

KANTAR

Queensland Household Energy Survey 2020

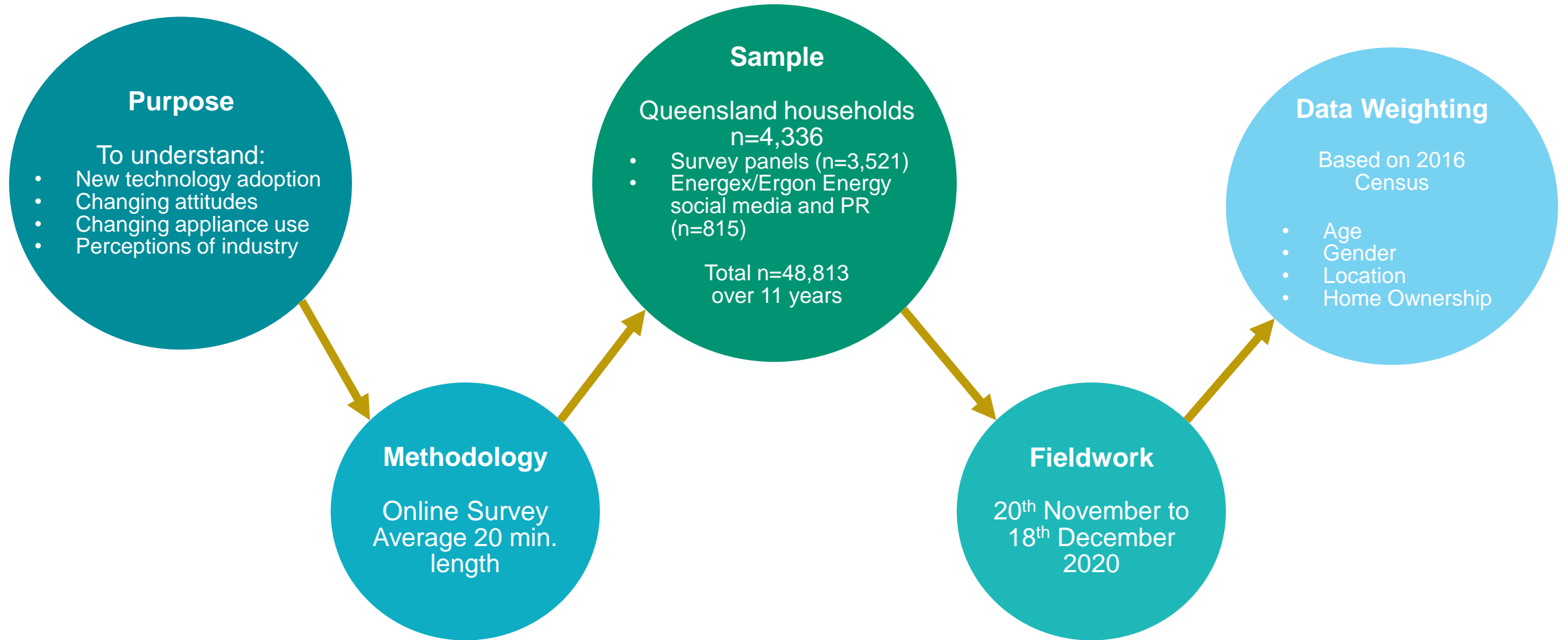


Part of Energy Queensland

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Background & Methodology



Background & Methodology

Sampling and Quotas

An overall target of n=3,500 interviews with Queenslanders* from panels, comprising:

- n=2,000 South East Queensland households and,
- n=1,500 Regional Queensland households.

A generic survey link was also offered by Energex and Ergon Energy Network social media and public relations channels.

Data Weighting

Due to the requirement for a large sample size and the inclusion of respondents from the generic link, quotas could not be set on all demographics. Therefore, to ensure the final data was representative of the Queensland population, all data was weighted to match the following ABS Census 2016 population statistics:



Age



Location (SA4)



Gender



Home Ownership

Increasing the sample via social media and other public relations channels improves the robustness of the survey, however it is important to note that while this allows for greater depth of insight in niche sub-populations such as EV owners, the survey may attract respondents who are more engaged with the subject matter, which can lead to overrepresentation on certain key topics.

Research Locations

Region	Statistical Division (SD)	Sample in Each SD	Sample in Each Region
SEQ	Brisbane	866	2361
	Gold Coast	433	
	Ipswich	245	
	Logan – Beaudesert	239	
	Sunshine Coast	283	
	Moreton Bay	295	
Northern QLD	Cairns	339	716
	Townsville	377	
Central QLD	Mackay	177	467
	Fitzroy	290	
Outback QLD	Outback	47	47
Southern QLD	Darling Downs	120	745
	Toowoomba	205	
	Wide Bay	420	
TOTAL		4336	

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EXECUTIVE SUMMARY

KEY POINTS

1. There is continued interest in new / alternative technologies with solar PV, home battery storage, and electric vehicles continuing to gain popularity.
2. This shift towards alternative and smart technology may explain the decline in stated effort to reduce electricity consumption from the grid – in previous years people may have taken steps to reduce electricity usage, however, they now appear to be less concerned. An increased interest in HEMS services is perhaps seen as an easier way to manage usage.
3. In general, Queenslanders are more positive, both in terms of sentiment towards their energy providers and energy prices in general. Levels of high bill concern continue to weaken, fewer expect significant electricity price increases and there is increasing satisfaction with the balance between price and reliability of supply.
4. Given peak demand has been an issue for some time, there is significantly higher awareness of this than the issue of minimum demand. Despite claimed awareness of minimum demand it is hypothesised that there is little understanding of what this means, hence low interest in changing time-of-use behaviour to assist. Any change in behaviour needs to communicate a personal benefit for the consumer.

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HOUSEHOLD ENERGY USE

KEY POINTS

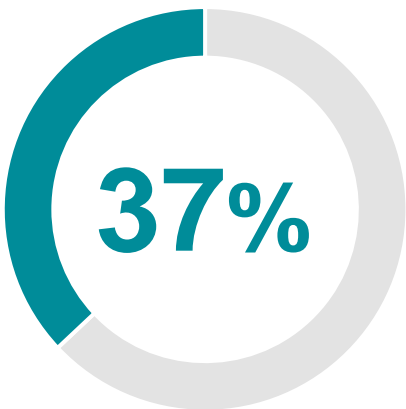
1. New / alternative technologies such as solar PV and home battery storage, as well as electric vehicles, continue to gain popularity.
2. Energy efficiency is among the top considerations for the 58% of people planning to purchase new appliances, however cost remains the most important.
3. This shift towards alternative and smart technology may explain the decline in stated effort to reduce electricity consumption from the grid – in previous years people may have taken steps to reduce electricity usage, however, now appear to be less concerned. An increased interest in HEMS services is perhaps seen as an easier way to manage usage.

ALTERNATIVE TECHNOLOGY

Adoption of new / alternative technologies continues to increase.



Solar PV installed



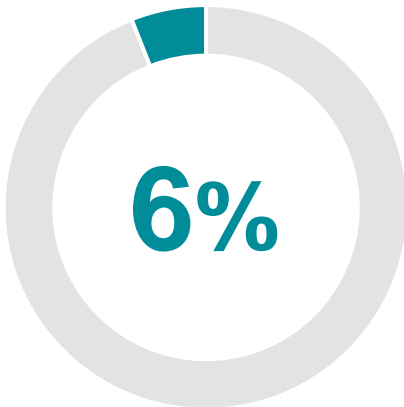
↑ vs. 33% in 2019

STATED VS. ACTUAL

Energy Queensland internal data – **31%**
vs. **28%** in 2019.



Home batteries installed



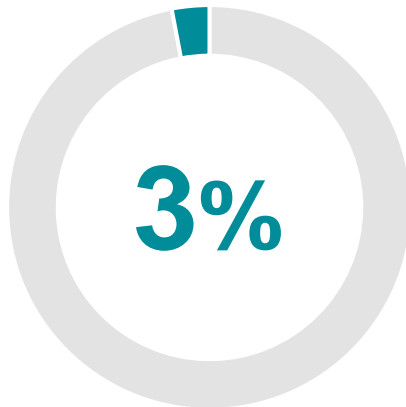
↑ vs. 3% in 2019

STATED VS. ACTUAL

Energy Queensland internal data – **0.34%**
vs. **0.27%** in 2019.



Have an Electric Vehicle



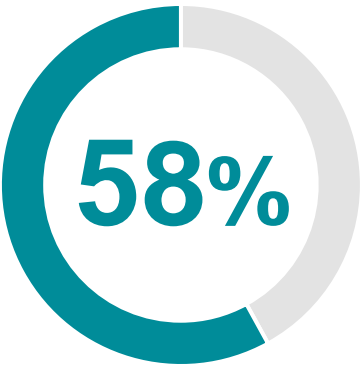
↑ vs. 2% in 2019

STATED VS. ACTUAL

Energy Queensland internal data – **0.2%**
vs. **0.1%** in 2019.

APPLIANCE PURCHASE INTENTION

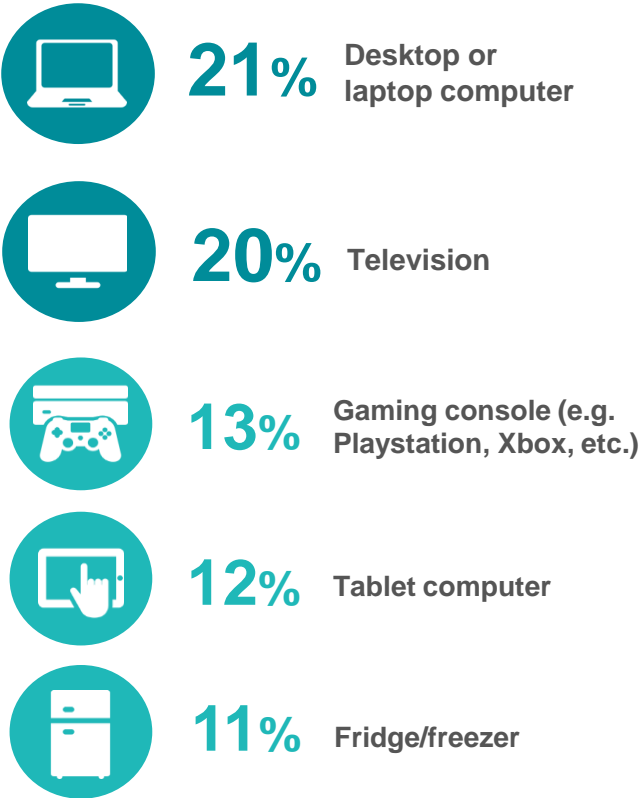
Around three in five Queenslanders are intending to purchase new home appliances in the next 12 months. Of these, the most common intended purchases are computers, televisions and consoles.



are intending to purchase **new appliance/s** in the next 12 months

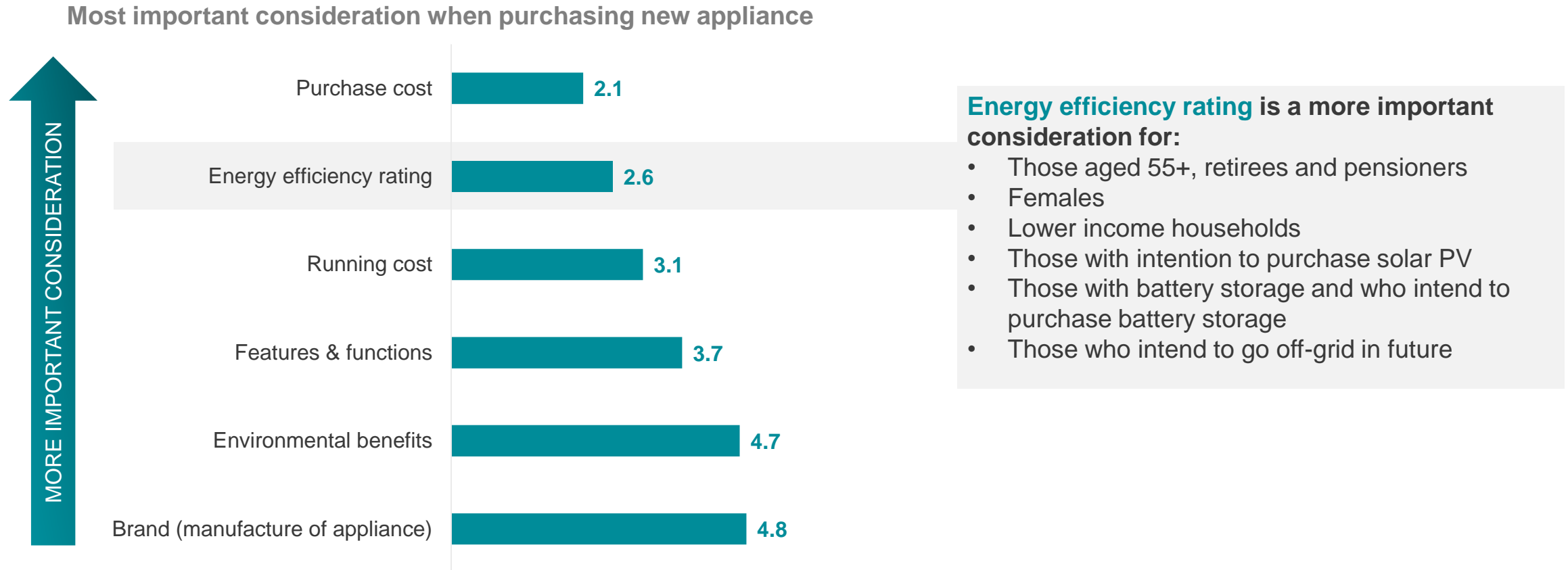
- ▲ 70% 18-35 years
- ▲ 62% males
- ▲ 83% those who intend to go off-grid in next 3 years
- ▲ 87% those with battery storage

Intent to purchase appliances in next 12 months – top 5



DECIDING ON NEW APPLIANCES

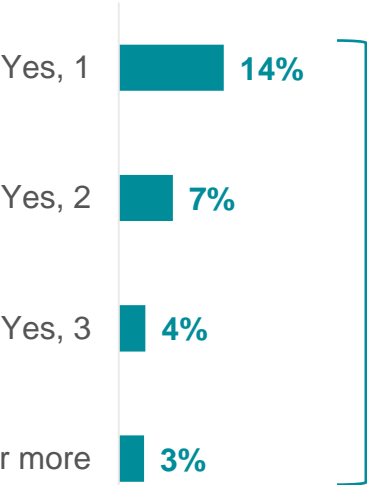
Cost is the most important factor in appliance purchase decisions, followed by energy efficiency. Those with off-grid intentions tend to rate energy efficiency as a more important factor.



SMART SPEAKERS

There has once again been a significant increase in the proportion of people who have smart speakers in their home.

Smart speakers owned in household



28%

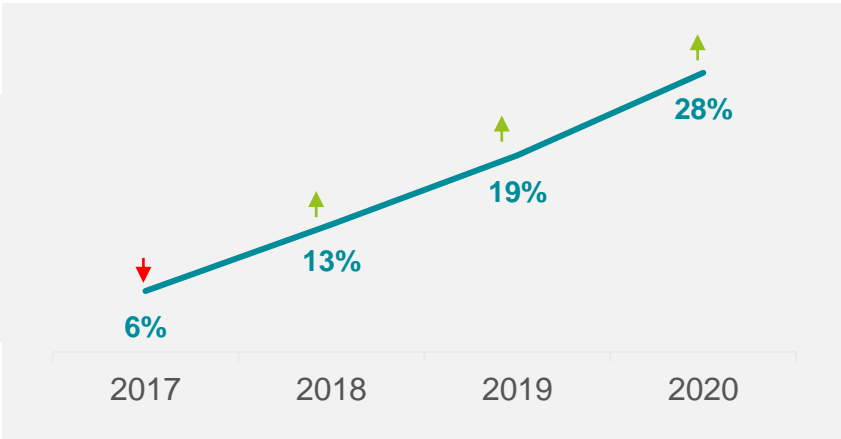
Have smart speaker(s) in their homes

No, but I intend to purchase one or more in the next 12 months

10%

No and I don't intend to purchase one

62%

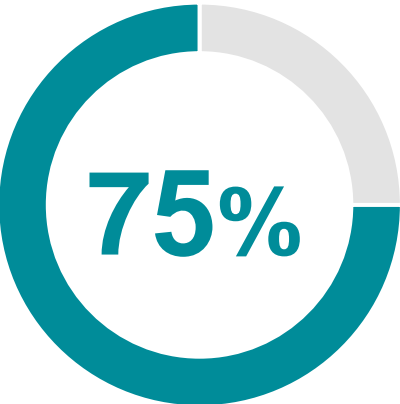


Those with no intention to purchase smart speakers

- ▲ 77% Those aged 55+
- ▲ 67% Females
- ▲ 77% Single person household

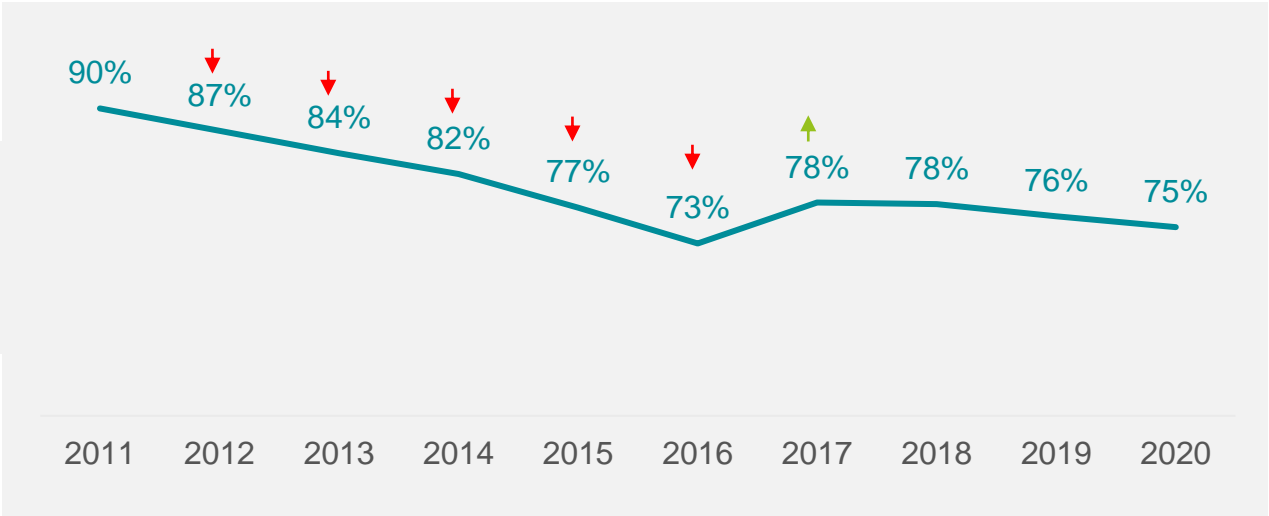
ENERGY REDUCING BEHAVIOURS

Over time there has been a decline in effort taken to reduce electricity consumption from the grid. This coincides with a decrease in bill concern and the possibility that the increase in use of alternative and smart technologies means that people believe they have already taken as many steps as they can or are willing to do to reduce their consumption.



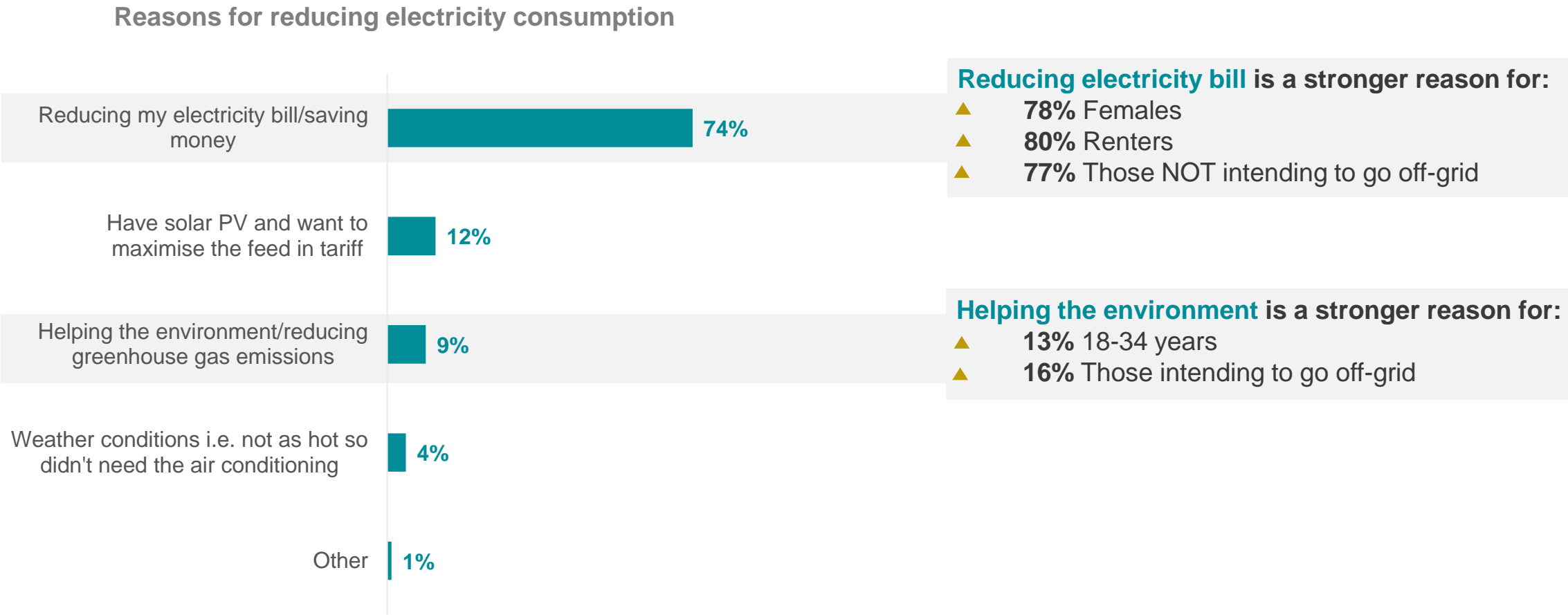
Have consciously tried to **reduce** their electricity consumption

- ▲ 77% Regional QLD
- ▲ 78% & 80% those with solar PV and who intend to purchase solar PV respectively
- ▲ 83% Those who own a battery storage
- ▲ 83% Those who intend to go off the grid



ELECTRICITY REDUCING BEHAVIOURS

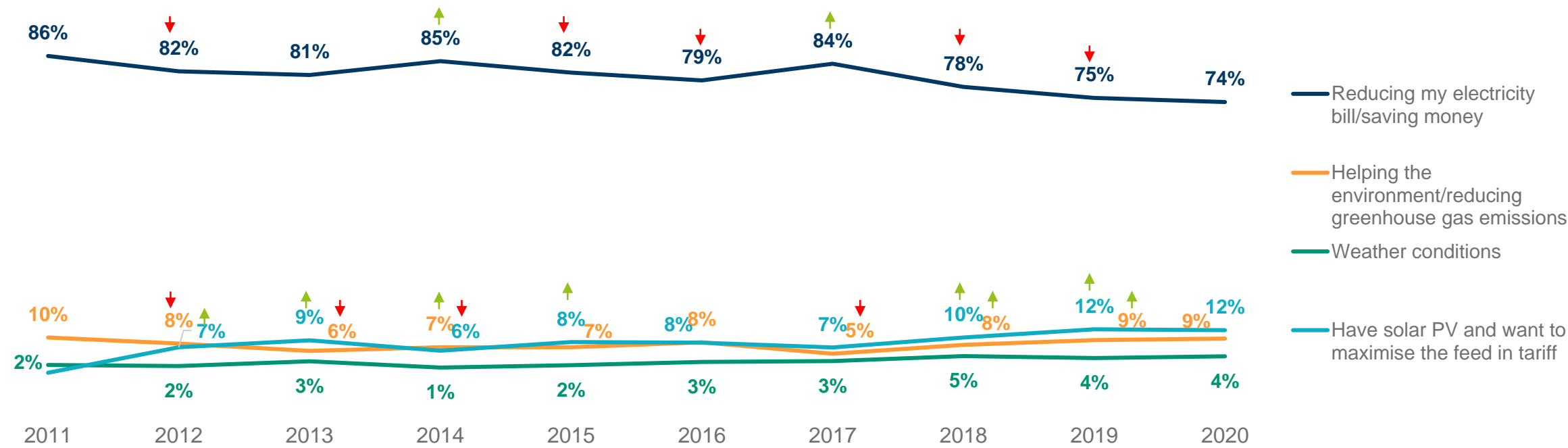
Those who try to reduce their electricity consumption generally do so as a money saving exercise.



