

Attachment 8.3

Demand for natural gas:
understanding future
uncertainty

Sagacity Research

Revised GN21 Plan

ACT and Queanbeyan-Palerang gas
network 2021–26

Submission to the Australian Energy Regulator

January 2021

DEMAND FOR NATURAL GAS

UNDERSTANDING FUTURE UNCERTAINTY

Prepared for: **evo**energy



FINAL REPORT

December 2020

Background & Objectives

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Renovations

Moving home

Impact of rebates

Impact of solar

Gas take up

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BACKGROUND & OBJECTIVES

BACKGROUND

In June 2020, Evoenergy submitted their Gas Access Arrangements proposal to the AER for 2021 - 2026, which included an estimate of the future reduction in gas usage.

There is now a need for research to provide a more thorough quantification of the future demand for natural gas, and the degree of uncertainty resulting from net zero carbon targets and climate change strategies.

The screenshot shows the AER website interface. The main content area displays the following details for the 'Evoenergy - Access arrangement 2021-26':

Type:	Access arrangement
Sector:	Gas
Segment:	Distribution
Region:	Australian Capital Territory
Service provider/Asset:	Evoenergy Evoenergy - gas distribution network
Commencement date:	1 July 2019
Regulatory period:	1 July 2021 to 30 June 2026 (5 years)
Status:	Open
Contact:	General enquiries - Evoenergy 2021-26 Access arrangement ✉ Evoenergy2021@aer.gov.au
AER reference:	65197

Overview

On 26 June 2020, Evoenergy submitted its gas access arrangement proposal for the period from 1 July 2021 to 30 June 2026 to the AER.

Quantify the future demand for natural gas, and the degree of uncertainty resulting from net zero carbon targets and climate change strategies.

- Understand current desire for gas and stated future intentions.

- Provide a time continuum that details the future uncertainty and demand for gas.

- Determine the impact of potential rebates for switching to electric appliances.

KEY TAKEOUTS

KEY TAKEOUTS

01

Future uncertainty for gas increases from 9% in the next year to 18% in 5 years time. After this point, there is little change, suggesting that few are thinking much further ahead.

02

Most uncertainty in the immediate future (next 2 years) comes from those who are renovating and looking to change appliances from gas to electric. After this point the expected need to replace old appliances becomes equally influential.

03

The offer of rebates would appear to have a substantial impact on behaviour, increasing uncertainty for gas by up to 60% - the result for those currently aware of the gas to electric heating rebate.

04

However, we should remain cognisant of the directionality, as those currently aware of the rebate may have already been more predisposed to drop gas, so their behaviour does not necessarily reflect what those who follow will do. Indeed, while the rebate is attractive for those not currently aware, there is a high level of inertia, with many not choosing to change until their appliance(s) need replacing.

Future uncertainty for gas increases from 9% in the next year to 18% in 5 years time

- After this point, there is little change, suggesting that few are thinking so far ahead.
- Uncertainty is defined as the proportion of customers likely to change an existing gas appliance over to electric.

Cumulative uncertainty for Gas
(based on dropping gas only)



Adjusted based on those who intend to install new gas appliances.



Adjusted uncertainty for Gas



APPROACH & METHODOLOGY

WHAT WE DID

ONLINE SURVEYS

A total of 1,886 ten minute interviews were conducted with Evoenergy customers.



APPROACH

30,000 customers were invited to participate by email from Evoenergy. The 6.3% response rate without a reminder is exceptional.

TARGET

While all customers were allowed to complete the survey, our target was home owners (not renters), of whom 1,757 completed the survey.

PROFILE

Sample profile was weighted to match ABS statistics based on home ownership and age.

FINAL SAMPLE PROFILE

- The final weighted profile of the sample used for analysis is presented below.
- Being homeowners, the age profile is older than the overall state profile, where 33% are aged 18-34.

Age		
18-34	19%	n=98
35-44	15%	n=193
45-54	17%	n=257
55+	41%	n=1,076
Prefer not to say	9%	n=131

Gender		
Male	57%	n=1,056
Female	39%	n=642
Prefer not to say	4%	n=57

Income (p.a.)		
<\$49,999	6%	n=175
\$50-\$74,999	10%	n=246
\$75-\$99,999	11%	n=230
\$100-\$149,999	19%	n=295
\$150,000+	34%	n=423
Prefer not to say	20%	n=386

DETAILED RESULTS



Overview

In determining the level of uncertainty for gas, we have focused on three key moments of truth



Appliance Replacements

What age are appliances, when are replacements anticipated, and what are the preferences?



Home Renovations

When are renovations anticipated, will they involved purchasing new appliances, and what are the preferences?

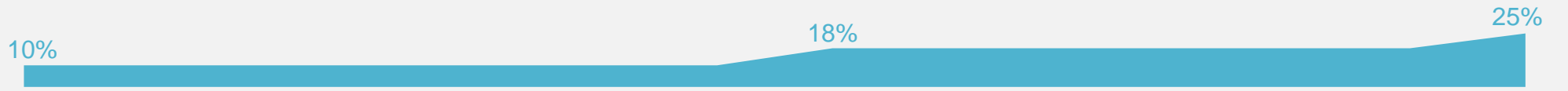


Home Moves

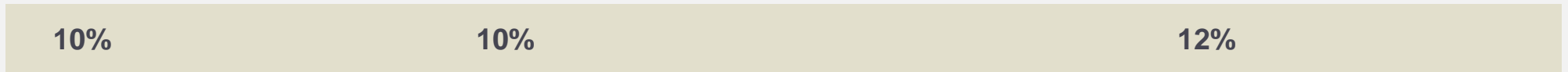
When is a home move (with the ACT / Queanbeyan-Palerang region in NSW) anticipated, and would they use gas if present in their new home?

This produces a time continuum, with uncertainty for gas ranging from 10% in the next year to 25% by 2025

Cumulative uncertainty for Gas
(based on dropping gas only)



Net Events:
(% experiencing at least 1)



Replace Appliances
(swap gas for elec)



5%

4%

6%

Renovate
(swap gas for elec)



7%

7%

6%

Move house
(not use gas)



