NEWGATE RESEARCH

COMMUNITY ATTITUDES TO **ROOFTOP SOLAR AND THE AEMC'S PROPOSED REFORMS**

RESEARCH REPORT – UPDATED FINDINGS

AUGUST 2021

REPORT PREPARED FOR

ENERGY CONSUMERS AUSTRALIA

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EXECUTIVE SUMMARY

Key findings

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KEY FINDINGS

01

Contextual attitudes to solar

- **Prominent energy themes from qualitative participants** included concern with cost of electricity and frustrations with finding the best retail deal. Grid health is not a strong unprompted concern and there is limited awareness or understanding of the impact of increased solar on solar exports and network reliability.
- **Most Australians (76%) feel positive about the growth of rooftop solar** with 21% ambivalent and only 3% negative about this trend. There is also strong interest in home batteries and community batteries - when people are informed of them.
- **Over two thirds (69%) feel positive about upgrading the network to accommodate more solar energy** with only 7% feeling negative about this broad proposition.
- **The top reasons for buying/considering solar are to reduce bills and save money.** Reducing carbon pollution and being self sufficient are secondary considerations while specifically earing money from exporting energy is relatively less important.
- Solar customers are typically very pleased with their decision to go solar. **Despite moderate awareness of reduced feed-in tariffs, solar is still seen as a good deal with virtually all satisfied with their purchase** and the benefits they have personally seen (mostly on their lower, or non-existent, electricity bills).
- **Key barriers to solar consideration** include the upfront expense, being a renter, lack of knowledge and the length of payback periods to cover initial purchase.

02

Attitudes to the AEMC reforms

Survey participants were presented with information on the AEMC's proposed reforms including the reason for them as well as modeled cost implications for solar customers.

- **Over two thirds (69%) feel positive about the AEMC's proposed reforms with only 7% negative about it.** Support is consistent across key segments with highest support amongst those considering solar panels (78%) & medium customers (73%).
- **Around two thirds (64%) of solar customers feel positive about the reforms with only 14% negative and 21% ambivalent.**
- **Most participants also consider key aspects of the reform package to be acceptable.** The potential for solar customers to earn less than they do now is the most contentious aspect of the plan although around half of solar customers (46%) still found this acceptable with 37% finding it unacceptable and 17% feeling neutral about it.
- **Those feeling positive about the reform** mostly spoke of the environmental benefits of supporting the growth of solar, that it is a fair approach balancing the needs of solar and non-solar customers, that it is good for Australia's future and that it will incentivise batteries
- **The minority of people feeling negative toward the reforms** (7%) mostly worried about bill increases, while others felt that it was unfairly penalising those who have solar or had a broader distrust of the plan and energy network companies.

KEY FINDINGS

03

Support for reform amendments

- **Results showed strong support for the following three potential amendments to the AEMC reforms proposed by ACOSS and TEC.**

  1. **Providing an additional "guaranteed export" option** that means that solar customers can choose to export a guaranteed minimum amount of electricity without paying anything for this export service (69% feel positive about this and only 3% feel negative about it).

  2. **Requiring networks to guarantee a minimum level of funding for consumer groups** that advocate on behalf of solar and other customers when networks are deciding on their tariffs (60% feel positive about this and only 5% feel negative about it).

  3. **Providing solar customers with a choice about whether or not they want to contribute to network funding of solar initiatives** via new tariff structures (noting that if they choose not to, they may be subject to zero or low export limits) (58% feel positive about this and only with only 8% feel negative about it).

- **Adding the three proposed amendments is also likely to have a significant impact on overall attitudes to the reform package.** Over half (57%) said that adding these three amendments makes them feel more positive about the overall reform package with only 5% saying it makes them feel more negative and 38% saying it does not impact their opinion of it.

04

Preferences for potential tariff options

The research also explored responses to a series of five hypothetical retail tariffs options that could potentially result from the reforms.