ELECTRICITY REDUCING BEHAVIOURS

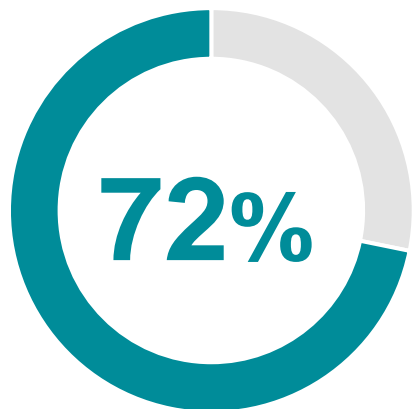
While saving money remains the main reason for reducing electricity usage, over time there has been a shift towards helping the environment and maximising feed in tariffs.

Reasons for reducing electricity consumption

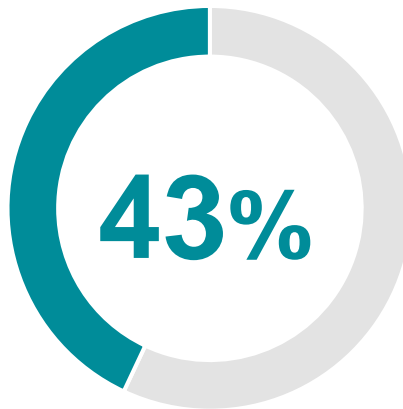


UNDERSTANDING PEAK AND MINIMUM DEMAND

Respondents are aware that minimum demand is an issue although they are more aware of peak demand. Whilst they may have heard of these issues, understanding is likely poor. Only a third are openly willing to change behaviours to help manage these issues.

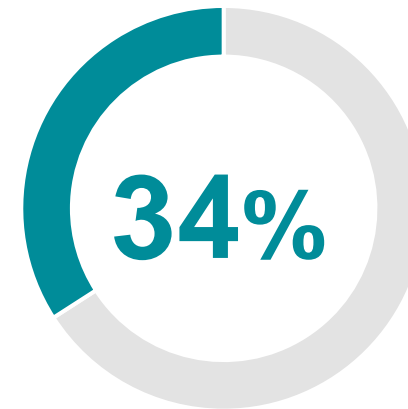


Are aware of the need to manage **peak demand on the electricity network**



Are aware of the need to manage **minimum demand on the electricity network**

▲ 46% Regional QLD vs. 41% in SEQ



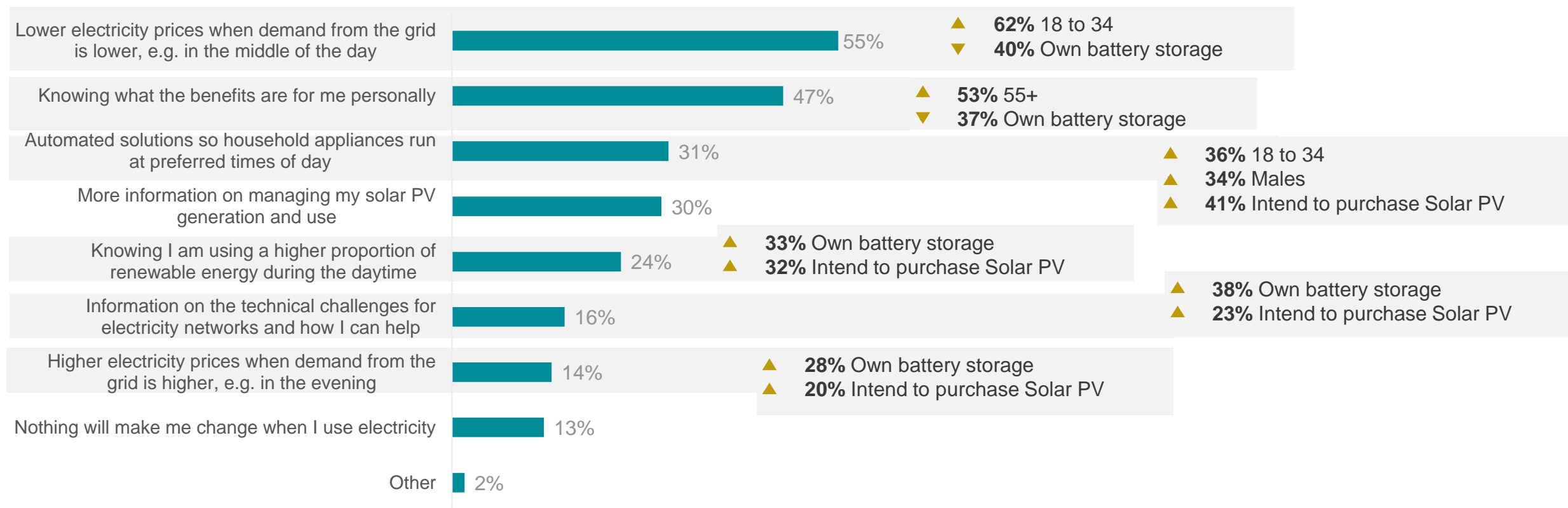
Are willing to change the timing of their electricity use to help manage **peak and minimum demand**

Those who completed the survey from a social media channel have significantly higher awareness of these issues – 85% aware of peak demand and 64% of minimum demand.

ENERGY MANAGEMENT BEHAVIOURS

As with any request to change behaviour, customers need to understand the personal benefits before undertaking change.

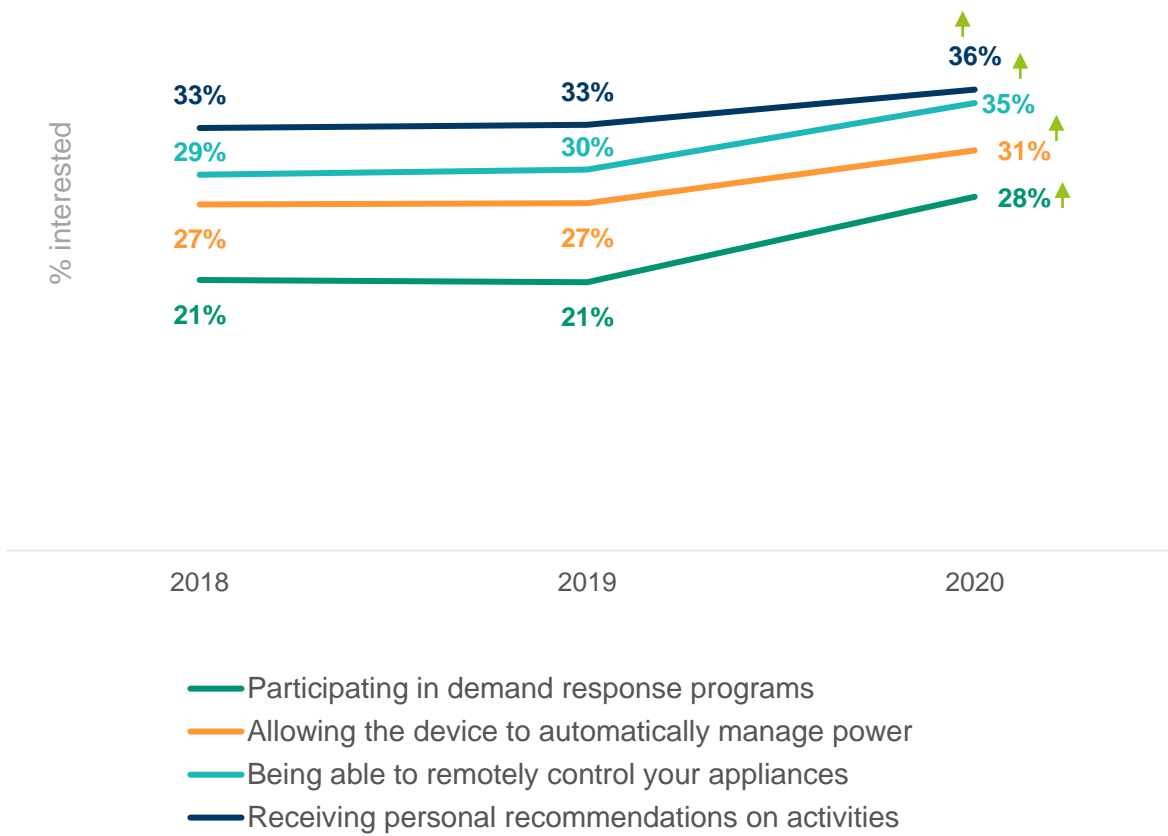
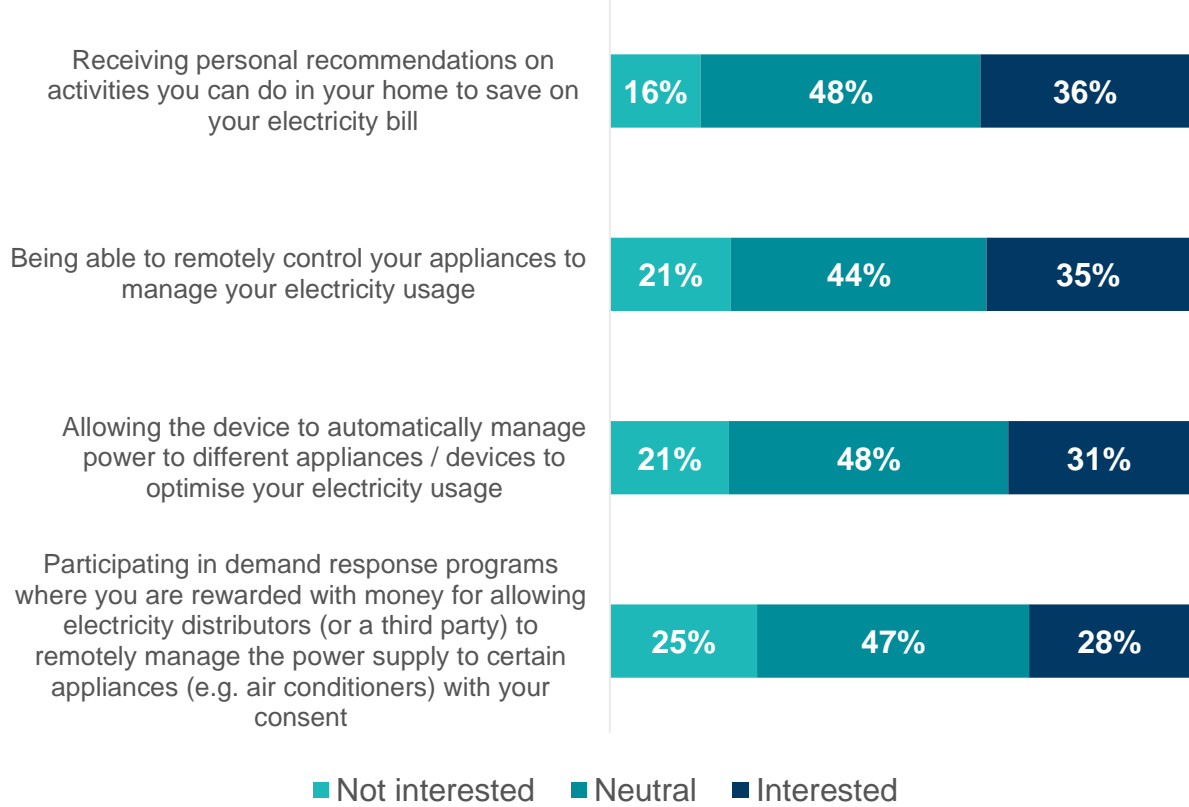
Factors to drive changes to manage peak and minimum demand



INTEREST AND TAKE-UP OF HOME ENERGY MANAGEMENT SYSTEMS (HEMS)

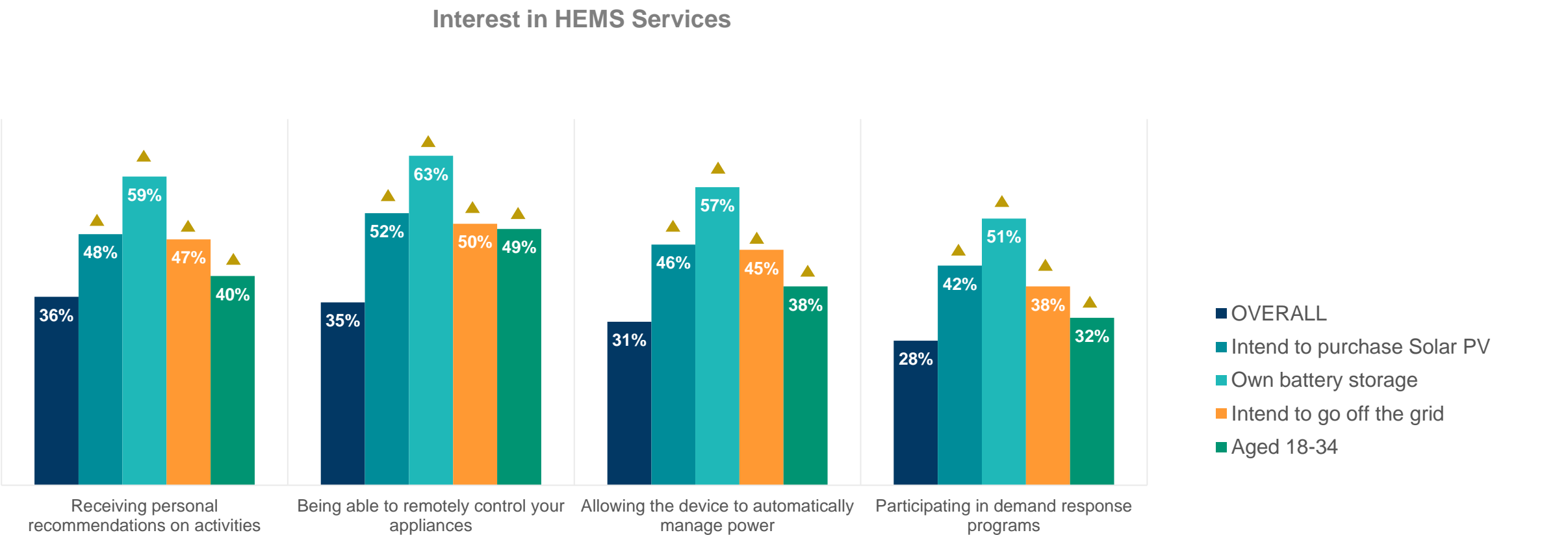
Interest in each of the services facilitated by HEMS has increased significantly, with around a third of respondents interested in each service.

Interest in HEMS Services



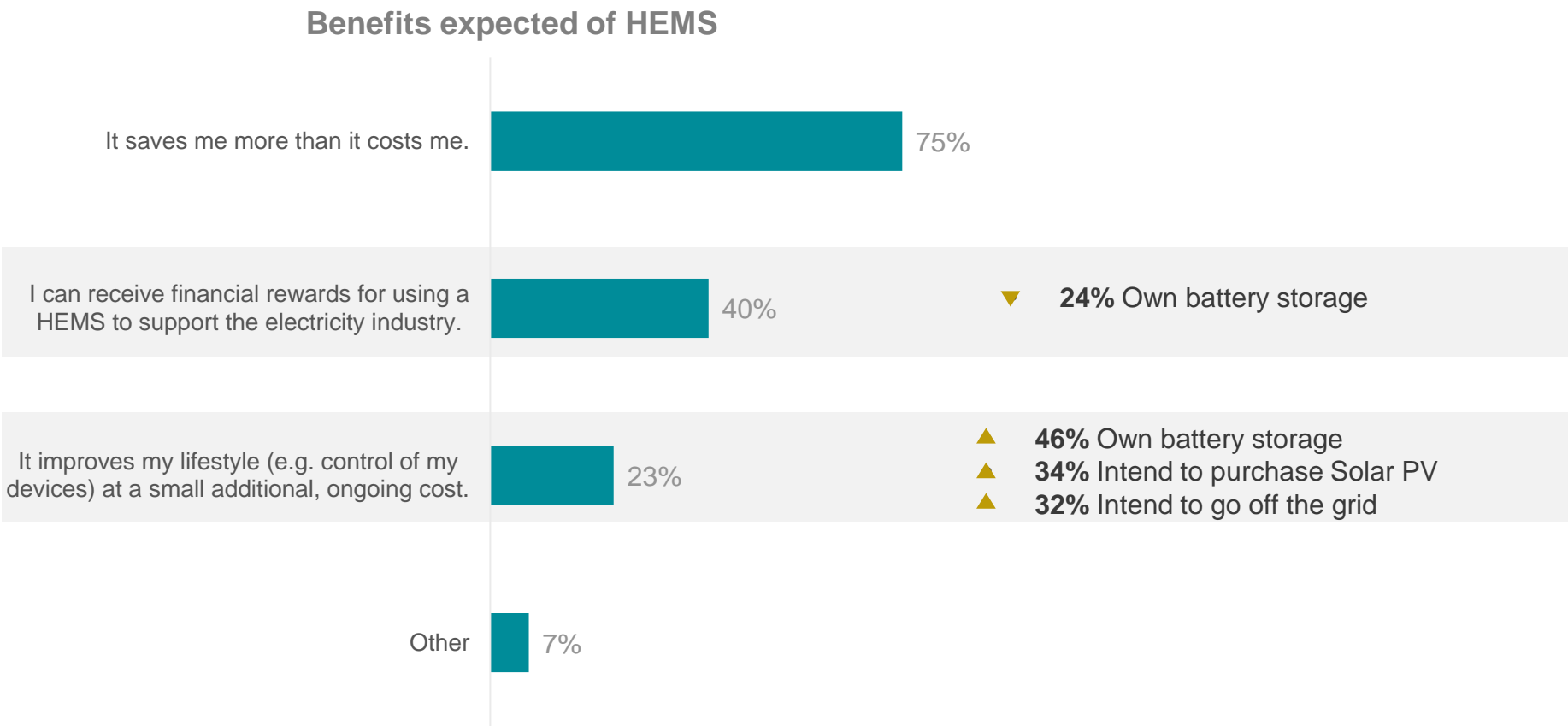
INTEREST AND TAKE-UP OF HOME ENERGY MANAGEMENT SYSTEMS (HEMS)

Those who intend to purchase solar PV, own battery storage, intend to go off-grid and those aged under 35 are significantly more interested in HEMS services.



INTEREST AND TAKE-UP OF HOME ENERGY MANAGEMENT SYSTEMS (HEMS)

While the majority believe the cost saving is the main benefit of HEMS, those with off-grid intentions also believe that it will improve their lifestyle.



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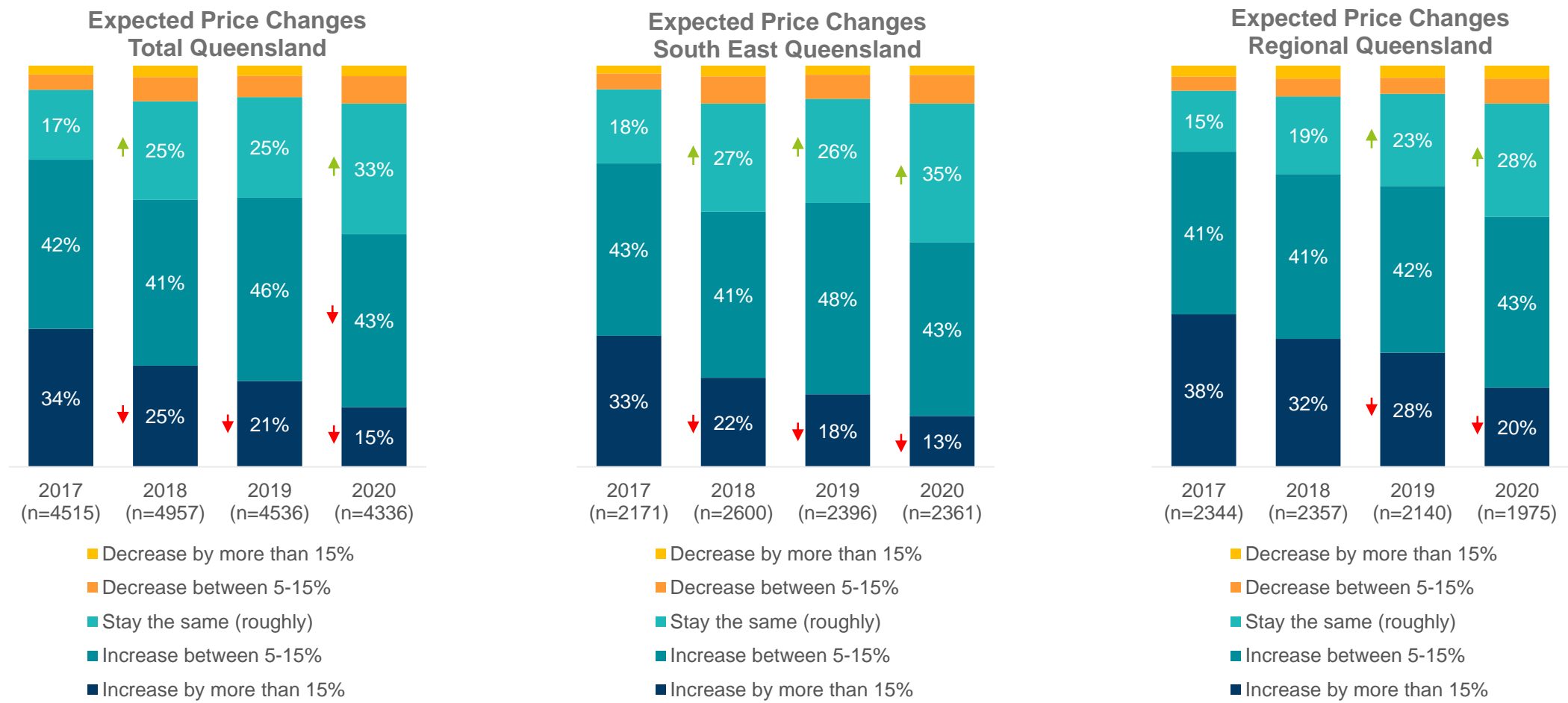
COSTS & BILL CONCERN

KEY POINTS

1. Expectations around electricity price increases have softened over the years, with the majority expecting prices to stay the same while fewer expect substantial increases.
2. Electricity is among the household bills people are most concerned about, second only to health and medical bills. However, bill concern across all financial commitments has decreased significantly in 2020.
3. Uptake of digital meters is somewhat overstated, with around two in five claiming to have a digital meter. People value the ability to have more accurate data to facilitate a switch away from bill estimation.