<1%

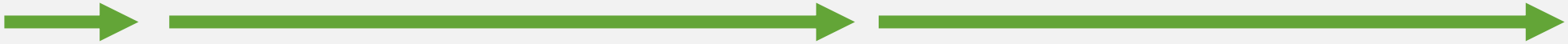
<1%

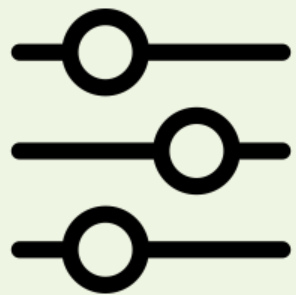
1%

Next year

1-2 years

3-5 yrs



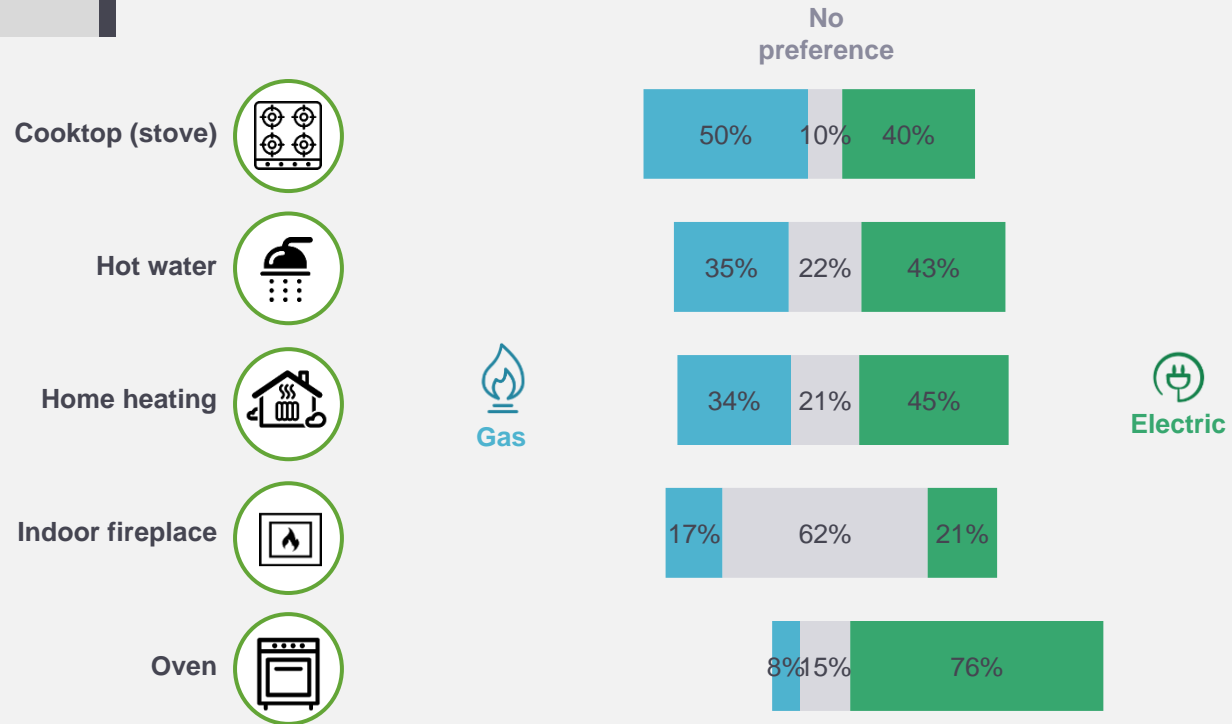


Energy Preferences

With the exception of cooktops, preferences skew towards electricity

- The low level of preference in relation to indoor fireplaces, most likely reflects a low level of usage.

ENERGY PREFERENCES



Those with a preference for electricity and generally less than 25% likely to replace gas appliances with gas

- When modelling the uncertainty for gas, we have taken the cut off as those stating a 25% or less chance of choosing another gas appliance.

PREFERENCE AGAINST LIKELIHOOD FOR GAS

Likelihood to replace with a gas appliance

■ Unlikely (<25%)
■ Somewhat likely (25-49%)
■ Likely (>49%)



Cooktop / stove

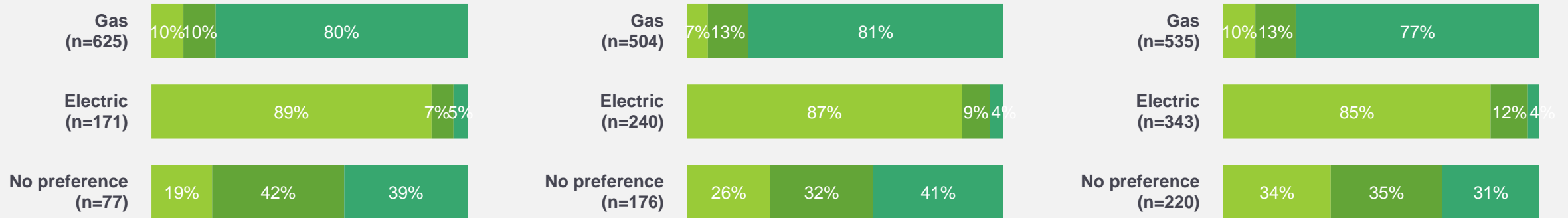


Hot Water



Home Heating

Preference



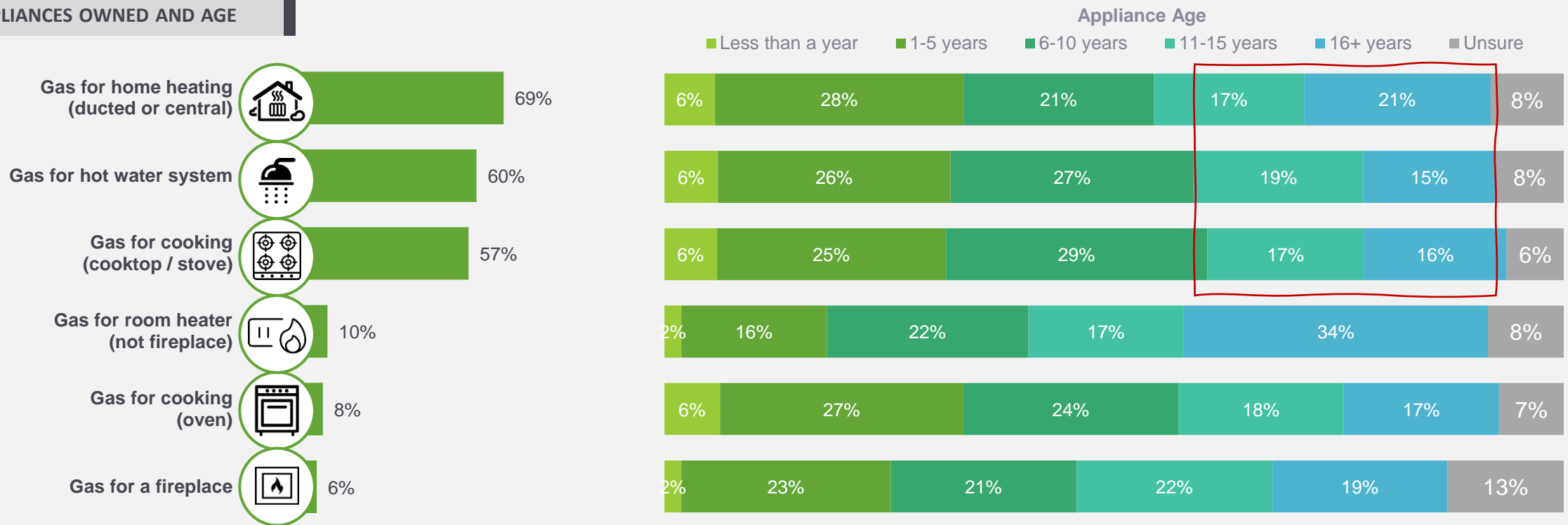
02
02

Replacements

Just over a third of the major gas appliances are at an age when replacements are more likely

