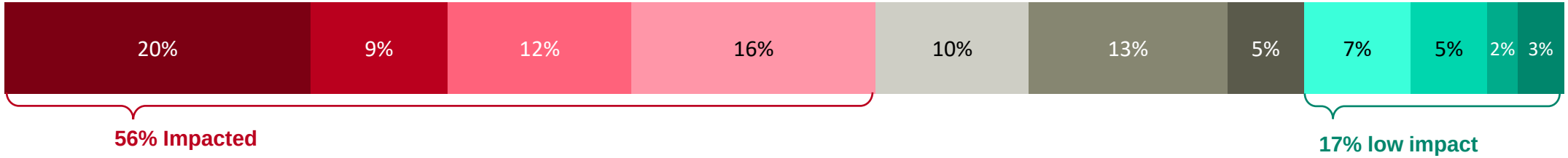
About two in five (38%) small businesses have experienced a planned power outage. About half (53%) have experienced an unplanned outage.

Power outages

38% have experienced a planned outage. For them, the impact was…



53% have experienced an unplanned outage. For them, the impact was…



10 Major impact 9 8 7 6 5 4 3 2 1 No impact

W4 Which of the following have you experienced in the In the past 12 months? Base: Small businesses that work from fixed location (n=357)
W5 How would you rate the impact of the planned outage on you and your household? Base: Those who experienced planned outages (n=154)
W6 How would you rate the impact of the unplanned outage on you and your household? Base: Those who experienced **un**planned outages (n=217)

FOR FURTHER INFORMATION PLEASE CONTACT

alexis.ryde@veriangroup.com

Verian

Suite 308, Level 3, 48 Greys Avenue

Auckland 1010