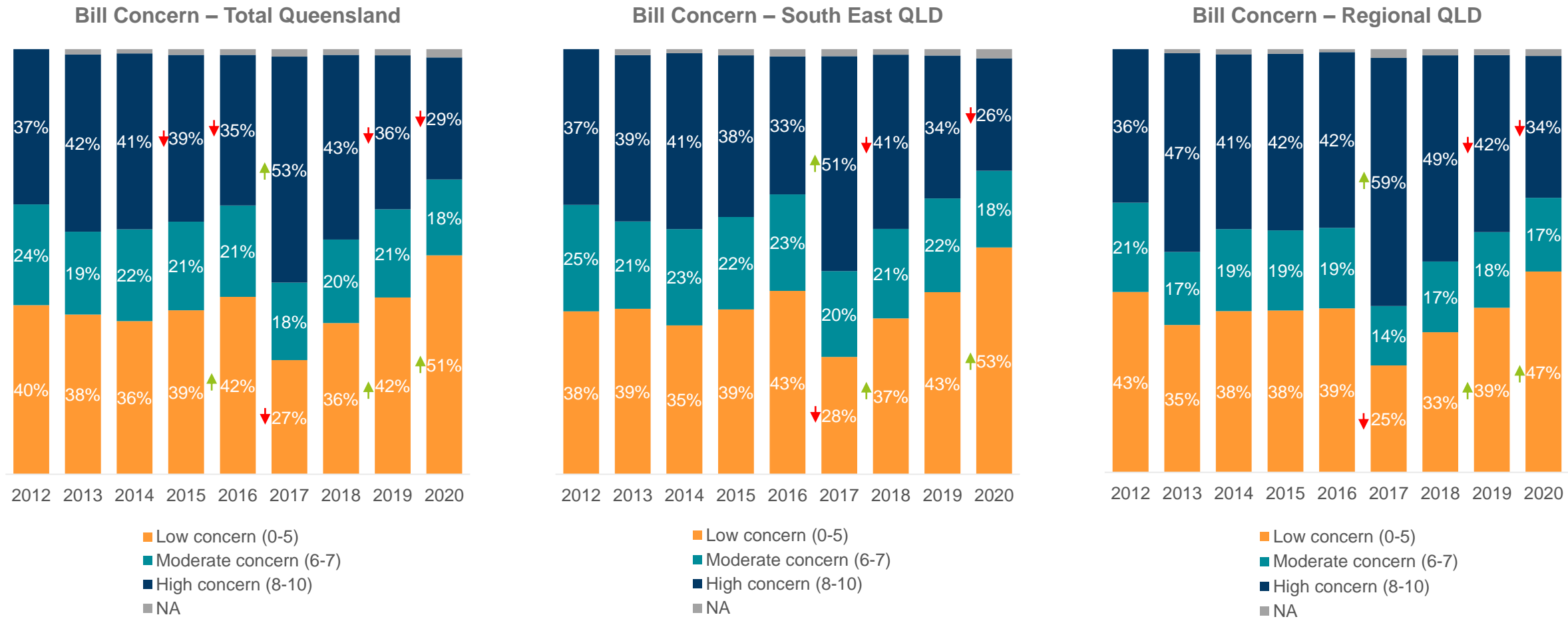
ELECTRICITY PRICE EXPECTATIONS

A third of Queensland households expect electricity prices to remain the same, with fewer expecting significant increases (15% or more). People in Regional Queensland tend to believe there will be more significant price increases.



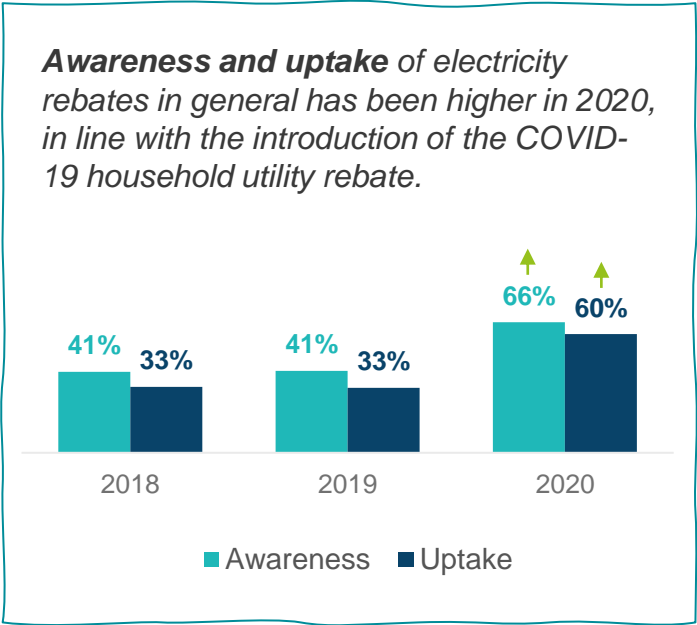
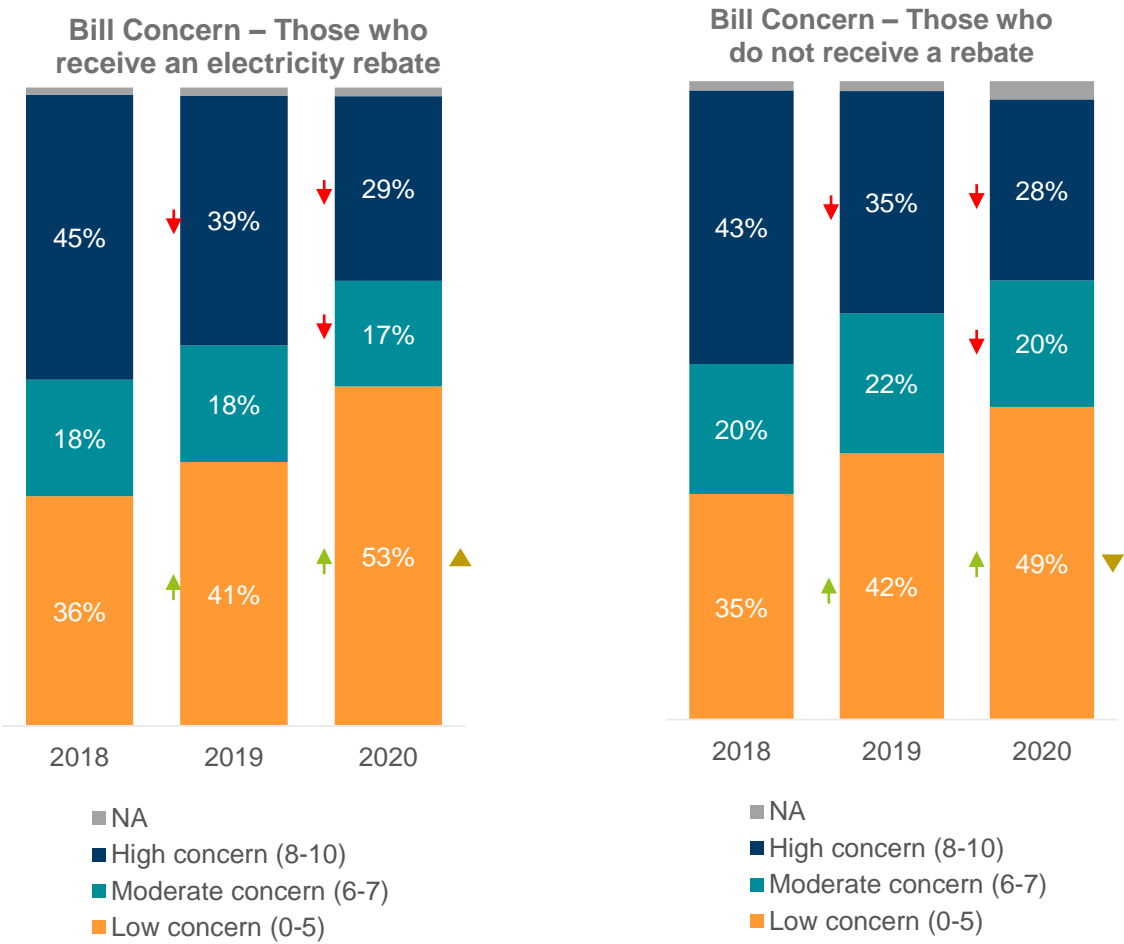
ELECTRICITY BILL CONCERN

Electricity bill concern has lessened again in 2020, with just over half of Queensland households now claiming to have low concern. However, there are notable variances in the levels of concern between regional Queensland and SEQ in relation to low and high concern.



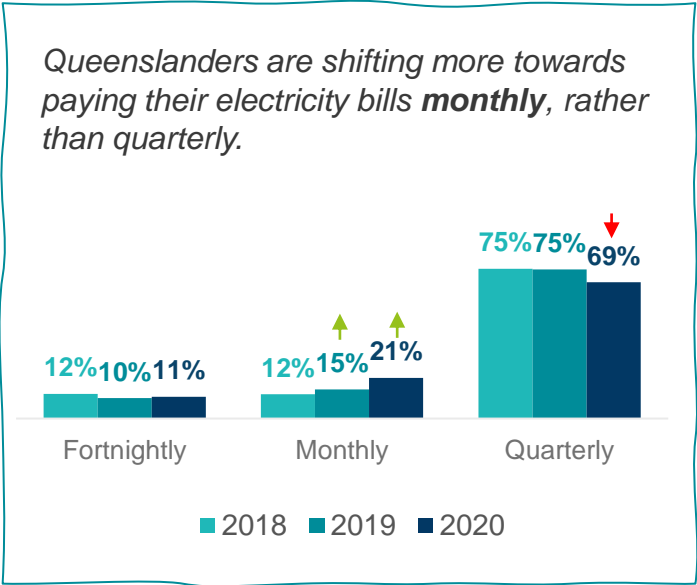
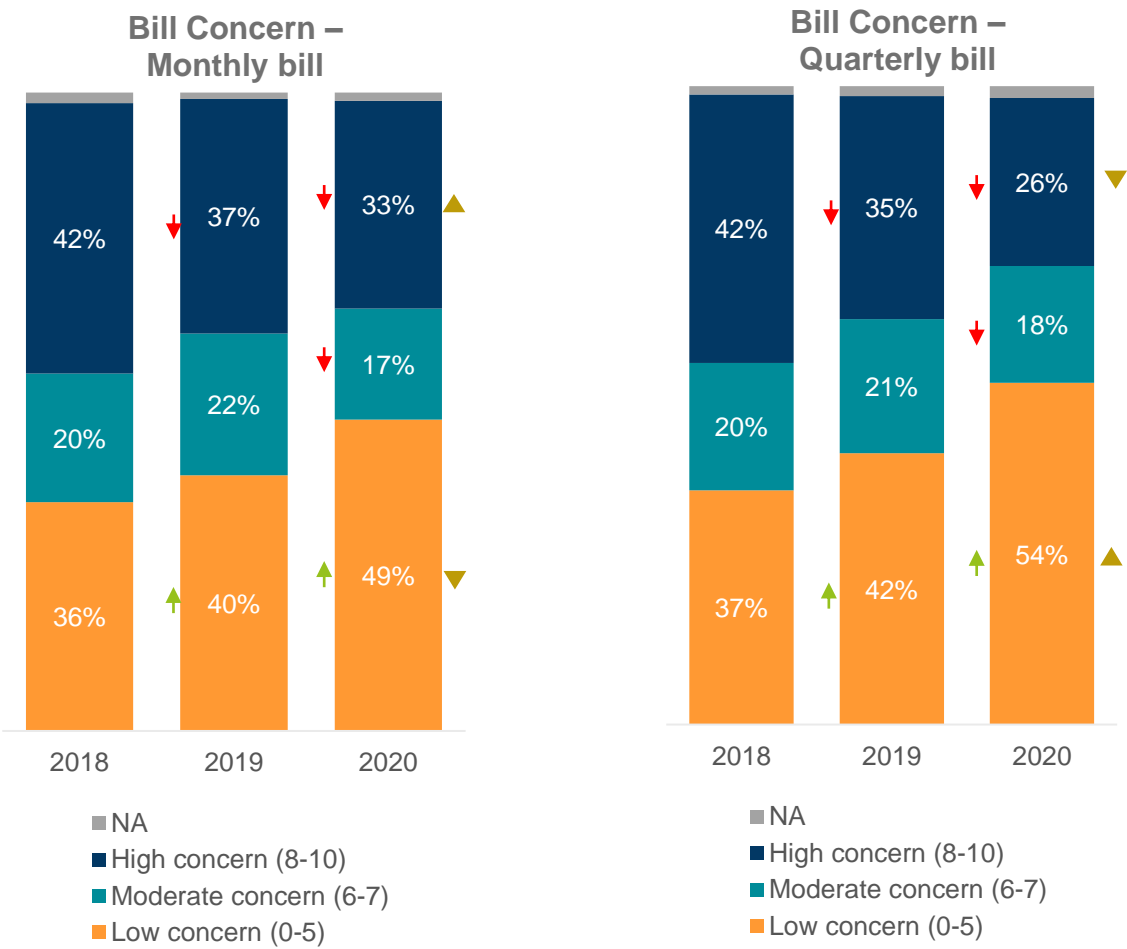
ELECTRICITY BILL CONCERN

Rebate uptake does not significantly impact *high* bill concern, however those who do receive a rebate are more likely to report *low* bill concern.



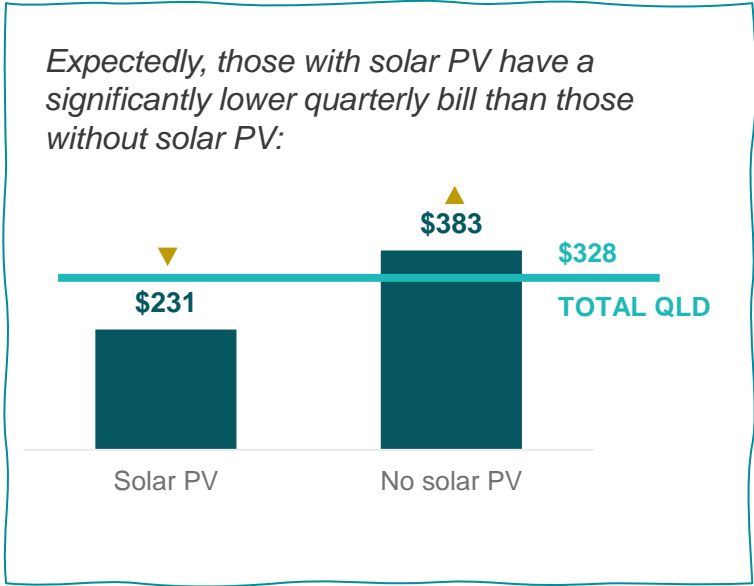
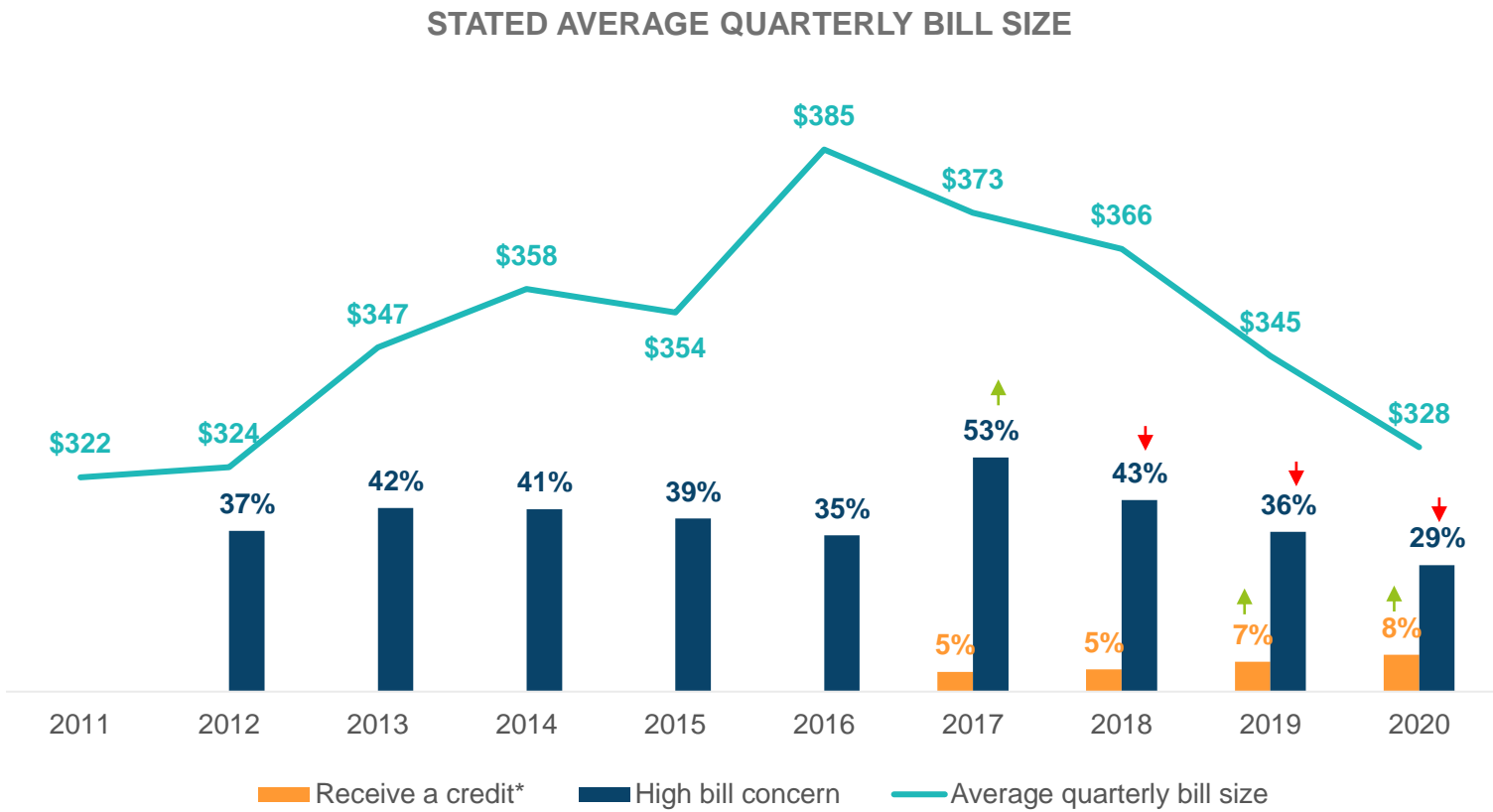
ELECTRICITY BILL CONCERN

Bill concern is significantly higher among those who pay their bills more frequently, though concern is still decreasing in all cohorts.



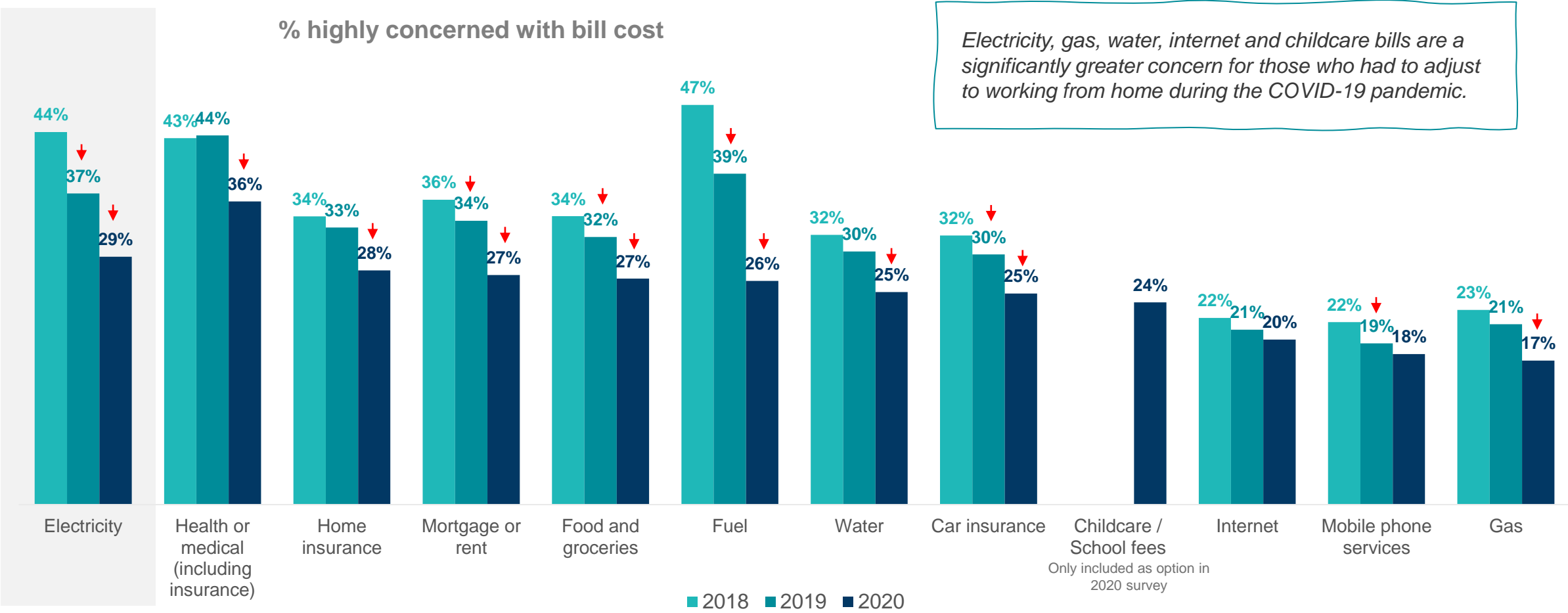
AVERAGE QUARTERLY ELECTRICITY BILL SIZE

The decrease in bill concern aligns with the continuing decrease in average quarterly electricity bill size, while a greater proportion of bill payers are receiving an electricity credit than ever before.