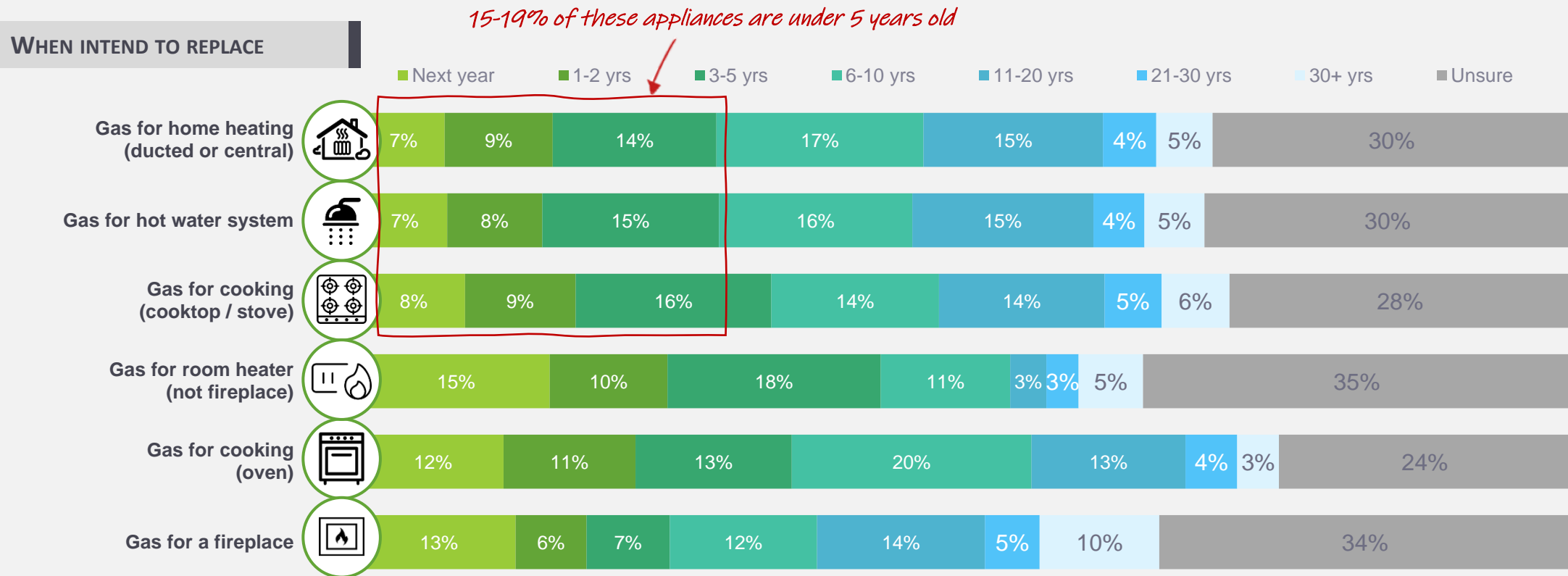
- This will be the critical moment of truth for future gas demand.
- Gas room heaters and fireplaces are generally older, but much less prevalent, so less likely to impact future demand for gas.

GAS APPLIANCES OWNED AND AGE



Similarly, about a third of the major gas appliances are flagged for replacement in the next 5 years

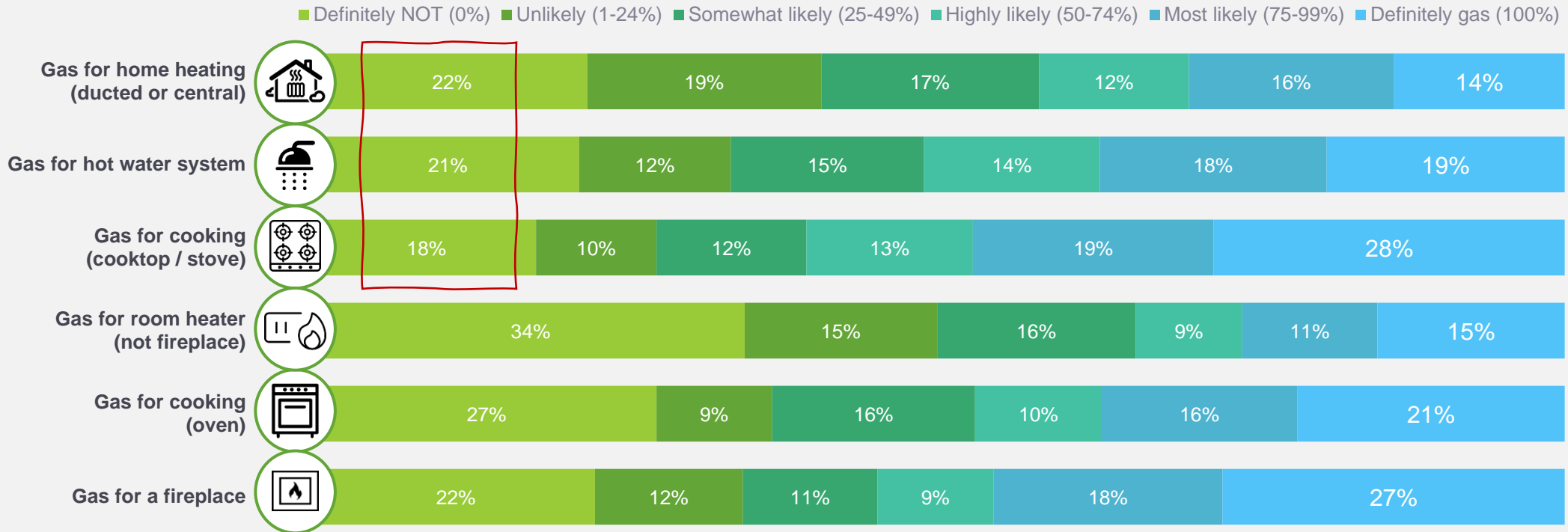
- However, up to a fifth of these appliances are less than 5 years old. These have been excluded from the modelling, as they likely represent an overstatement of intent.



About 1 in 5 are adamant they will move away from gas when they replace each of the major gas appliances

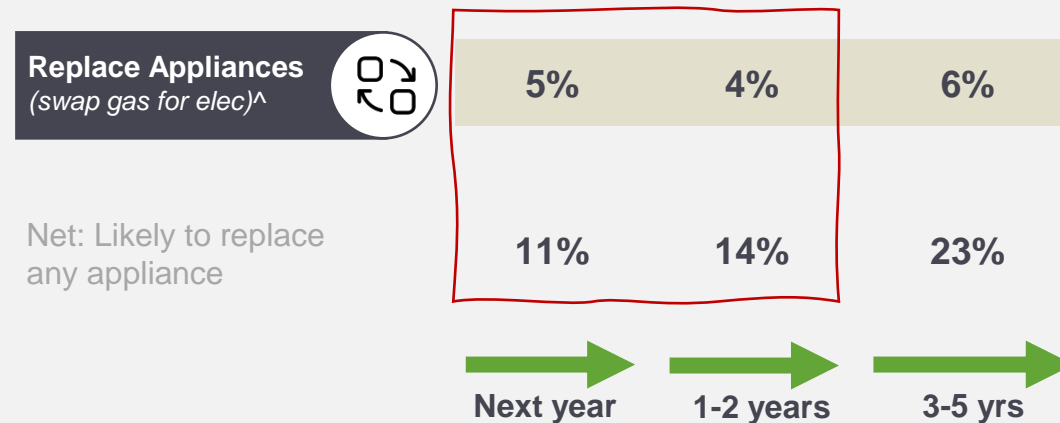
- As previously highlighted, we have modelled those 'definitely not 0%' and 'unlikely 1-24%' to replace with gas appliances in the modelling.