Tariff option / % of solar customers	Acceptable	Unacceptable
Local community battery subscription	64	18
Variable time of day solar feed in tariff	52	29
Seasonal tariff	56	24
Guaranteed flat solar feed in tariff	54	27
Export limits	43	37

- **The local community battery subscription was the most acceptable option**, reflecting an appreciation of the importance of storage to support solar as well as awareness of the high cost of personal home batteries.
- **The guaranteed flat tariff was simplest to understand** but some wondered how it would address the issue of solar overload.
- **Variable and seasonal tariffs appealed most to those who felt they could change their behaviour** to optimise energy use and those who had a battery.
- **Export limits were least acceptable** with significant pushback against the idea of having exports blocked and wasting energy.

INTRODUCTION

Objectives and methodology

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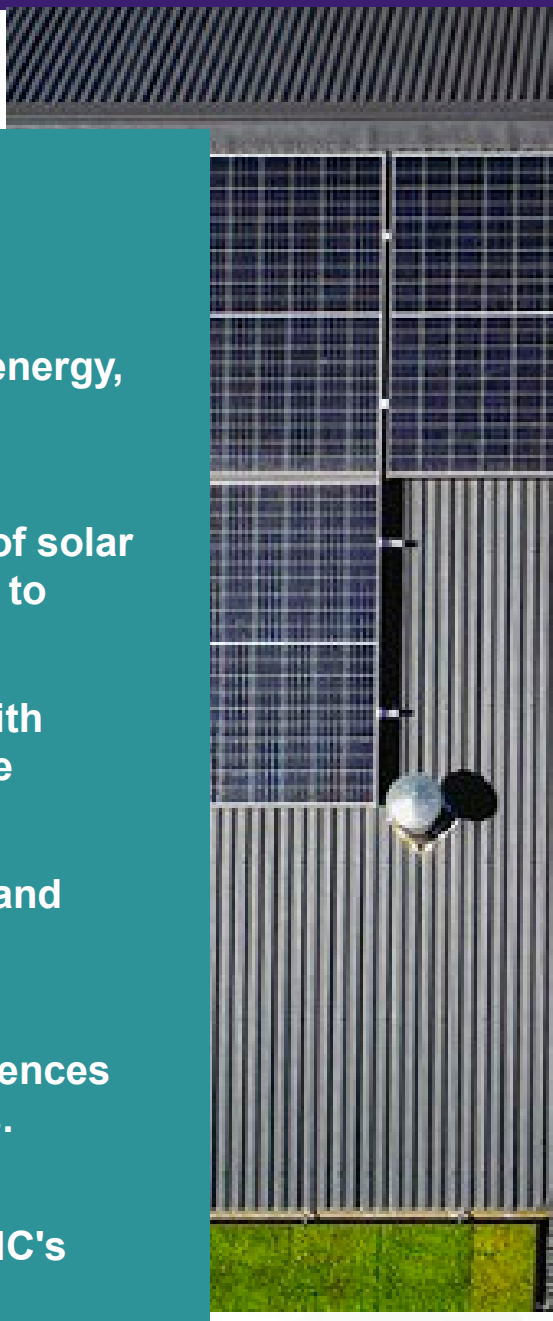
Research Objectives

A comprehensive research program to understand:

1. Contextual attitudes to energy, solar and the electricity network.
2. Attitudes to the growth of solar and network investment to enable it.
3. Personal experiences with solar including purchase drivers and barriers.
4. Awareness, knowledge and attitudes to the AEMC's proposed reforms.
5. Acceptability and preferences for various tariff options.
6. Responses to potential amendments to the AEMC's reform package.



STUDY PHASE 1: QUALITATIVE RESEARCH WITH SOLAR CUSTOMERS AND CONSIDERERS

Focus groups

8 x 2-hour focus groups with Solar PV customers and considerers (sperate groups with each).