COST OF LIVING BILL CONCERN

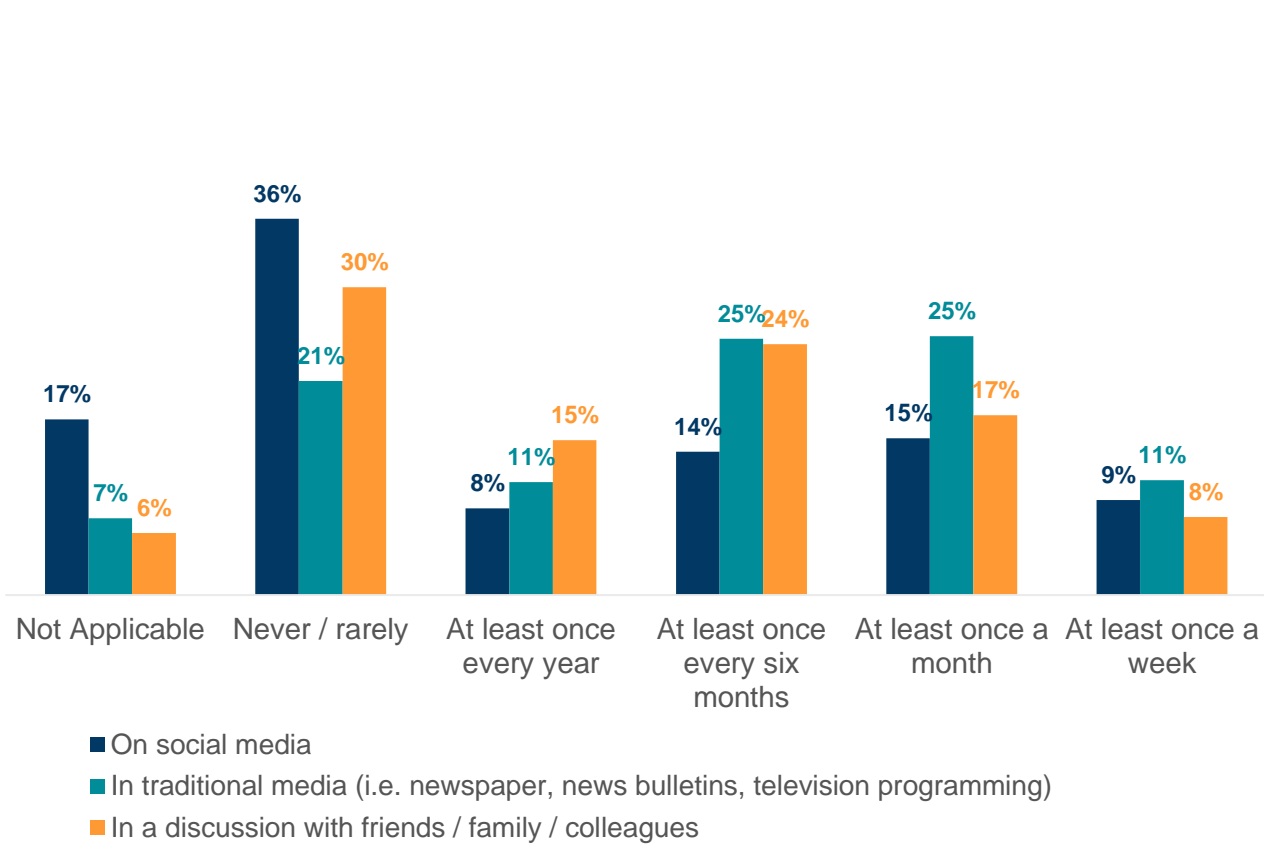
Despite a drop in overall concern, electricity remains of comparatively high concern amongst other financial commitments.



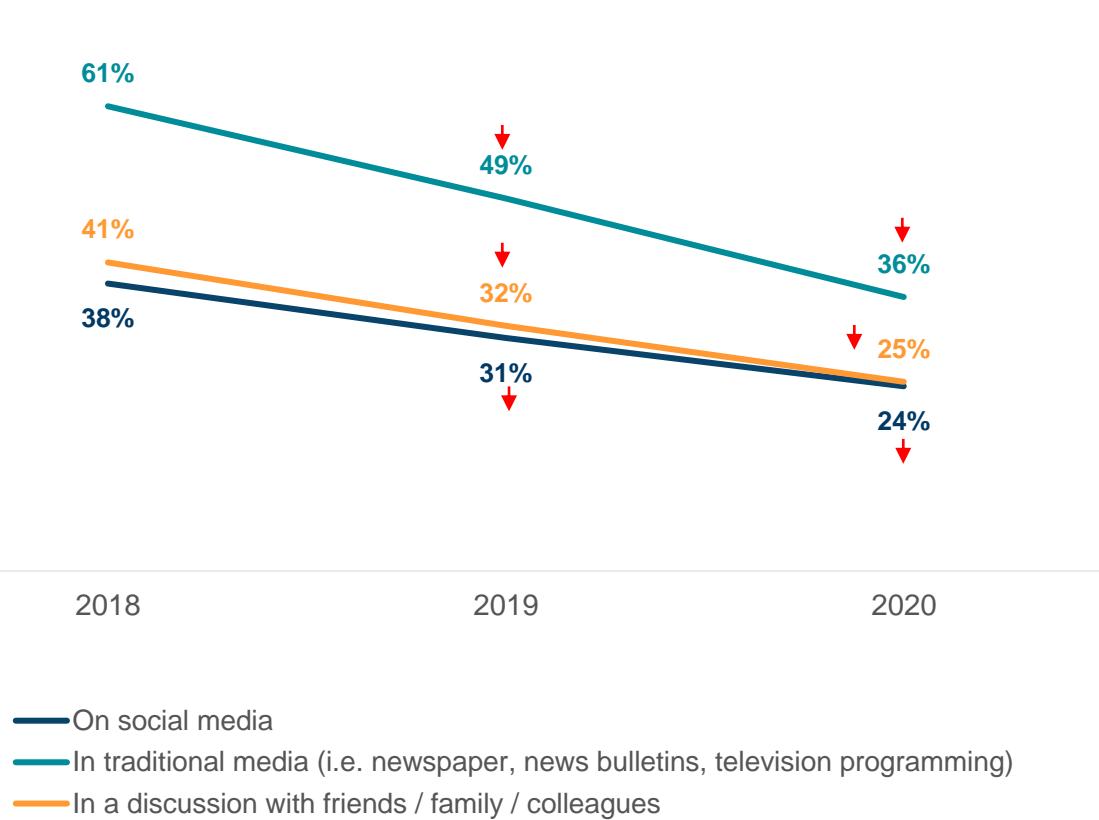
ELECTRICITY PRICES AND PRICE CHANGES

Electricity price is less of a topic in 2020 than seen before, Queenslanders hearing news about electricity prices fairly infrequently. Traditional news media is the most common channel for hearing about electricity prices.

Frequency of hearing about electricity prices

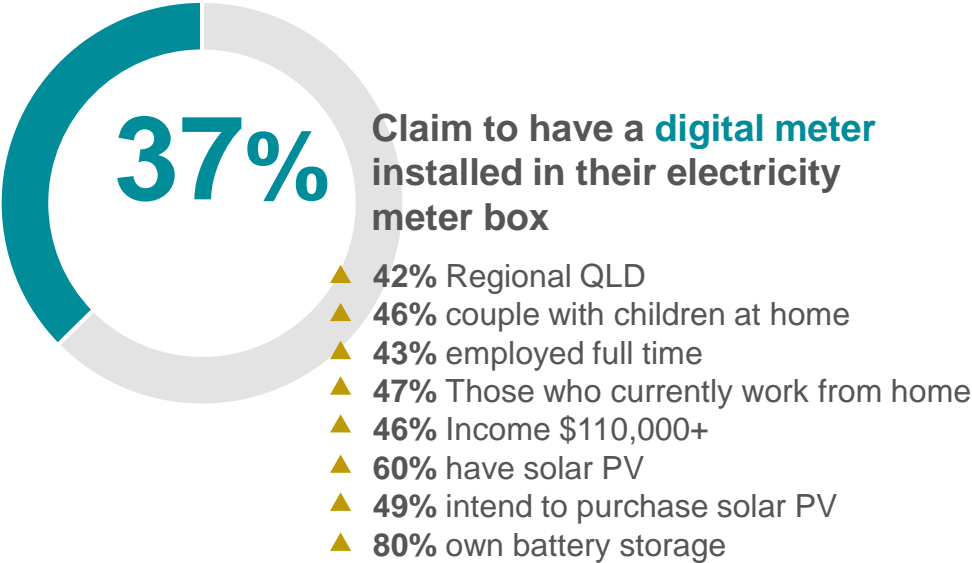


Hearing about electricity prices over time*



DIGITAL METERS

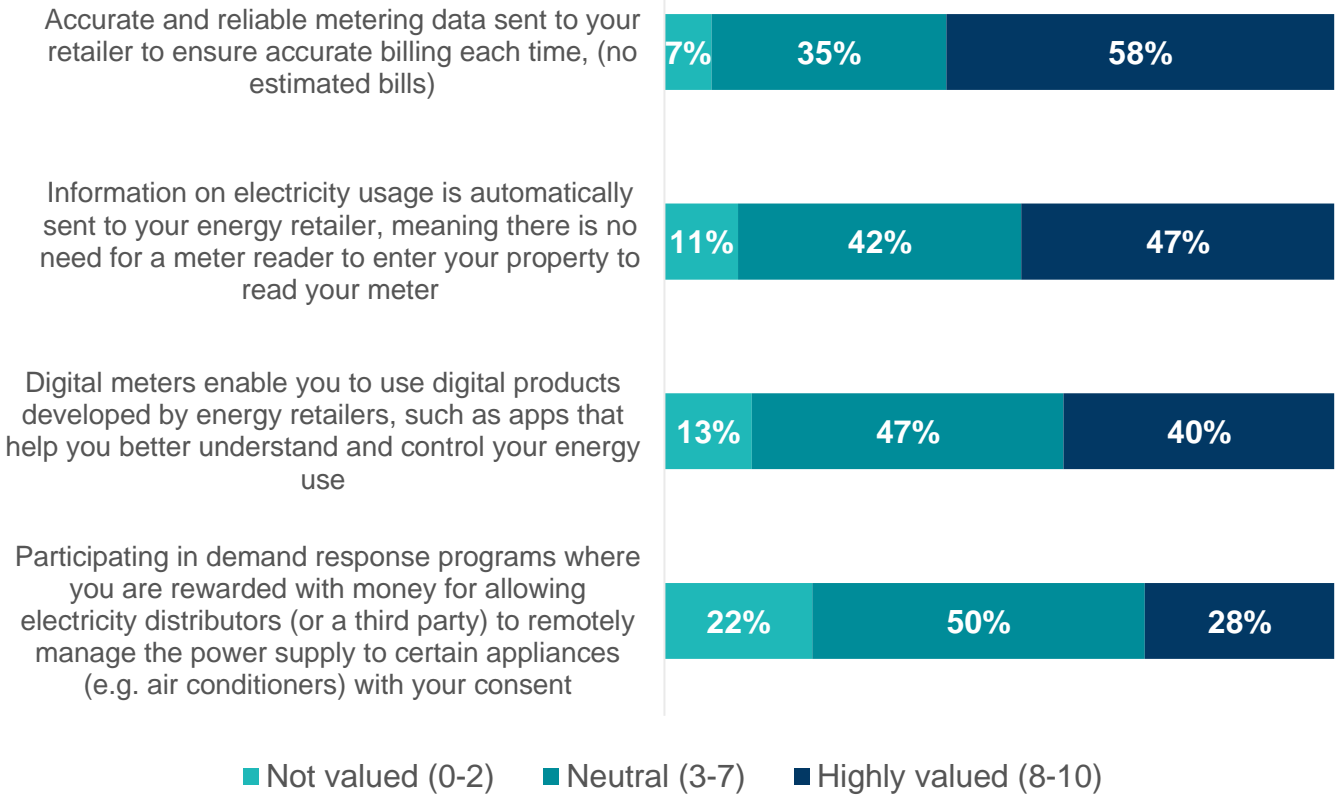
Almost two in five Queenslanders claim to have a digital meter installed in their household, and this is more likely among those who are full-time, high income earners, as well as those who either have solar PV or intend to purchase it. Four in five of those who have battery storage have a digital meter. The most highly valued service offered by a digital meter is the facilitation of accurate billing/negating the need for estimated bills.



STATED VS. ACTUAL

Energy Queensland internal data puts actual digital meter uptake at 16%.

Interest in digital meter offerings



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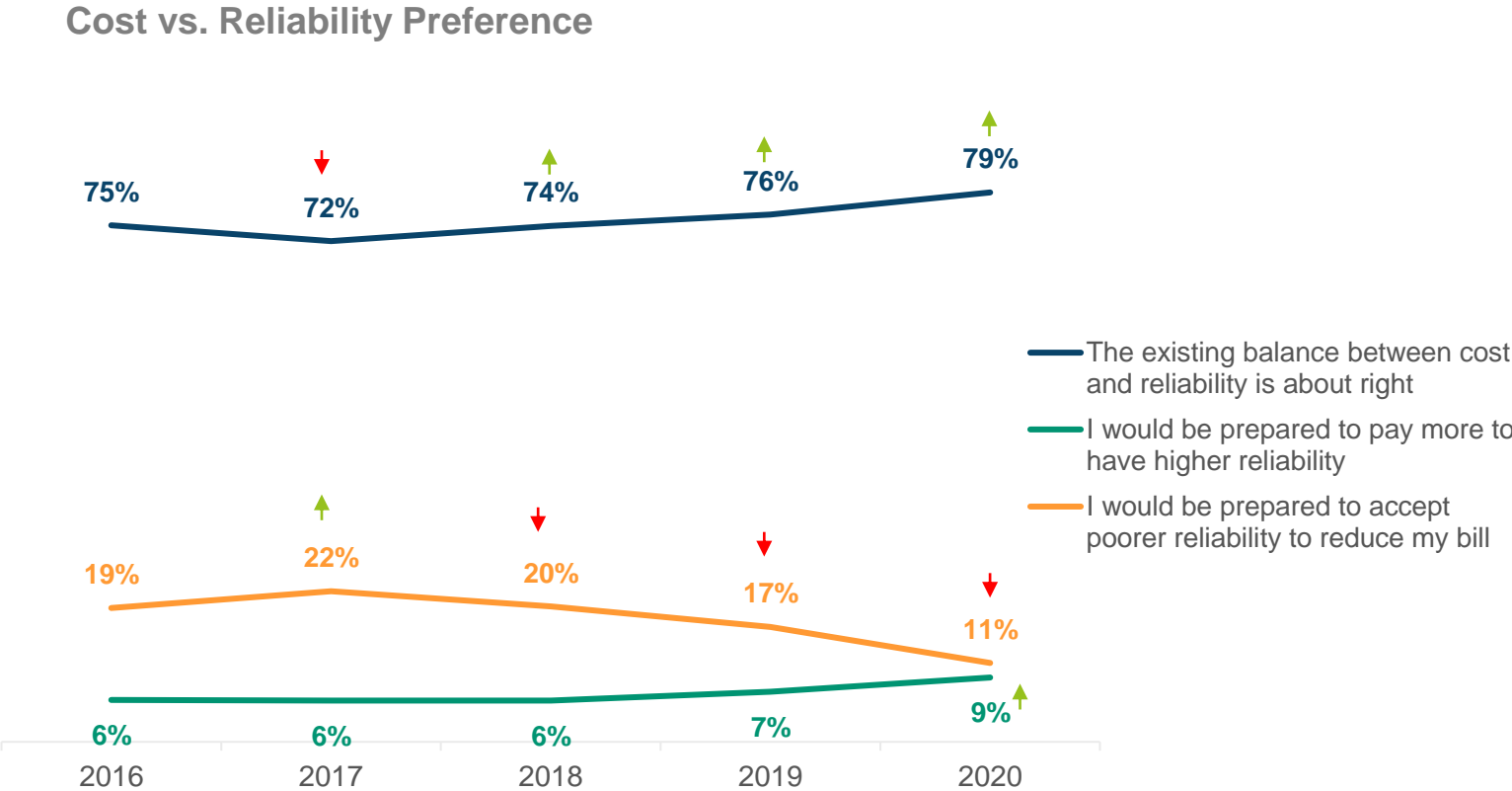
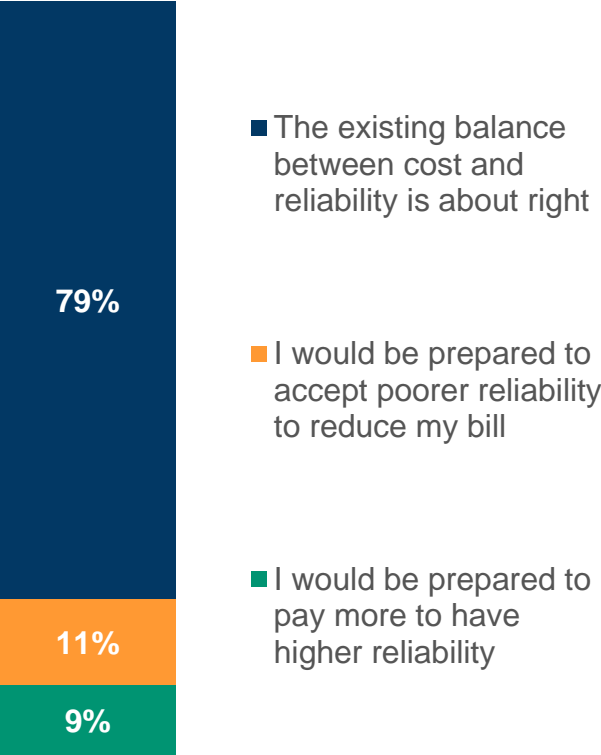
SUPPLY & PERCEPTIONS OF THE INDUSTRY

KEY POINTS

1. The sentiment that price and reliability are well balanced has continued to increase in 2020.
2. There has been a shift towards greater willingness to pay more for greater reliability, which has been largely brought about by the increase in people working from home during the COVID-19 pandemic. Those who have had to adapt to spending more time at home during the day are coming to appreciate the importance of a reliable electricity supply.
3. General perceptions of energy suppliers has continued to improve, with most agreeing that their energy supplier provides them with a reliable supply of energy.

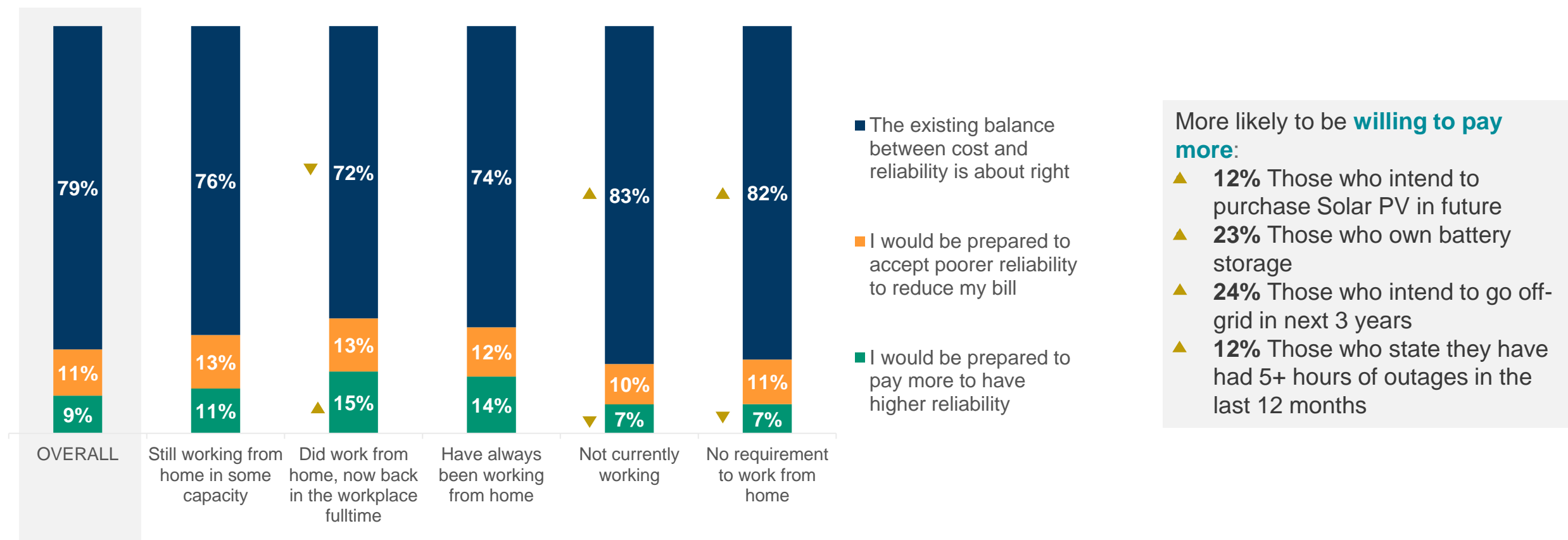
THE RELATIONSHIP BETWEEN COST AND RELIABILITY

On the whole, electricity consumers are satisfied with the balance between cost and reliability, and this sentiment has increased over time. People are also becoming less likely to put up with poor reliability, with a slight shift toward greater willingness to pay more for a more reliable service (9% up from 7% in 2019).