LIKELIHOOD TO REPLACE WITH GAS



What does all this mean for the future uncertainty of gas?

- A quarter are intending to replace appliances in the next couple of years, with just under 1 in 10 looking to move away from gas.
- A further 23% intend to replace appliances in the next 3-5 years, with 6% looking to move away from gas.



^ Likelihood of choosing gas <25%

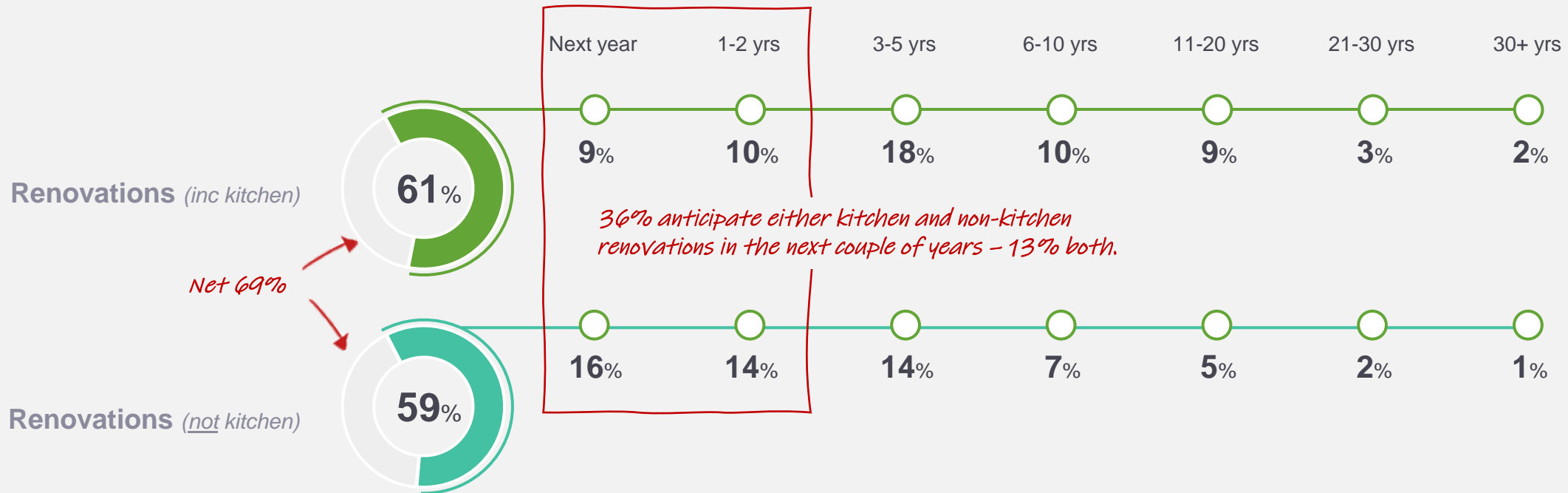


Renovations

A third are expecting to renovate in the next couple of years, with 13% doing both the kitchen and other rooms

- These are the critical moments of truth when appliances are likely to get replaced.

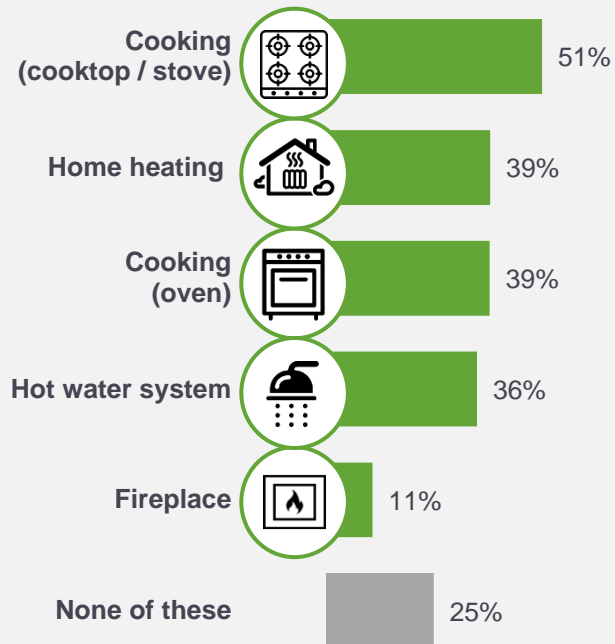
ANTICIPATED RENOVATIONS



Three quarters of those renovating intend to replace at least one appliance, with the cooktop / stove the most common

- A half or more of the gas heating, ovens and hot water systems are unlikely to be replaced with gas.
- This reduces to a third of the cooktops /stove, reflecting the higher level of preference for gas with this appliance.

APPLIANCE REPLACEMENT (WHEN RENOVATING)



Those with gas appliances

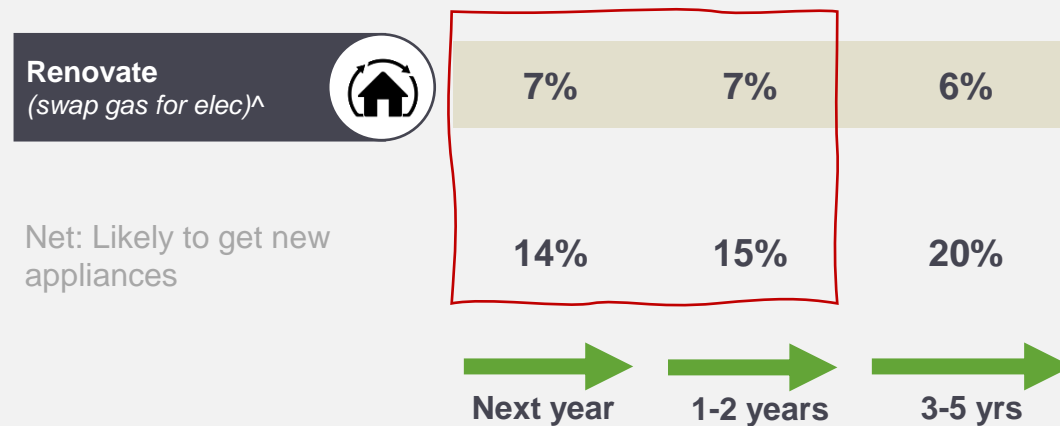
% unlikely to replace with gas appliance (<24%) % likely to replace with gas appliance (>25%)

Cooking (cooktop / stove)	38%	62%
Home heating	56%	44%
Cooking (oven)	68%	32%
Hot water system	54%	46%
Fireplace	42%*	58%*

* Caution, low sample size

What does all this mean for the future uncertainty of gas?