WORKING FROM HOME AND RELIABILITY

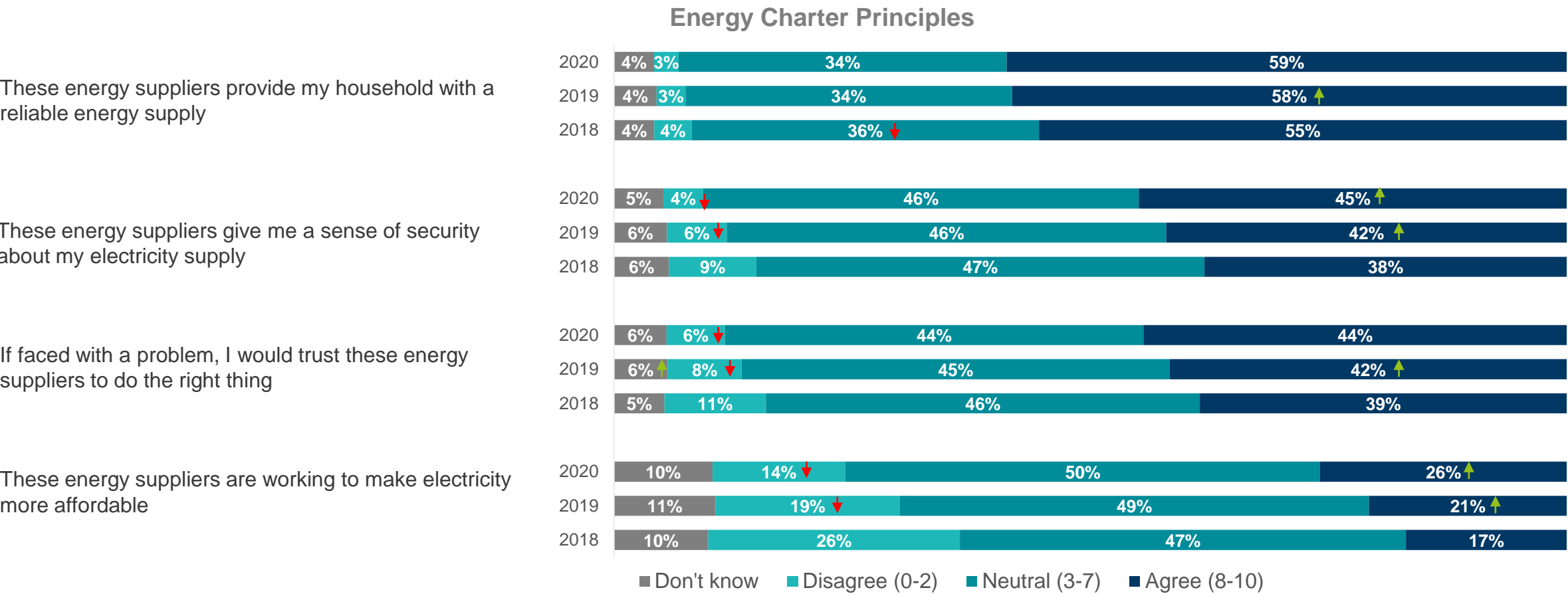
The COVID-19 pandemic appears to have influenced this shift. Those who had to adapt to working from home have a greater willingness to pay more for improved reliability. Willingness to pay more is noted amongst groups who currently do / plan to manage their own electricity production, as well as those who claim to have had at least 5 hours worth of service interruptions in the last year.



BASE: All respondents (n=4,336)

PERCEPTIONS OF ENERGY SUPPLIERS

Perceptions of energy suppliers continues to strengthen over 2020.



5

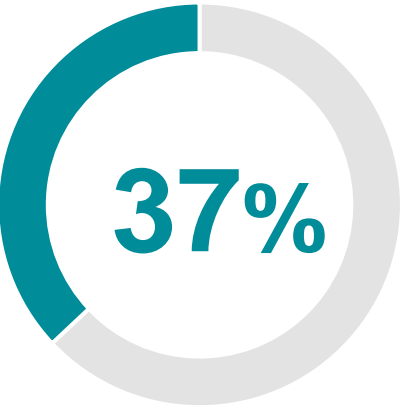
UNDERSTANDING SOLAR PV

KEY POINTS

1. Behind financial incentives, 'looking after the environment' remains a strong motivation for buying, and upgrading, a solar PV system.
2. Almost a quarter of Queenslanders intend to purchase a new solar PV system or add to their existing systems, increasing the total solar PV capacity across the state.
3. With less than 1 in 10 current solar owners stating they won't replace or repair a system if it is needed, the attrition rate is unlikely to impact the overall solar footprint.

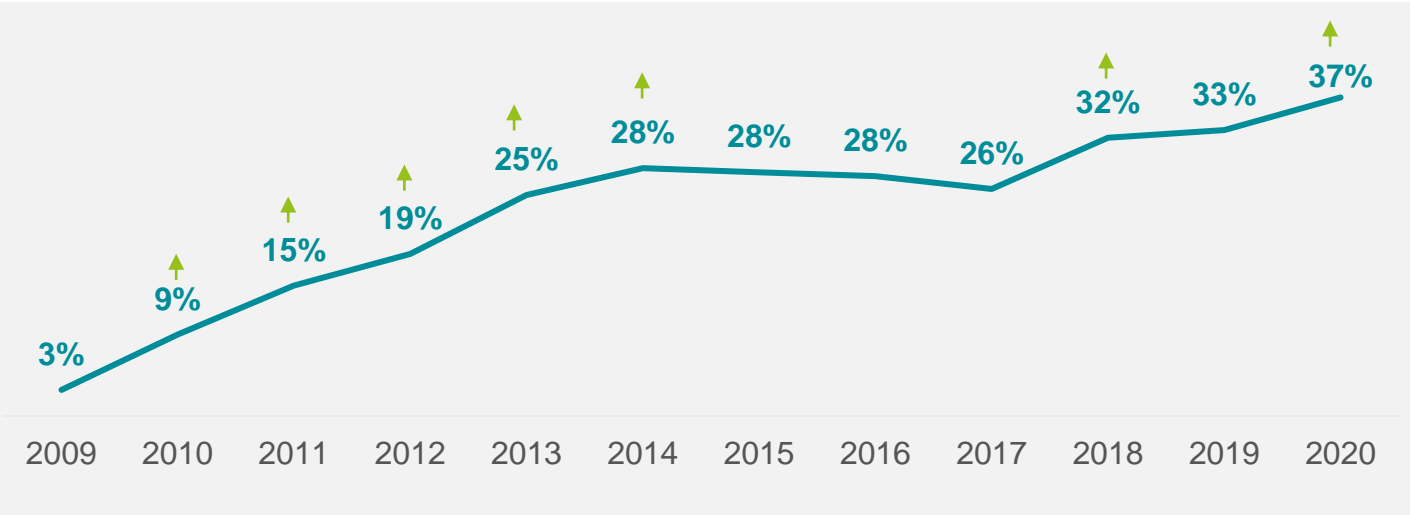
SOLAR PV PENETRATION

Almost two in five Queenslanders claim to have solar PV installed, a significant increase from 2019, with growth rates steadily rising over the last three years. Off-grid intentions are higher among those who have solar PV.



Have solar PV installed

- ▲ 42% Southern Region
- ▲ 43% 55+
- ▲ 44% Males
- ▲ 43% Couples (with / without children)
- ▲ 46% Retired
- ▲ 51% Homeowners
- ▼ 27% Income of <\$30,999

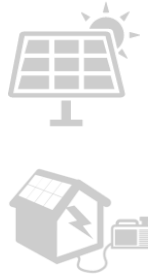


STATED VS. ACTUAL

Energy Queensland internal data puts actual solar PV penetration at 31%, slightly lower than what was captured in the QHES. In 2019 the figure was 28%.

OF THOSE WHO HAVE SOLAR PV:

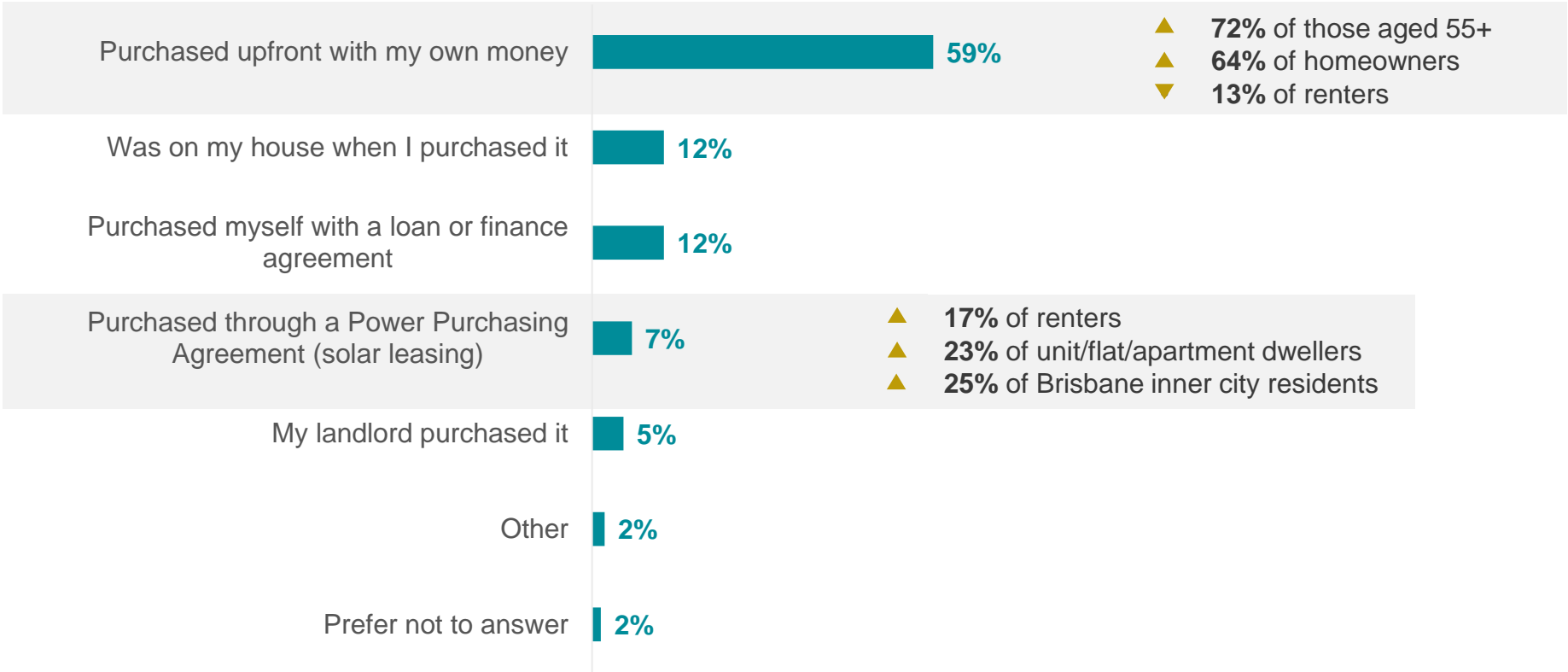
- 9% already own battery storage
- 12% intend to purchase battery storage within the next 3 years
- 31% are aware of community batteries
- 24% intend to go off-grid at some point in the future



SOLAR PV INSTALLATIONS

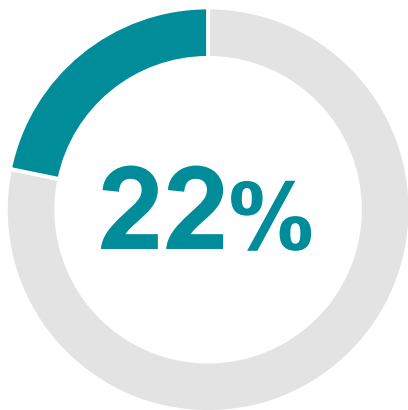
Of those with solar PV, two thirds purchased their system upfront with their own money. Older people and homeowners are most likely to have purchased their solar PV this way. Solar leasing is a popular option among renters, inner-city and apartment-dwellers, suggesting that this a way for solar PV to be implemented in multi-tenant dwellings by bodies corporate without making an upfront payment.

Solar PV purchase method



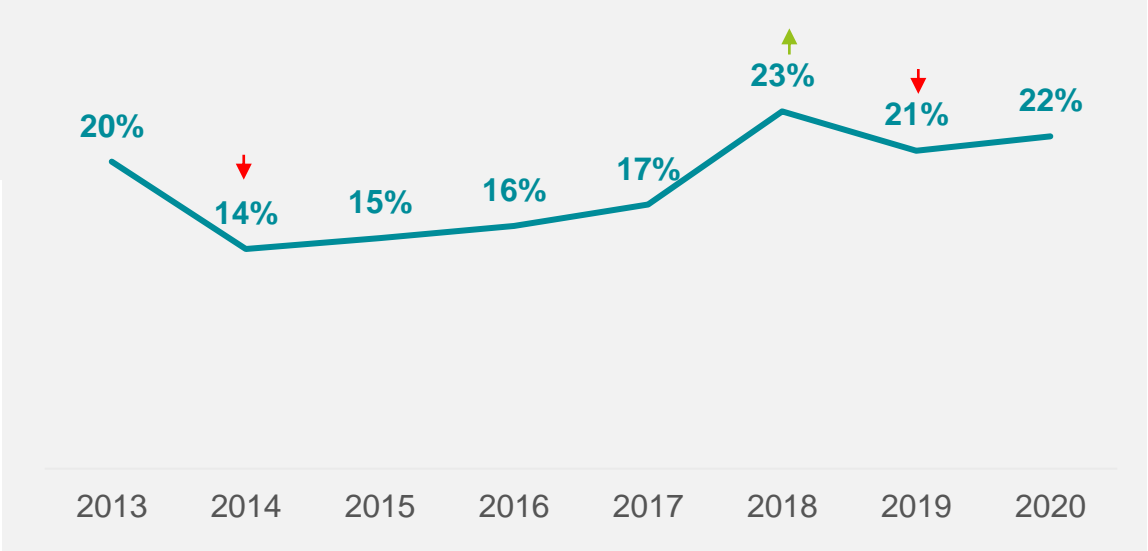
SOLAR PV INTENTIONS

In line with the growth rate of solar PV installations, there remains strong interest in this technology amongst households that do not already have solar installed. Those who are planning to purchase solar PV also have a strong intention to go off-grid, more so than those who already have solar PV. Those who intend to purchase solar PV also have high expectations around the amount of money they will save on their energy bills.

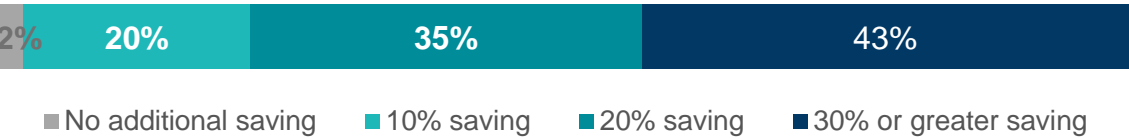


Intend to purchase new or additional solar PV for their home within the next 3 years

- ▲ 25% Regional QLD
- ▲ 29% 18-34
- ▲ 25% 35-54
- ▲ 27% Male
- ▲ 34% Couples with children at home
- ▲ 32% Employed full time
- ▲ 26% Homeowners
- ▲ 67% Those with battery storage

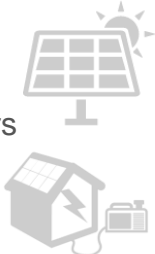


EXPECTED BILL SAVING FROM SOLAR



OF THOSE WHO INTEND TO PURCHASE SOLAR PV:

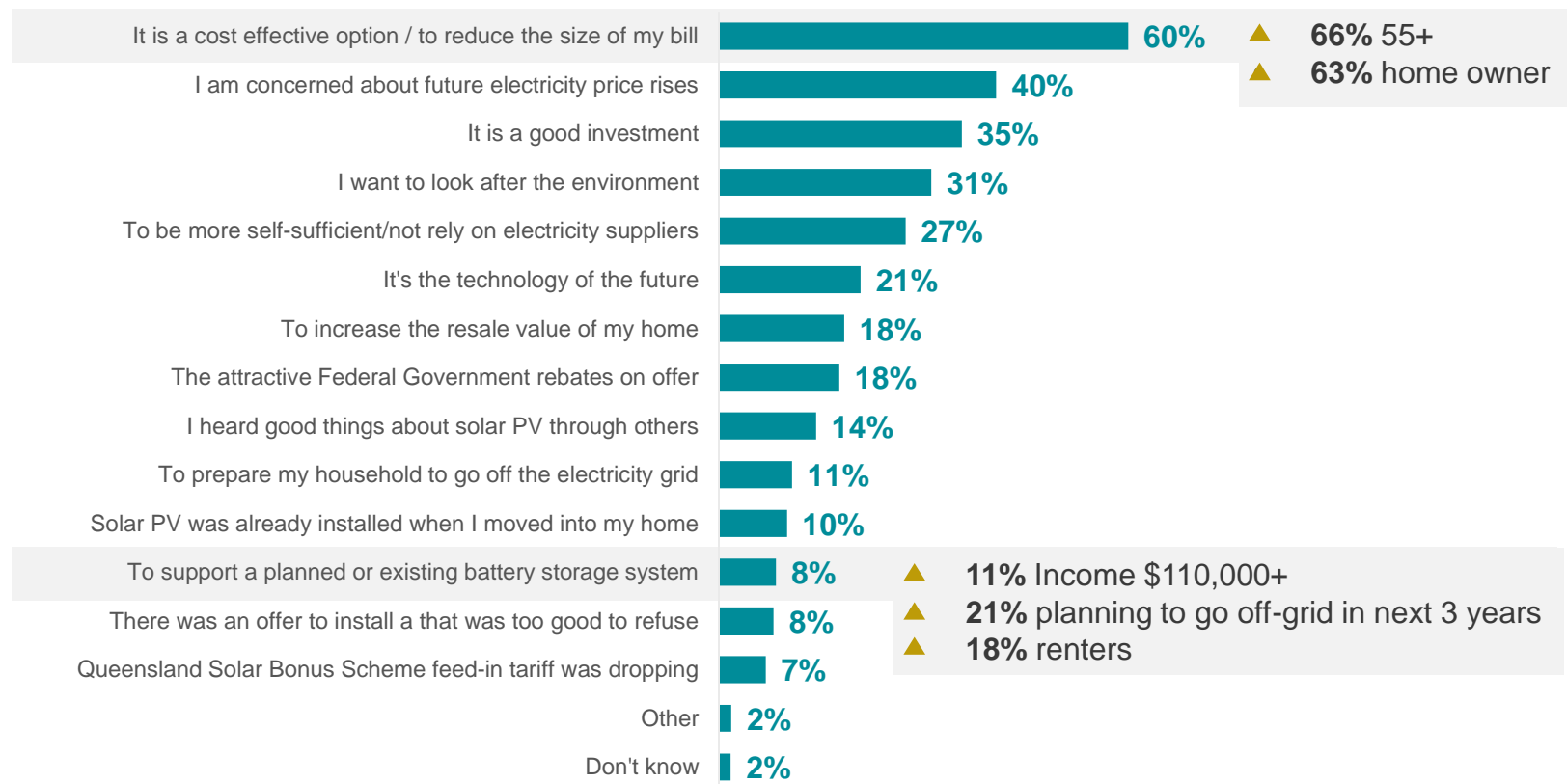
- 28% also intend to purchase battery storage within the next 3 years
- 37% are aware of community batteries
- 42% intend to go off-grid at some point in the future



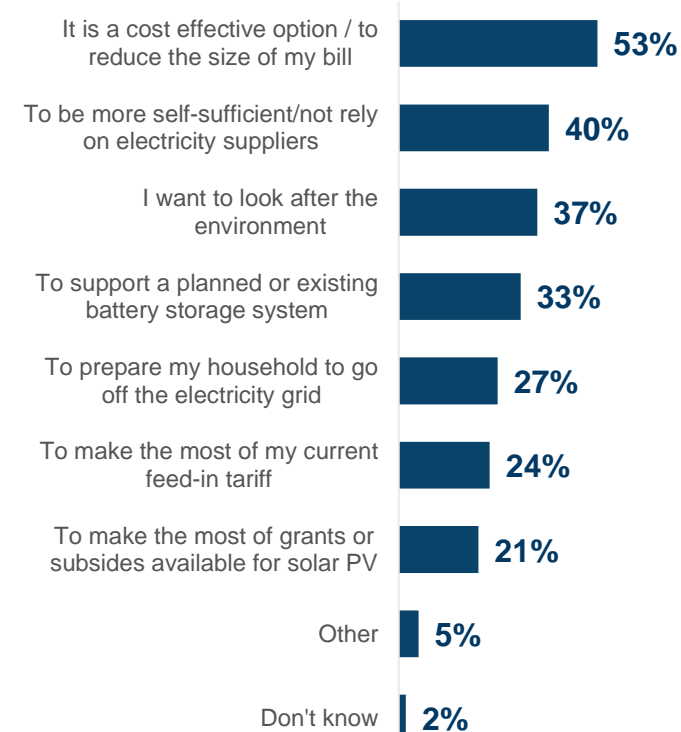
SOLAR PV MOTIVATIONS AND CONSIDERATIONS

Bill reduction is the main motivation for purchasing solar PV, however, looking after the environment is a consistent secondary motivation. When it comes to replacing or upgrading existing solar PV, self-sufficiency is a strong motivator alongside bill reduction, while environmental concerns are increasingly motivating.

Motivations to *purchasing* solar PV



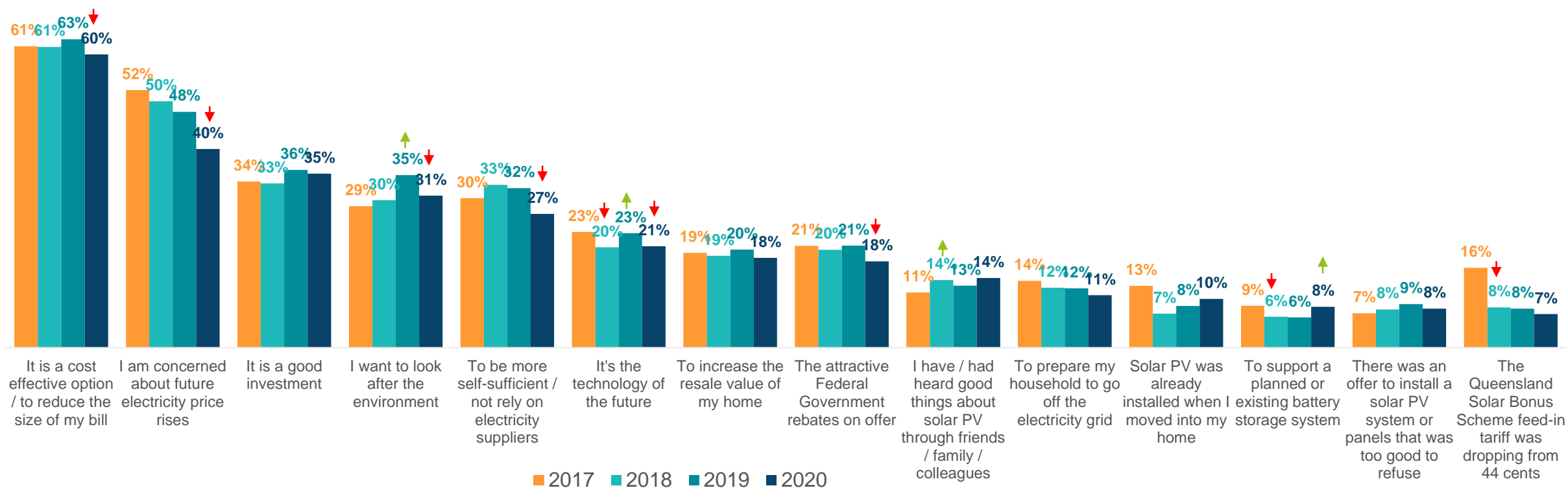
Motivations to *add or replace* PV panels



SOLAR PV MOTIVATIONS AND CONSIDERATIONS

The desire to support a planned or existing battery system has grown as a motivation to purchasing solar PV, while concern around electricity price rises is less of a motivation compared to previous years.