- A third are intending to renovate and replace appliances in the next couple of years, with half intending to move away from gas.
- A further 20% in the following 3-5 years.



[^] Likelihood of choosing gas <25%

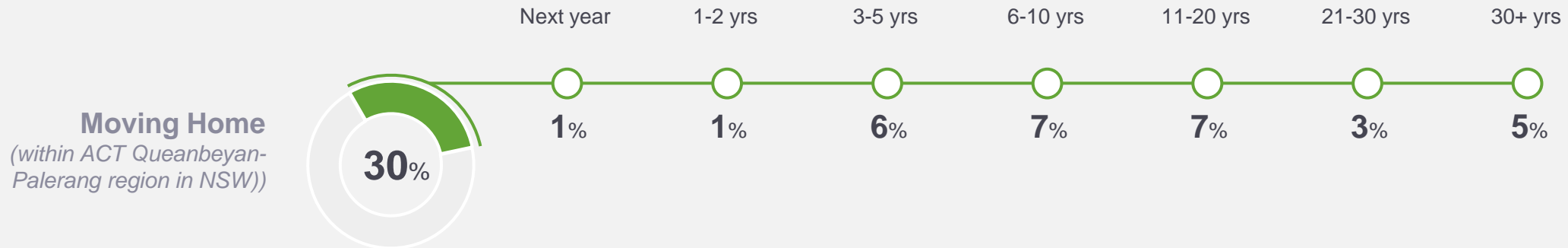


Moving Home

Unsurprisingly, few are looking to move in the next couple of years

- Just over 1 in 10 however do have an eye on moving home in the next 3-10 years.
- This is a critical moment of truth when decisions around appliances are made.

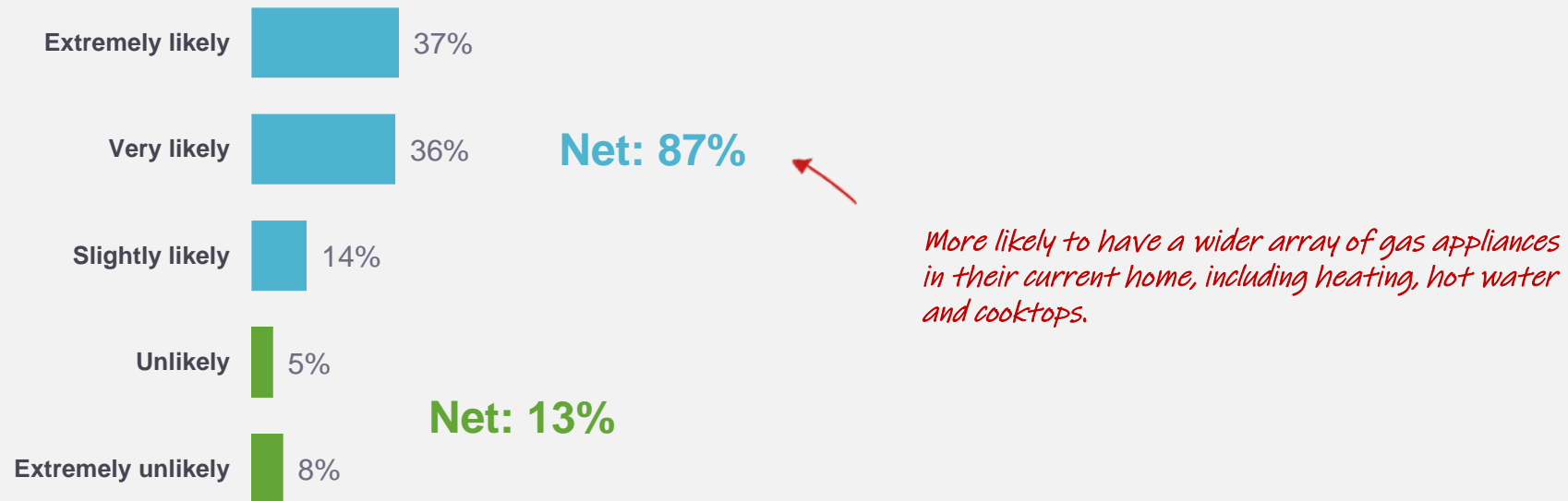
ANTICIPATED HOME MOVE



The majority of those who move home state they will use gas appliances if their new home had gas

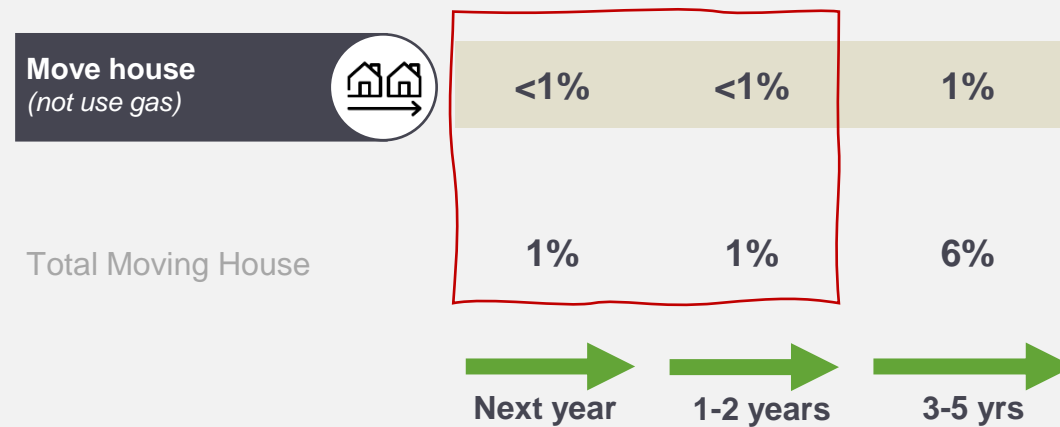
- Just 13% state they would be unlikely to use the gas appliances.

LIKELIHOOD TO USE GAS



What does all this mean for the future uncertainty of gas?

- Ultimately, home moves will have little impact on the future demand for gas.



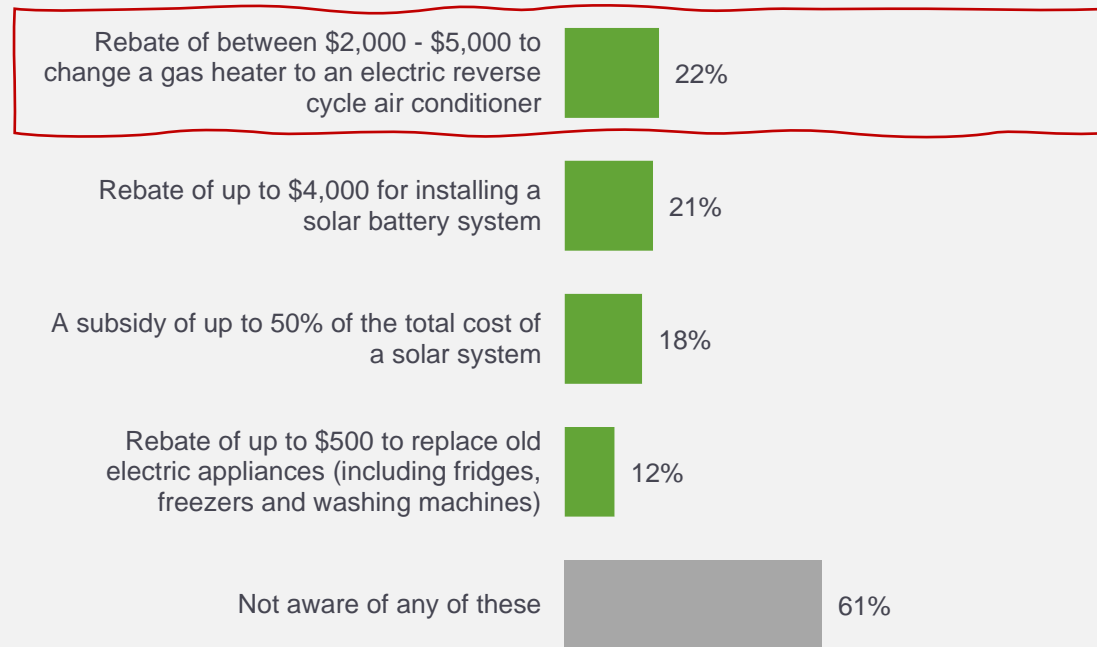


Impact of Rebates

A fifth are aware of the rebate for switching to electric heating, which would appear to have changed behaviour

- Those who are aware of the rebate are both less likely to have gas ducted heating, and if they have it, more likely to intend to replace it within the next 5 years.

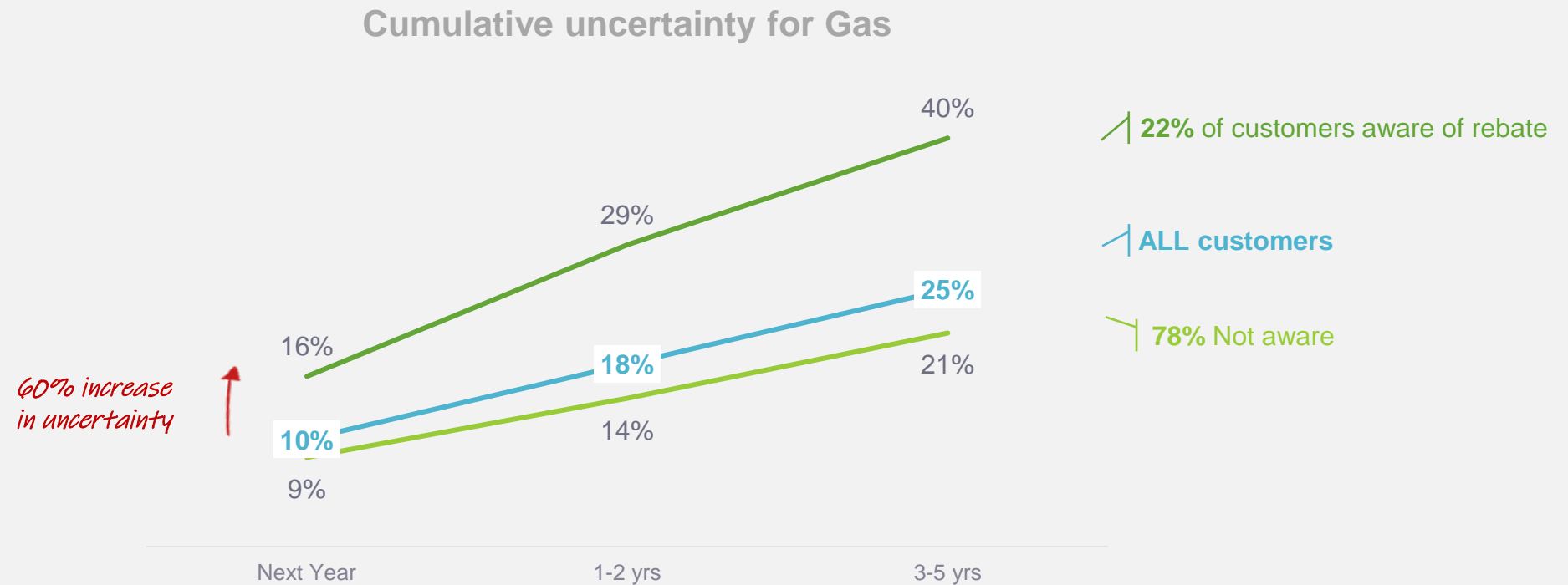
AWARENESS OF REBATES



	Aware	Not aware
Have gas ducted heating:	62%	71%
Replace in:		
Next year	14%	5%
1-2 yrs	17%	7%
3-5 yrs	21%	12%

Uncertainty for gas is 60% higher in the next year amongst those who are aware of the rebate

- However, we should also be cognisant that those who were already looking to move away from gas are more likely to have become aware of the rebate, so we cannot assume that the rebate alone has driven this increase.

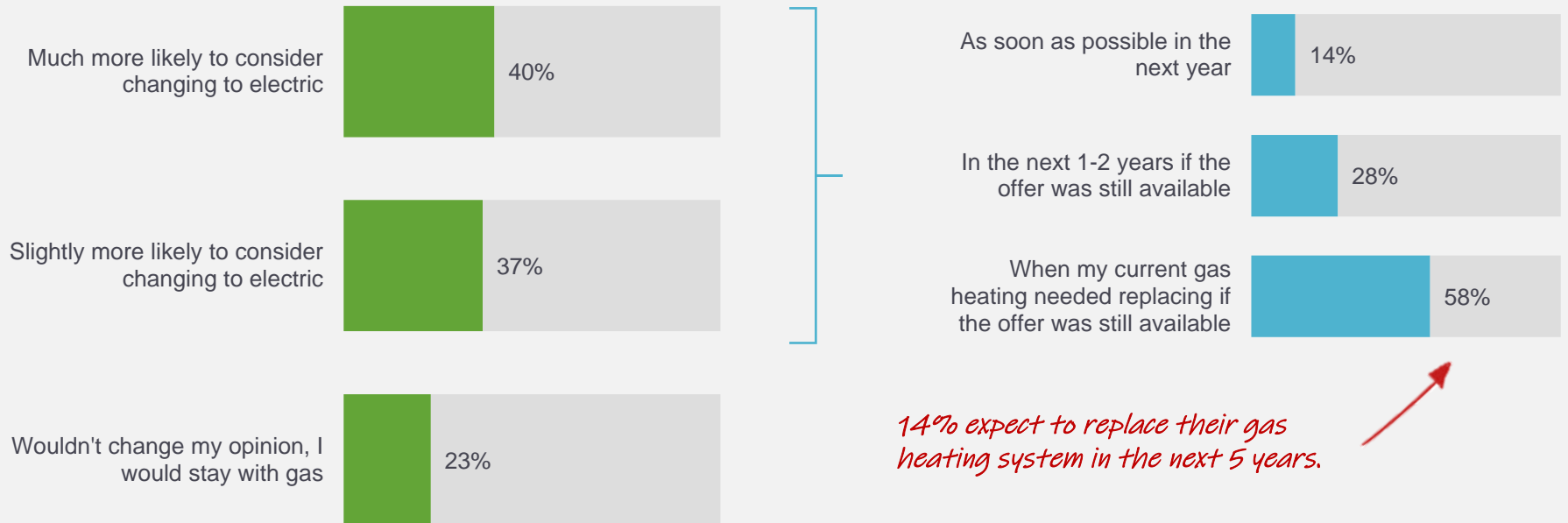


While attractive to those previously not aware, there is a fairly lethargic reaction to the rebate

- When prompted with the rebate, a quarter state this does not change their opinion to stay with gas heating.
- Amongst those who would be more likely to consider electricity, the majority will only do so once their current system needed replacing.