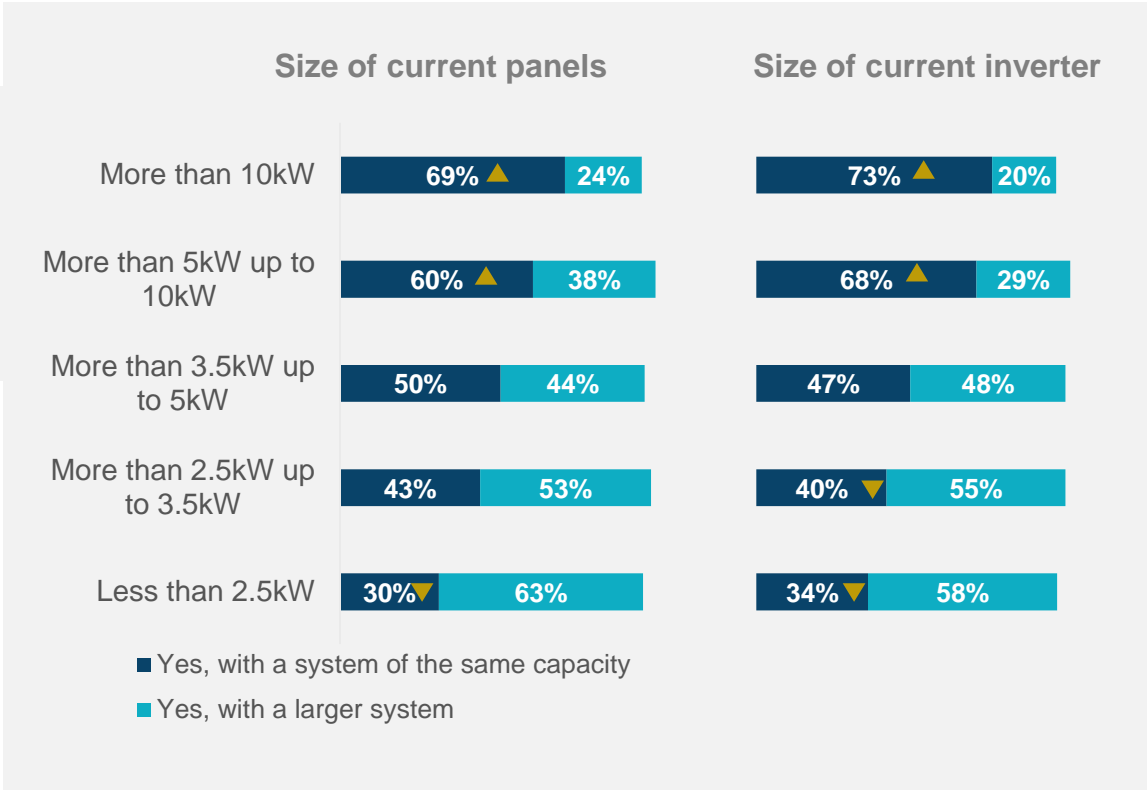
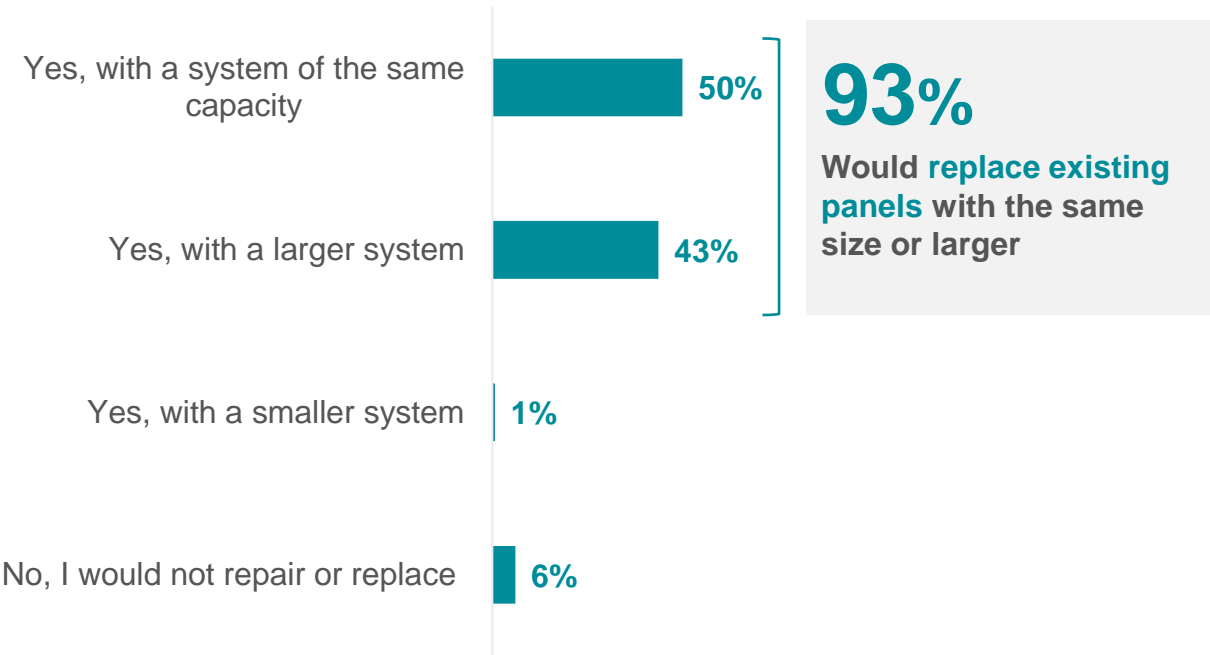
Motivations to purchasing solar PV



SOLAR PV MOTIVATIONS AND CONSIDERATIONS

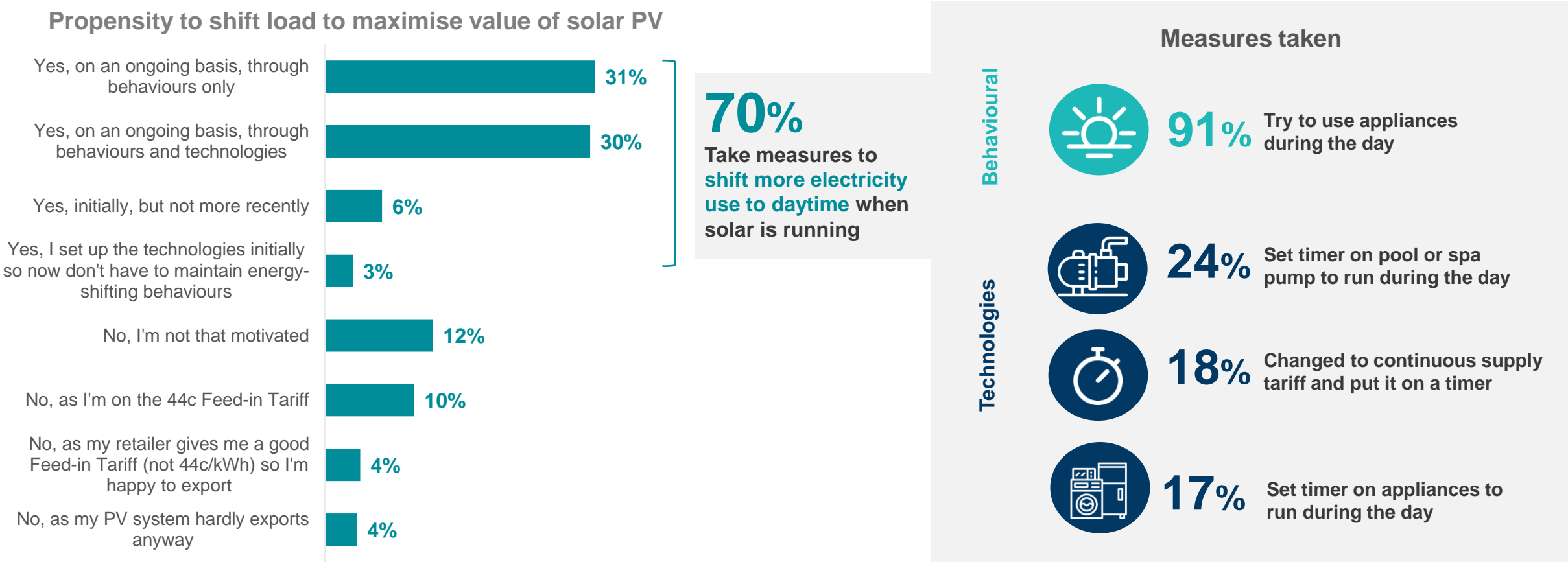
Of those who have solar PV installed, the majority would replace their systems if they were to fail. Those who have smaller systems are likely to upgrade to a larger one, rather than one of the same capacity.

Willingness to repair or replace PV



SOLAR PV ENERGY MANAGEMENT

Solar PV users are conscious of making good use of their solar, with most making an effort to use appliances during the day while the system is operating. Others have implemented technologies such as timers to help shift the load and maximise the value of their solar PV.



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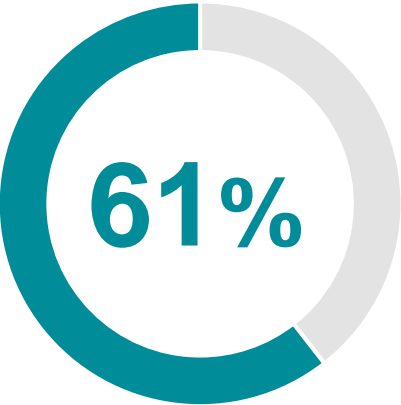
BATTERY STORAGE

KEY POINTS

1. Although household penetration of home battery systems remains negligible, intention to purchase a system is strong. A third of Queenslanders state they intend to purchase a battery system, 10% in the next three years.
2. Of those who intend to purchase a battery system, most would consider at a price below current market prices, however 15% are willing to spend \$10,000-\$15,000 on a battery system, and a further 9% are willing to pay \$15,000-\$20,000.
3. Although there are barriers in terms of not having enough knowledge or not making financial sense, the process of installing a battery system itself is not perceived to be a difficult task, therefore not presenting a barrier.

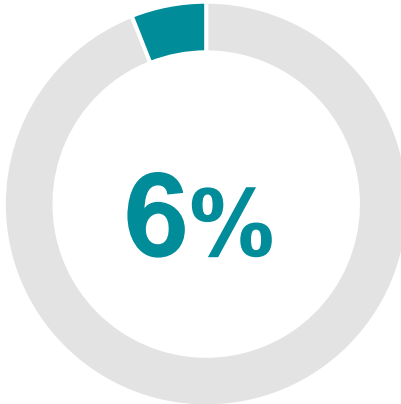
BATTERY STORAGE AWARENESS & INSTALLATIONS

Although awareness of battery storage remains stable, an increased number of Queenslanders claim to have a system installed at home. This is significantly higher in regional Queensland.



Are aware of **home battery storage systems**

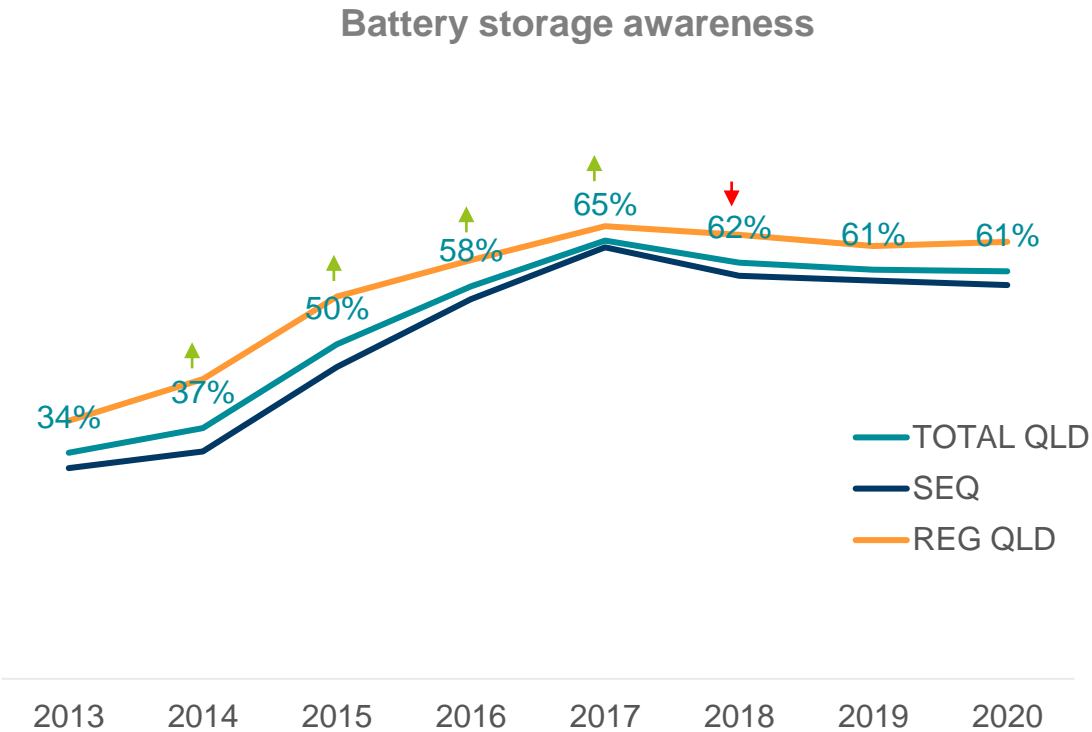
- ▲ 67% Those aged 55+
- ▲ 73% Males
- ▲ 65% Those in Regional QLD



Have a **home battery storage system installed**

Vs. 3% in 2019

- ▲ 8% Those aged 35-54
- ▲ 7% Those in Regional QLD



Note: The stated ownership of battery storage is higher than the recorded number of installations.

BASE: All respondents (2020 n=4,336)

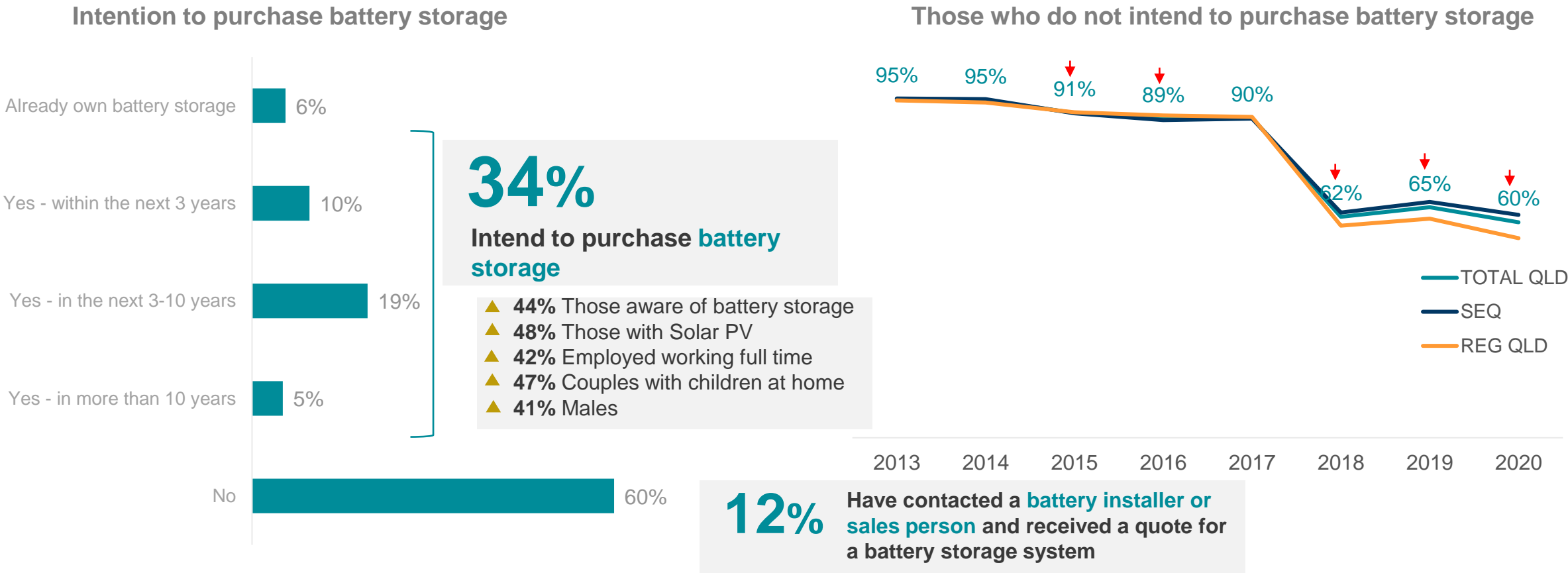
C18. Have you ever heard or seen any information about home battery storage systems?

C19. Does your home have a battery storage system to store energy generated in the home (e.g. via a solar PV system or diesel generation)?

▲ Significantly higher / lower than total at 95% confidence interval
▲ Significantly higher / lower than previous year at 95% confidence interval

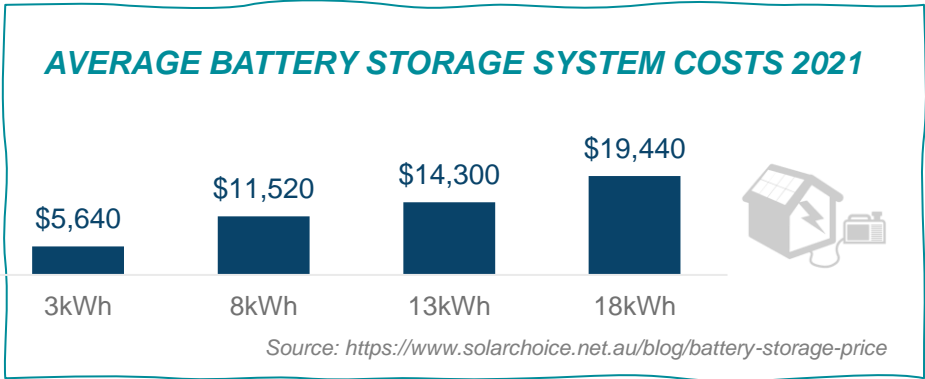
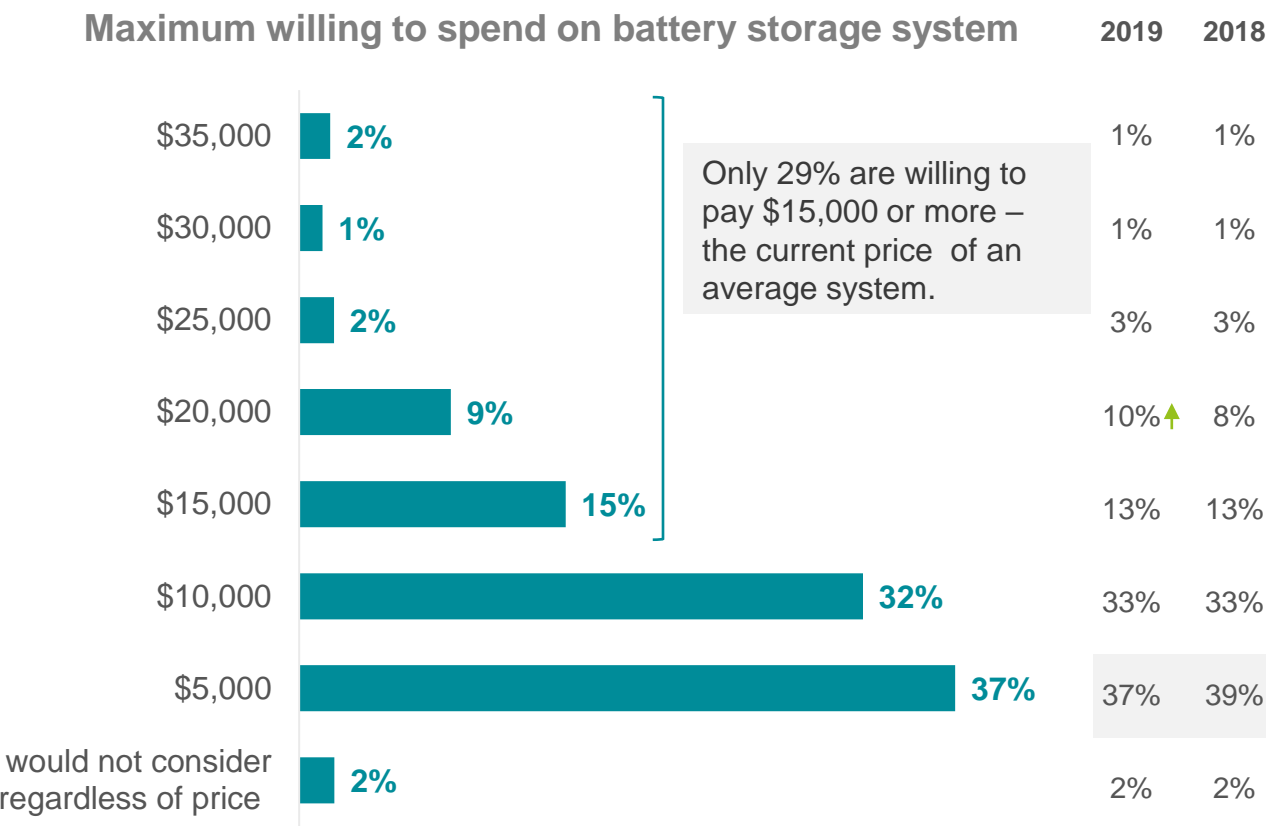
BATTERY STORAGE INTENTIONS

A third of Queenslanders (34%) intend to install battery storage in their homes, but only a tenth within the three years. Rejection of battery storage continues to drop.



BATTERY STORAGE SYSTEM INTENTIONS

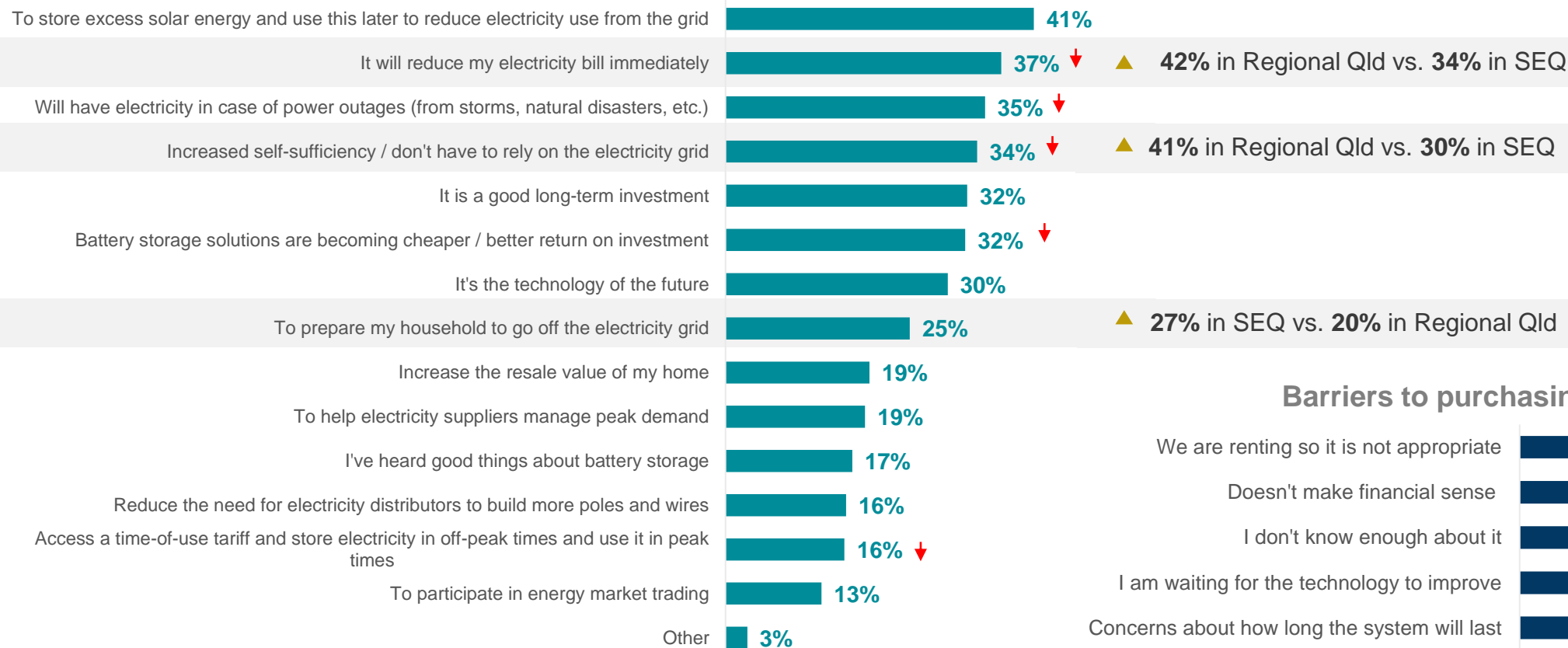
Price remains a barrier to purchase – almost two in five intenders are only willing to pay a maximum of \$5,000 for a battery storage system. Interestingly, willingness to spend almost doubles between \$15,000 and \$10,000, with actual prices for a mid-sized system falling in between. As prices move closer to the \$10,000 mark, willingness to pay may begin to shift toward affordable.



BATTERY STORAGE MOTIVATIONS AND BARRIERS

The top motivation across the board is to store electricity to use when needed. Regional Queenslanders are interested in a storage system to reduce their bill and decrease reliance on the grid.

Motivations to purchasing battery storage



Barriers to purchasing battery storage

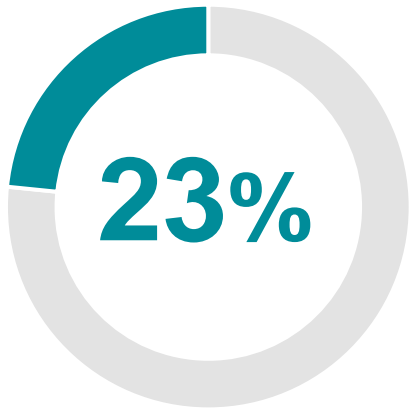


COMMUNITY BATTERIES

Almost a quarter (23%) of Queenslanders are aware of community batteries, with a similar amount (22%) interested in the concept.

DESCRIPTION OF COMMUNITY BATTERIES

Community batteries are a neighbourhood energy storage solution, where solar PV owners can store their surplus PV generation during the day then access that renewable energy in the evening. This offers an alternative to PV owners purchasing their own battery systems, and provides a range of benefits to the network, including being able to host more solar PV systems. Eventually, even those who don't have a solar PV system may be able to access the renewable energy in community batteries. Program participants may contribute an initial investment to the community battery to share in the benefits, or pay for a subscription service, or a combination.



Are aware of the concept of community batteries

- ▲ 33% Males
- ▲ 38% Outback QLD
- ▲ 31% Those with Solar PV
- ▲ 77% Those with their own battery storage

22% are interested in community batteries



- Don't know / More info required
- Uninterested (0-2)
- Neutral (3-7)
- Interested (8-10)

- ▲ 27% Those with Solar PV
- ▲ 61% Those with their own battery storage
- ▲ 54% Those who intend to go off-grid in the next 3 years

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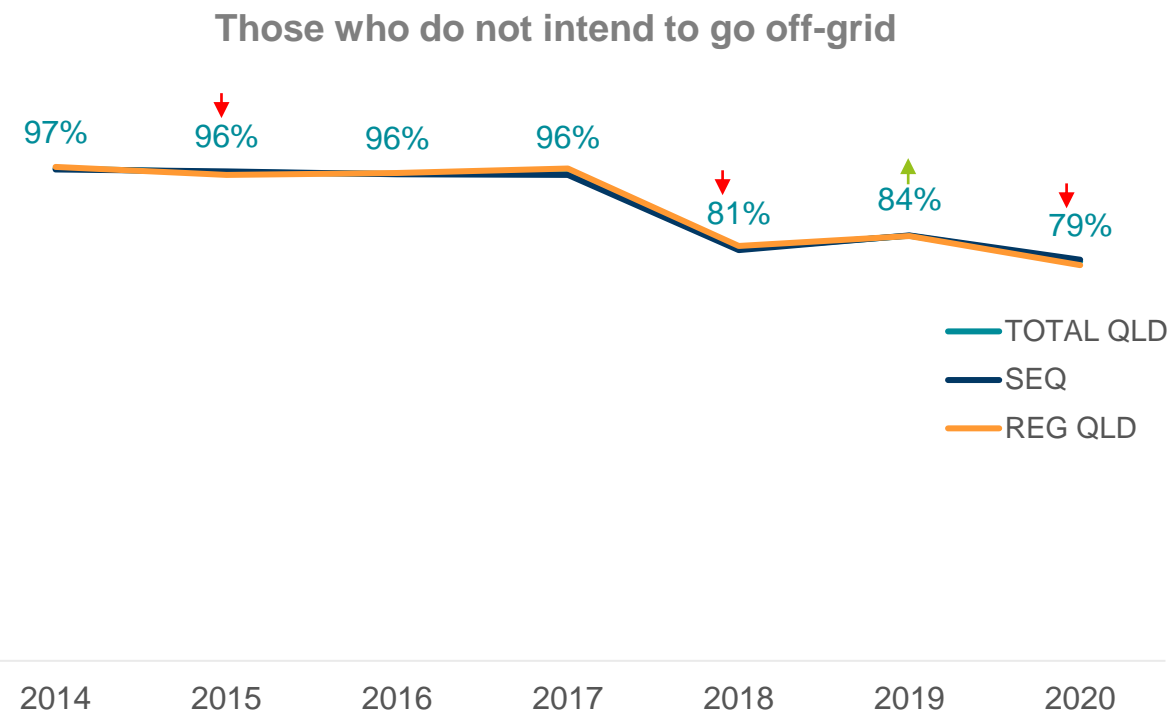
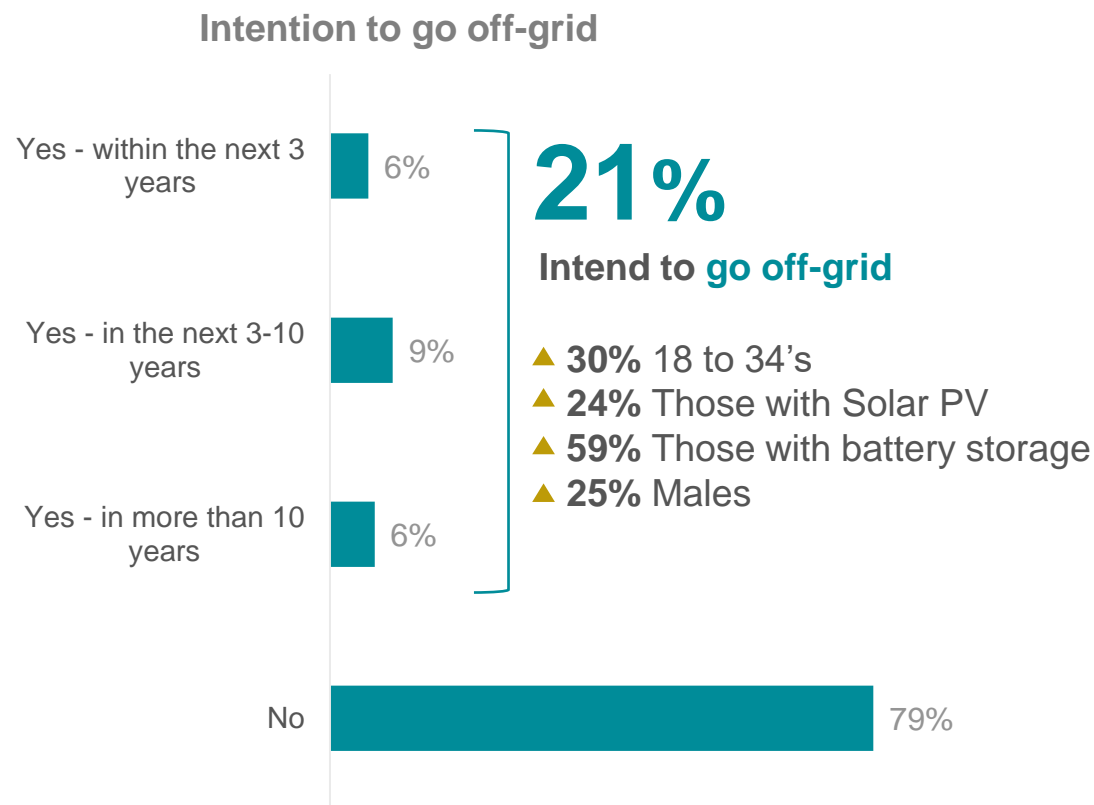
GOING OFF-GRID

KEY POINTS

1. Intention to disconnect from the electricity grid continues to rise. Cost effectiveness remains the main reason for wanting to make this change, however concerns about the environment are becoming increasingly salient. In line with decreased electricity bill concerns among Queenslanders, concerns about electricity price rises have decreased in terms of being a reason to go off-grid.
2. There is seemingly a poor understanding around what it means to be truly off-grid, with most believing the processes involved do not pose a barrier.

GOING OFF-GRID

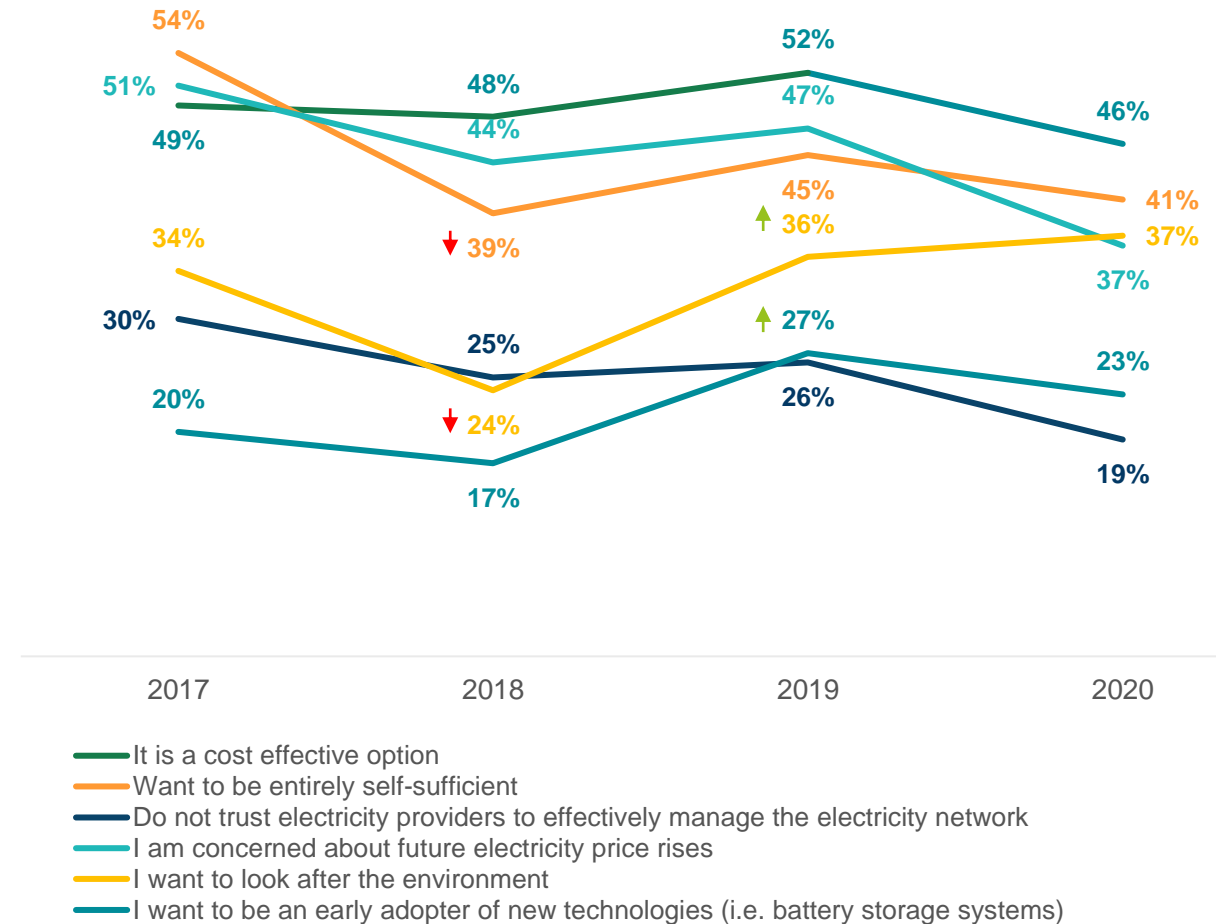
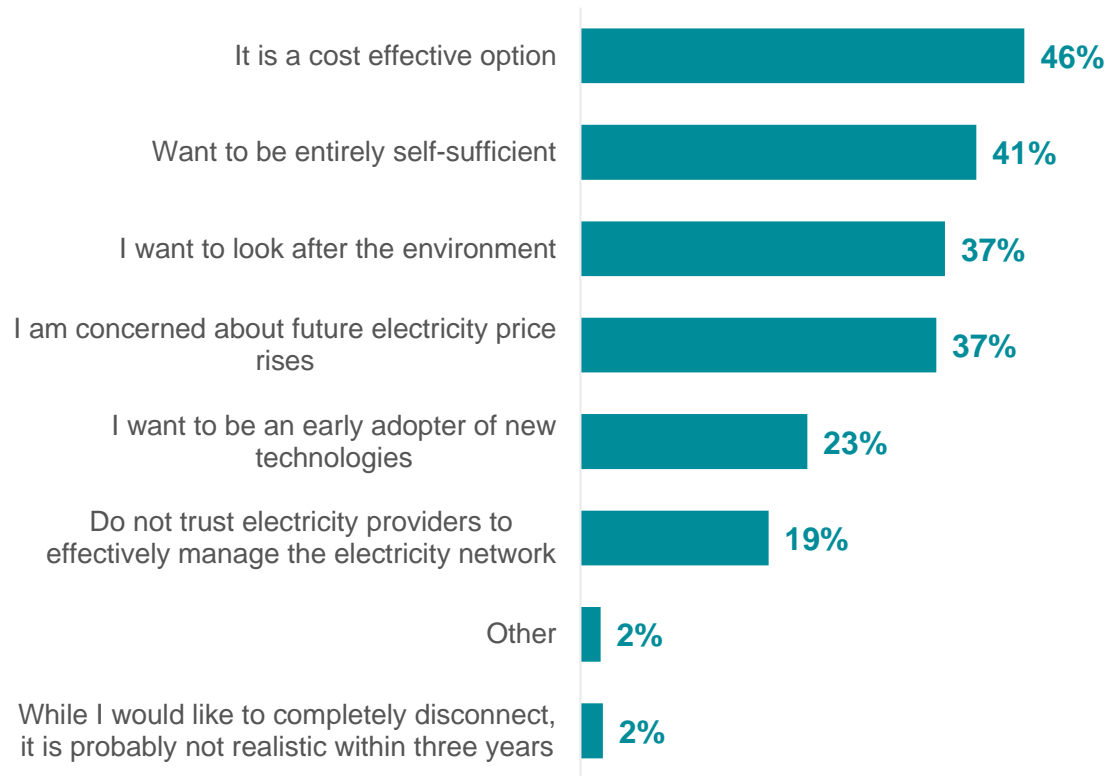
Intention to go off-grid has significantly increased since 2019, although the likelihood to do so in the short term is low.



GOING OFF-GRID

The appeal of going off-grid is largely driven by cost or a concern about future electricity prices, with a desire to be self-sufficient, while a desire to look after the environment is increasingly becoming a key reason to go off-grid.

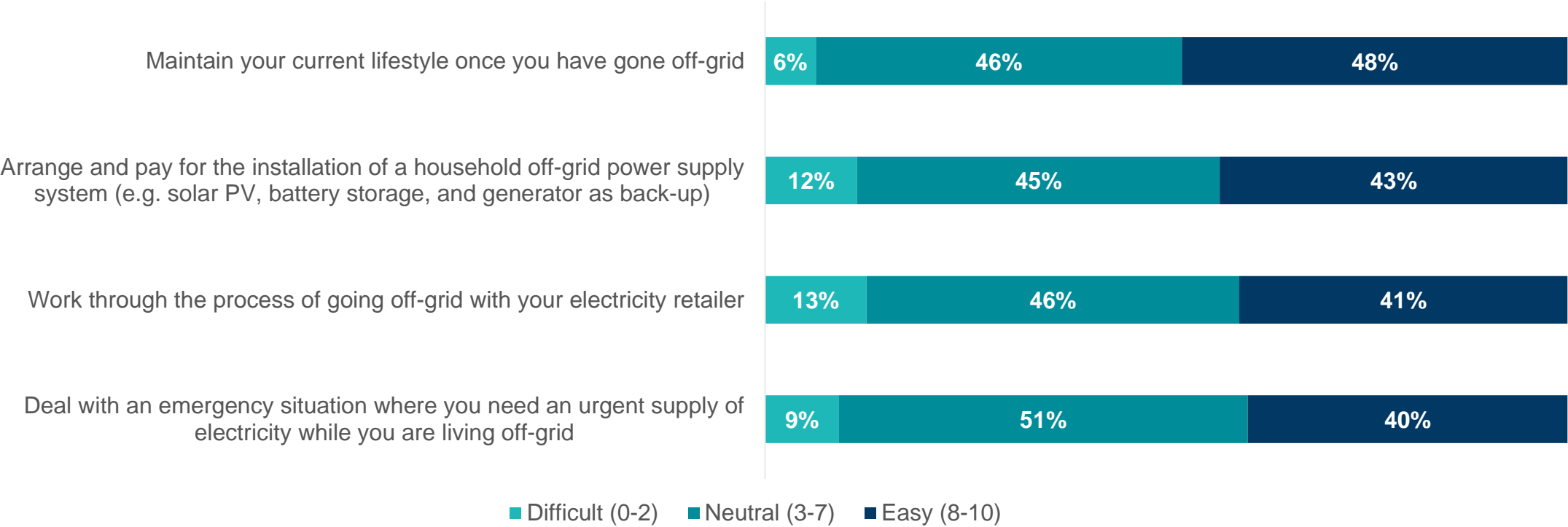
Reason for intending to go off-grid



GOING OFF-GRID

The process of going-off grid is not a barrier, with very few believing that the process will be difficult.

Perceived ease of going off-grid



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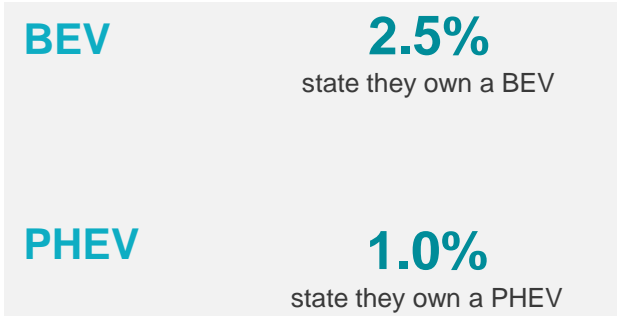
ELECTRIC VEHICLES (EVs)

KEY POINTS

1. Consideration of EVs has increased, with half of Queenslanders that are considering purchasing a new vehicle in the next three years stating they would consider an EV.
2. The majority of EV owners charge at home, and report that they have the ability to control the start time of their charging. However, only a quarter indicate that they use some type of control.
3. Range and price still remain barriers for many, almost two-thirds (59%) of Queenslanders considering an EV requiring a minimum range of 500km, most expecting to pay between \$30,000 and \$50,000.