REACTION TO GAS HEATING REBATE

Upgrade your inefficient heater and save \$2000 off the purchase price. PLUS \$2000 credit on your ActewAGL electricity bill.

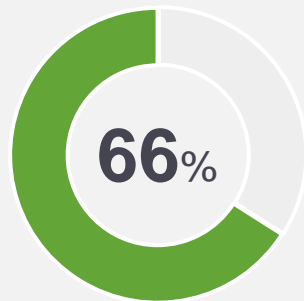


Two thirds would also choose to change their hot water system if they switched their heating to electric

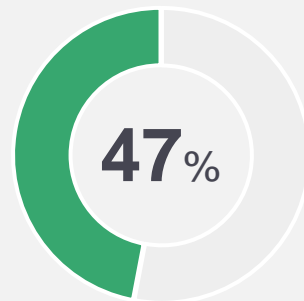
- Slightly fewer would change the cooktop / stove to electric at the same time, reflecting the greater preference for gas as noted earlier.
- Half would disconnect the gas if they had changed all their appliances over.

REACTION TO CHANGING GAS HEATING

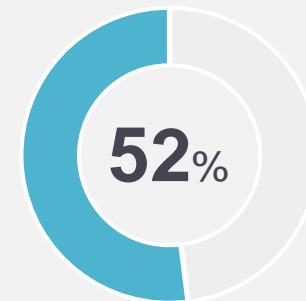
Would also change their Hot Water System to electric

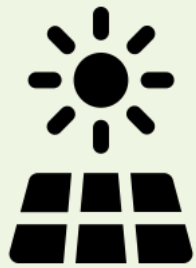


Would also change their Cooktop / Stove to electric



Would disconnect the gas is changed ALL appliances to electric



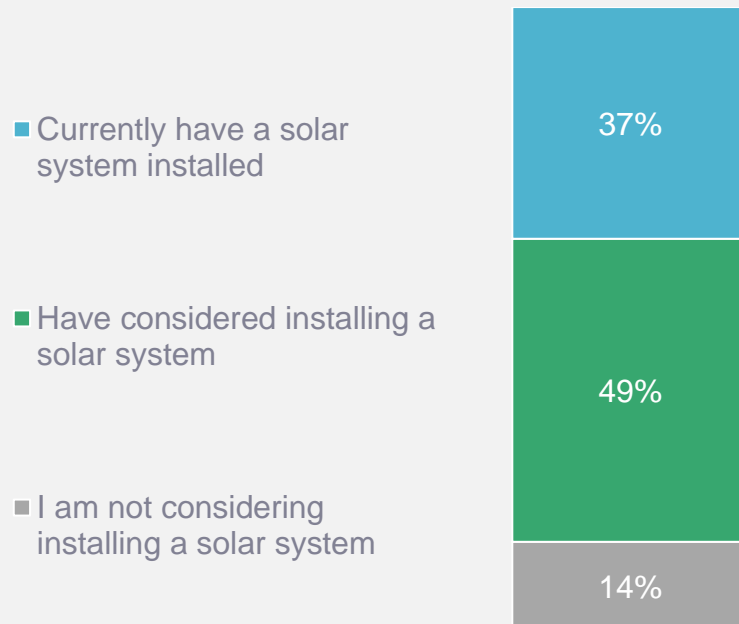


Impact of solar

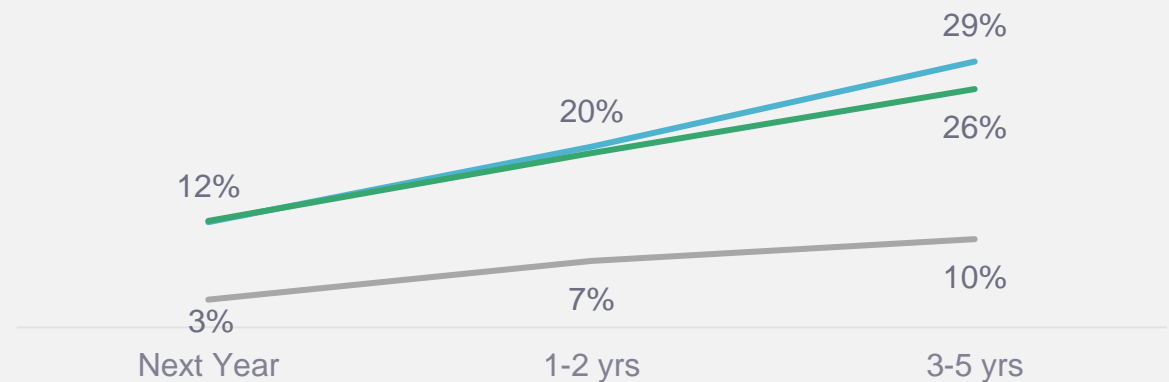
The opportunity to use solar increases the future uncertainty for gas

- Uncertainty stems from a consideration for solar as much as it does from the use of solar.