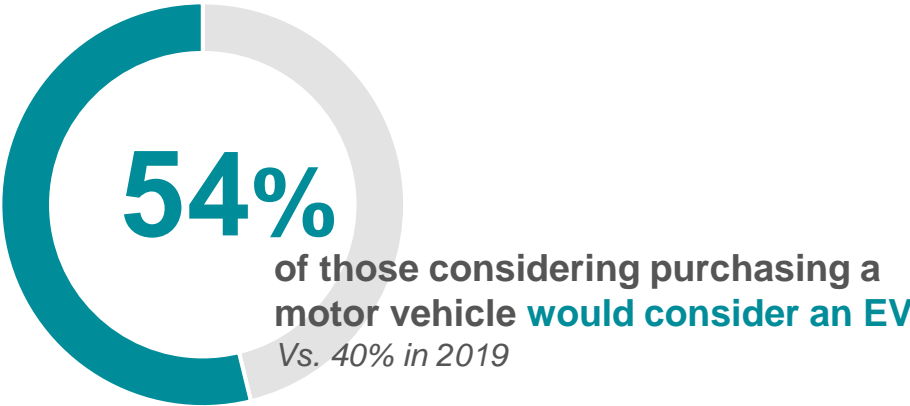
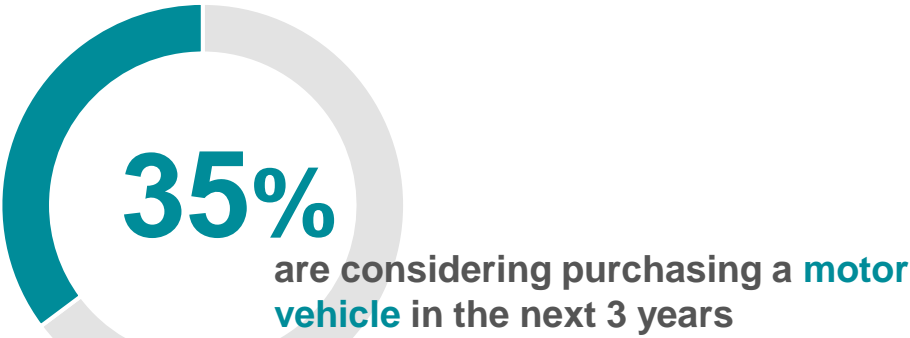
EV OWNERSHIP AND PURCHASE INTENTION

At a total level, 3% of QHES 2020 respondents state that they own an electric vehicle. Of those who are considering purchasing a new car in the next 3 years, over half would consider an EV at that time.



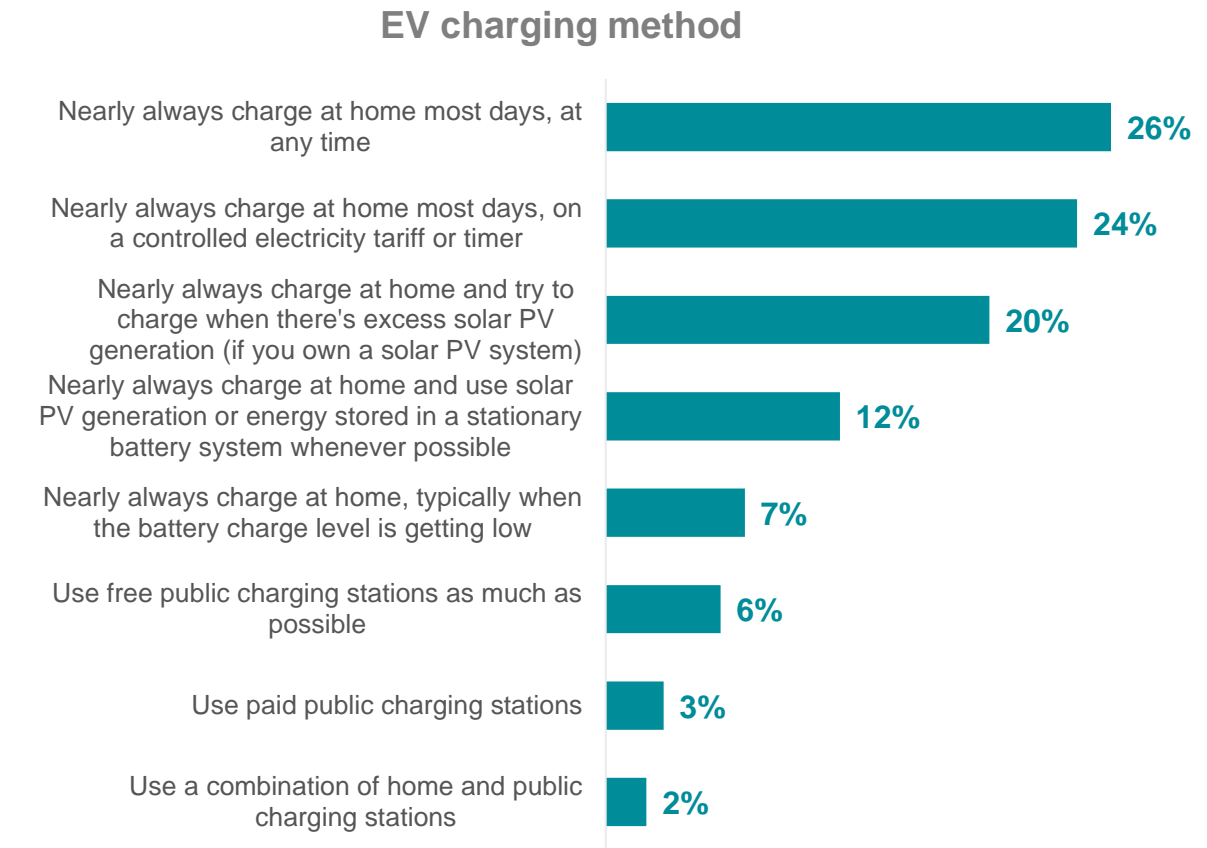
STATED VS. ACTUAL EV & PHEV

Energy Queensland internal data – **0.2%**
vs. **0.1%** in 2019.



CHARGING ELECTRIC VEHICLES

While there are no significant changes to the way EV owners are charging their vehicles, there appears to be a shift away from using a controlled tariff or timer and towards charging when convenient. This is despite an increased proportion of EV owners stating they have the ability to control the time of charging.

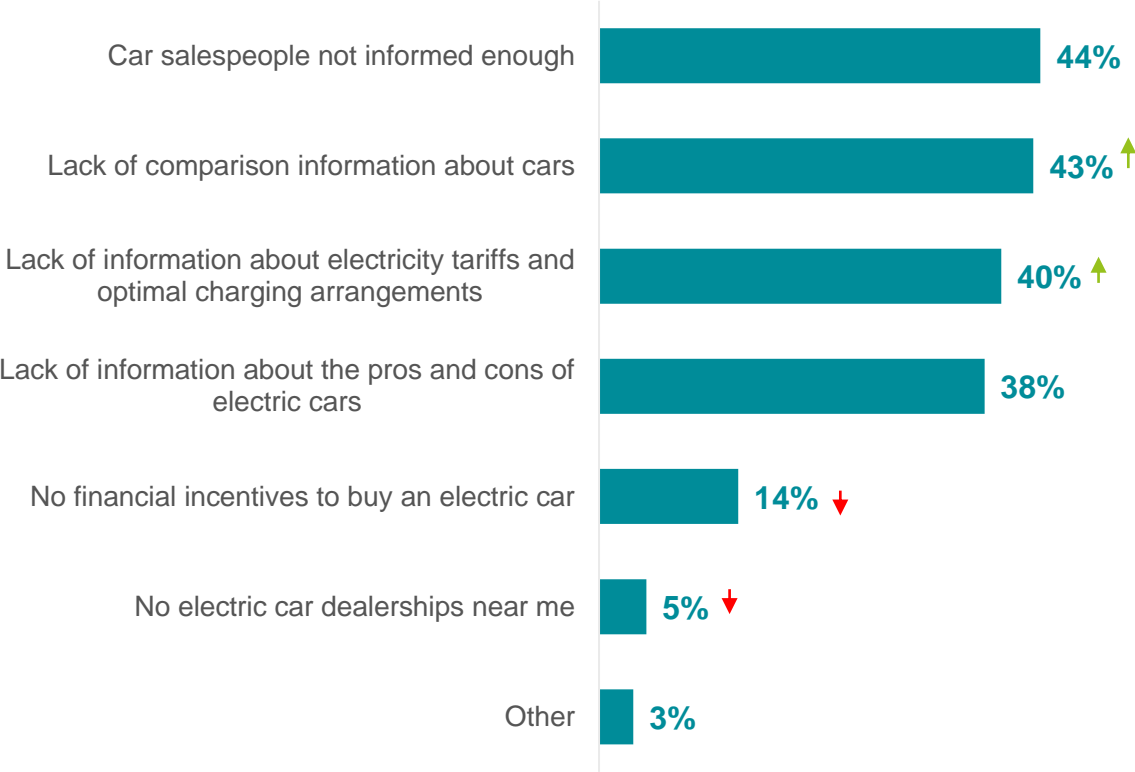


of survey respondents state they have the **ability to control** when their electric car will start charging
Vs. 53% in 2019

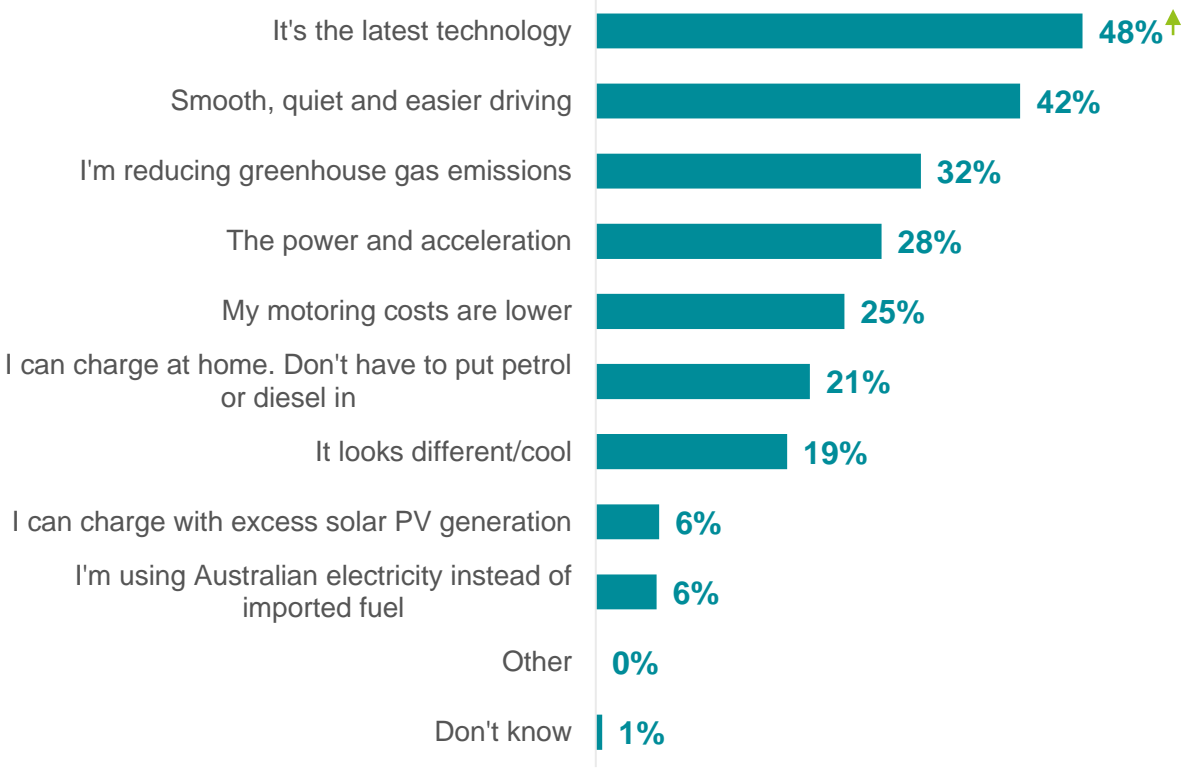
CHALLENGES AND BENEFITS OF EV PURCHASE

Current EV owners found the lack of information a challenge when purchasing their vehicle, including lack of information about tariffs and charging.

Challenges



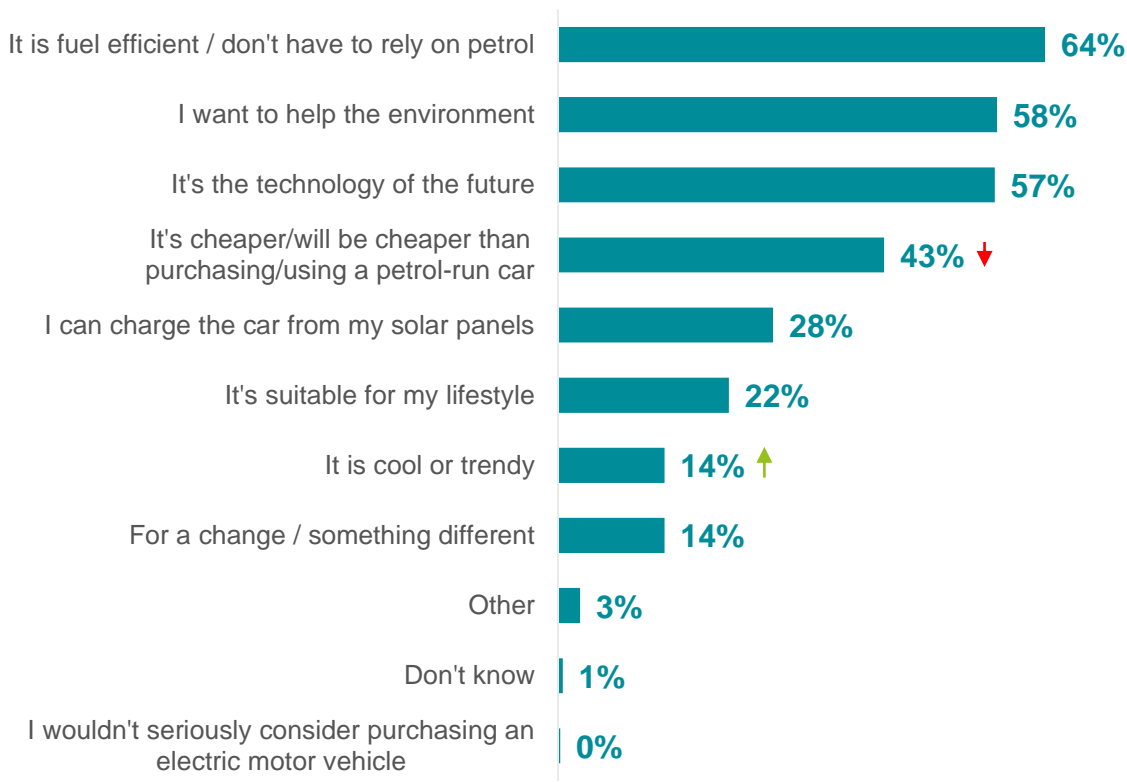
Benefits



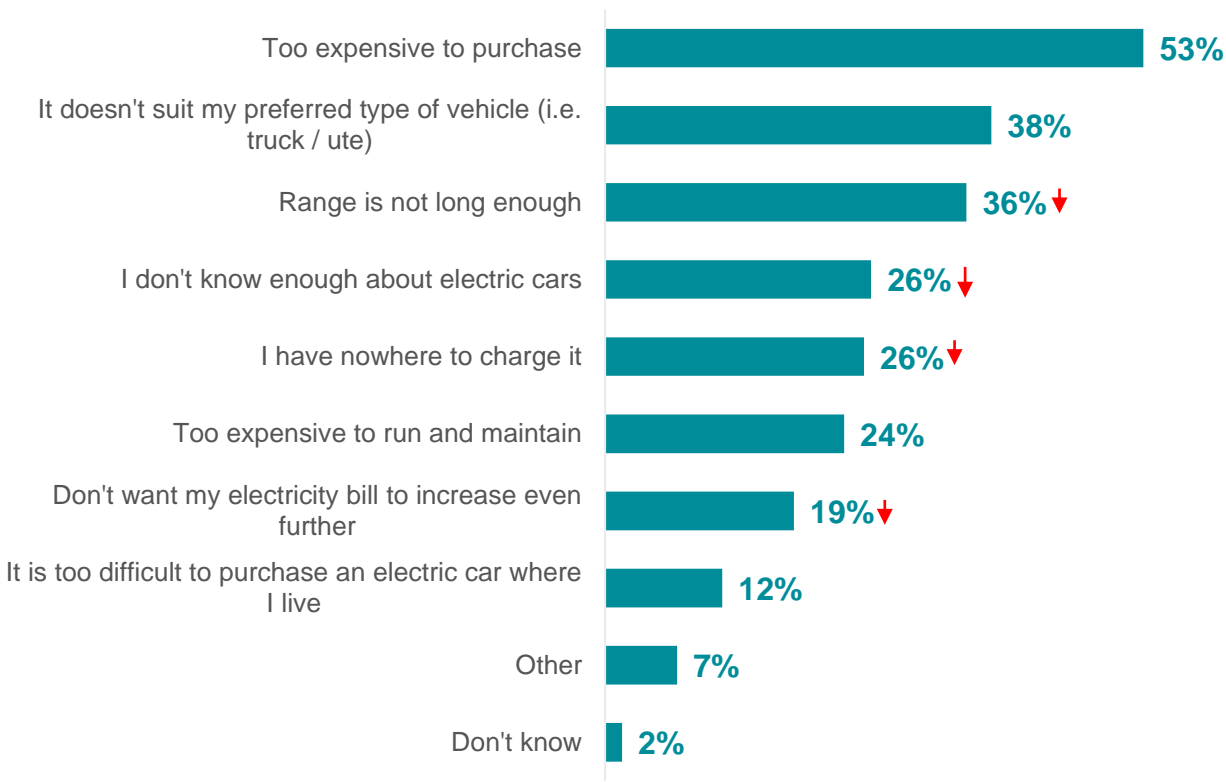
MOTIVATIONS AND BARRIERS TO EV OWNERSHIP

Fuel efficiency and environmental issues remain the key motivations, with barriers generally dropping in 2020. The key barrier of price remains intact at the level seen in 2019. The other key barriers – vehicle type and range – are relatively distinct from each other, however those who feel EVs are not suited to their preferred vehicle type are less likely to overlook this barrier, while issues around range can potentially be mitigated by changes in pricing and improvements in EV range.

EV motivations



EV barriers

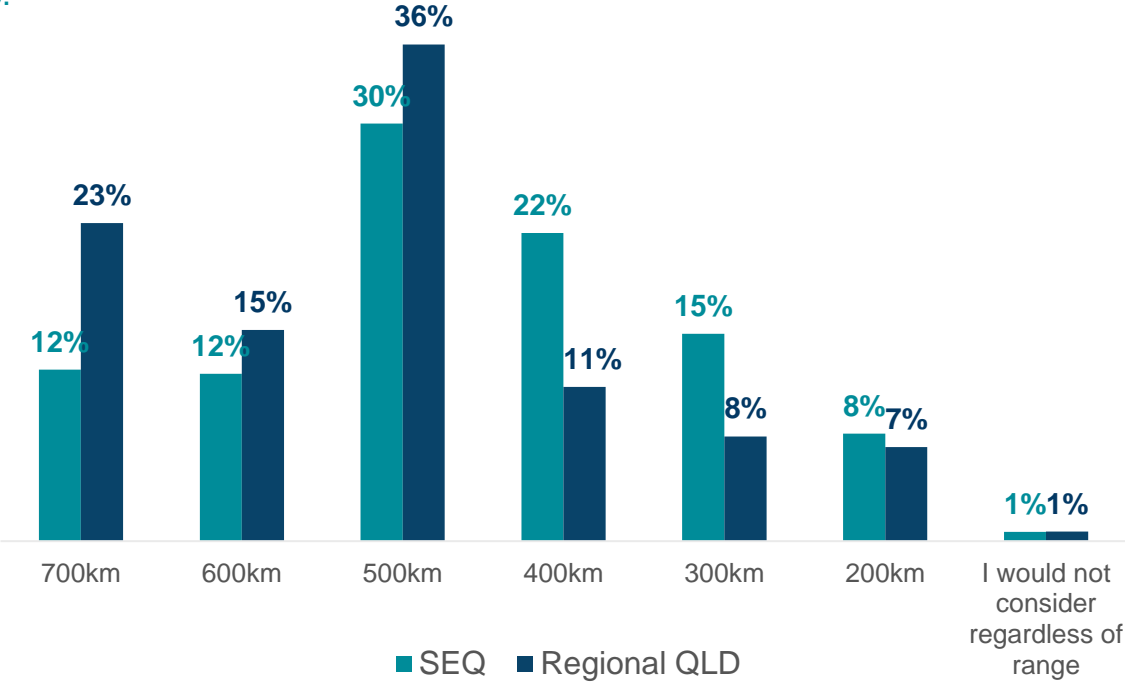


EV REQUIREMENTS

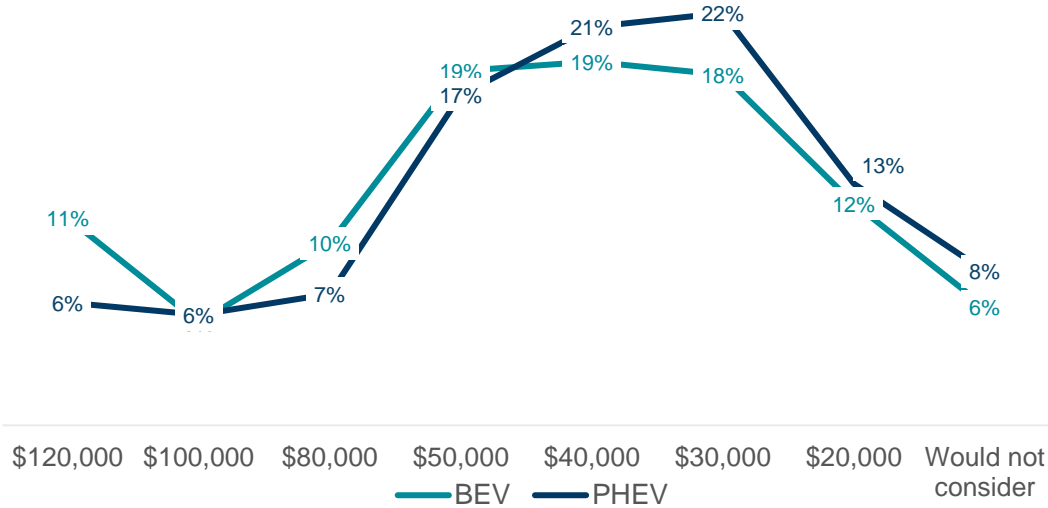
Although range requirements do differ by region, most of those considering an EV do require a range of at least 500km. The price points most are willing to consider for an EV sit around the \$30,000 - \$50,000 mark, dropping off considerably above that.

Minimum driving range required

59% of all Queenslanders require a range of **500km or more**.



Willingness to spend on Electric Vehicle





KANTAR