USE OF SOLAR



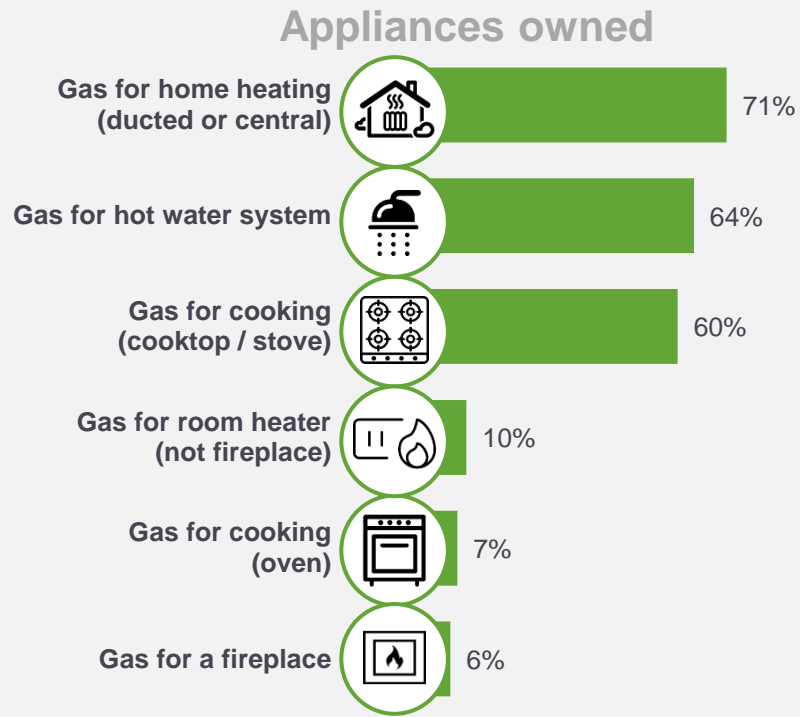
Cumulative uncertainty for Gas



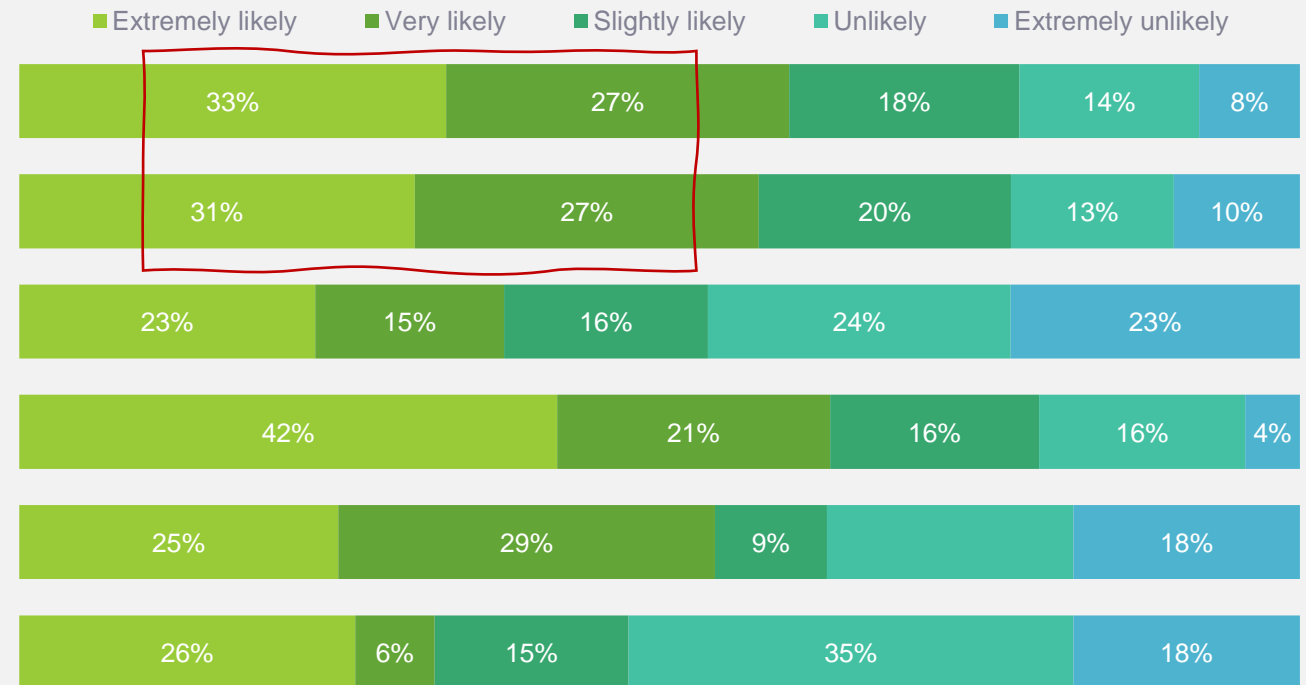
Gas heating and hot water systems are the appliances most likely to be changed over to electric when using solar

- There is less desire to switch cooktops / stoves over to electric, again reflecting the higher levels of preference for gas.

LIKELIHOOD TO CHANGE APPLIANCE



Likelihood to replace with electric



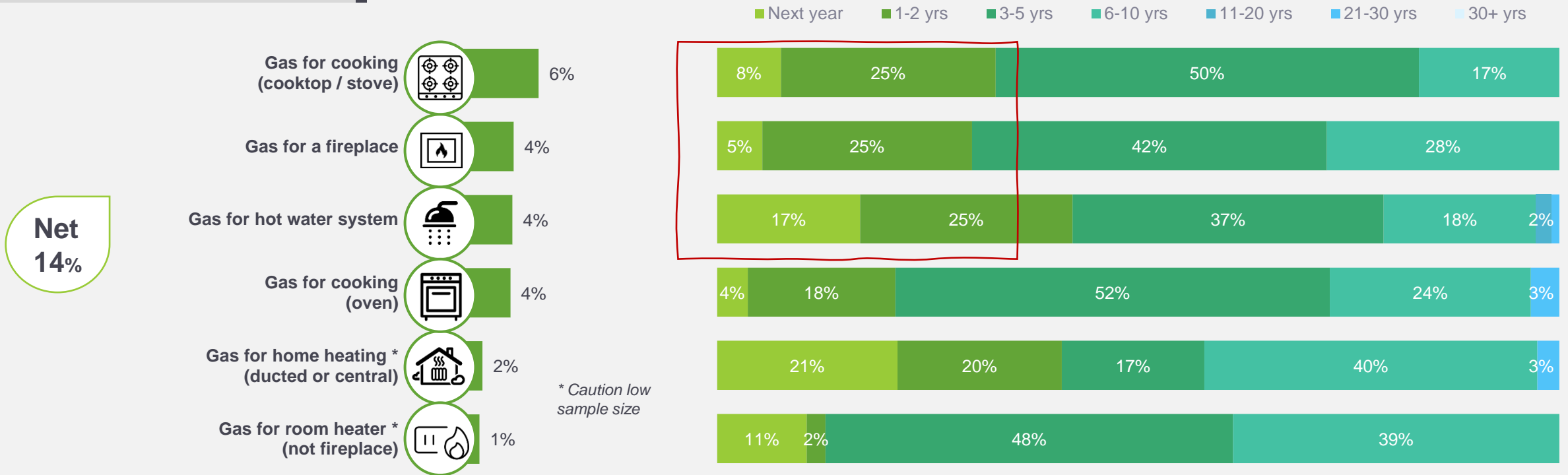


Gas Take Up

Just over 1 in 10 are considering new gas appliances, with cooktops the most popular

- About a third of the new gas appliances are planned for the next couple of years.

GAS APPLIANCES BEING CONSIDERED



Future uncertainty for gas increases from 9% in the next year to 18% in 5 years time

- After this point, there is little change, suggesting that few are thinking so far ahead.
- Uncertainty is defined as the proportion of customers likely to change an existing gas appliance over to electric.

Cumulative uncertainty for Gas
(based on dropping gas only)



Adjusted based on those who intend to install new gas appliances.



Adjusted uncertainty for Gas



APPENDIX (CONFIDENTIAL)

PROVIDED IN SEPARATE ATTACHMENT

Questions? Get in touch



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