Fieldwork dates

19 May – 26 May 2021.

Group locations (two groups in each place)

Parramatta, NSW

Melbourne, VIC

Caloundra, QLD

Adelaide, SA

Participant characteristics

All are main/joint decision makers about energy supply for their household

All are actively involved in decision making around installing or considering solar

Mix of gender and ages across all groups

All are homeowners from a mix of household sizes

At least two participants in each group came from a non-English speaking/CALD or ATSI background

STUDY PHASE 2: QUANTITATIVE SURVEY

Online methodology

Participants sourced from Dynata, a professional market and social research panel.

Fieldwork dates

4th August – 15th August 2021

Robust sample

n = 2,046 participants including a representative national sample of 1,205 respondents and an additional boost of 841 solar customers.

Participants had to be electricity decision-makers for their household.

Margin of error of non-boosted sample +/- 2.8% (95% confidence interval). Quotas set on gender, age and location. Data weighted to balance demographic and locational splits.

Survey demographics (non-boosted weighted sample)

	%	n
NSW	32	311
VIC	25	265
QLD	20	217
WA	10	145
SA	8	145
TAS	2	55
ACT	2	48
NT	1	19

	%	n
Have Solar	27	1114 (including boost)
Don't have solar	73	932
Considering solar	33	410
Small customer *	43	512
Medium customer *	43	512
Large customer *	7	96
Vulnerable *	18	231
Know a lot or a moderate amount about solar	29	338

* See appendix for segment definitions

CONTEXTUAL ATTITUDES TO THE ELECTRICITY NETWORK AND ROOFTOP SOLAR

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CONTEXTUAL ISSUES AROUND ENERGY AND THE GRID

Key qualitative themes.

01

Top of mind energy issues mostly focus on bill costs and frustrations in trying to getting a good deal

- People are most focused on the cost of electricity, with a perception that energy bills continue to rise. This is matched by frustration with the complexity of navigating the retail energy market, i.e. choosing which retailer to go with or what deals to get.
- Whilst for some, the market is becoming more competitive, the result is time spent researching or hassling retailers to get a good deal and there was also a common perception that long-term customers are not as fairly treated as new customers.

02

Grid health is generally considered quite good

- Focus group participants typically rated the health of the electricity network as 7-8 out of 10. This is driven by perception that our electricity supply is generally reliable, especially compared to other countries and many also feel that outages are generally the result of unavoidable weather events.

03

Some acknowledge challenges with an old network, but only a minority cite the impact of solar on grid stability

- Those rating network health lower (3 to 6 out of 10) typically spoke of large-scale outages (e.g. the state-wide blackout in South Australia) and that the network infrastructure is somewhat old and not innovative e.g. wires are not underground and that there is not widespread adoption of batteries.
- Only a minority associated the growth of solar with grid stability issues although we did have a small number of informed people who noted that “the grid had been built the wrong way around” or that “we are creating more solar than the grid can handle”.

04

Those with low confidence in the grid perceive this to be because of under investment

- Some, with lower confidence in the network, also have an underlying suspicion that there has been underinvestment in the network as private network companies seek to maximise their profits.
- Only one mentioned “gold plating” and, overinvestment is not a top-of-mind concern.

CONTEXTUAL ISSUES AROUND ENERGY AND THE GRID

Further qualitative themes.

05

Strong support for the transition to solar

- People spoke very positively about the growth of solar and other renewables with the transition to renewables considered inevitable and a good thing.
- Solar is widely considered cheap (the sun is free and plentiful) and seen as playing an important role in reducing pollution and addressing climate change.
- Some people expressed concern that Australia has less integration of renewables compared to Europe and other countries.
- There were only a few unprompted comments about the need for fossil fuels to provide base-load power and views on this appear to be softening over recent years .
- A few noted that not everyone is able to have solar (e.g., renters and low-income earners) and that their needs should be considered.

06

Batteries considered pivotal to making renewables reliable

- Batteries are also top of mind with many seeing them as being important in making renewables reliable (i.e. solar needs storage).
- Many solar customers and considerers aspire to having a battery although the high initial outlay remains a significant barrier. In Victoria there was also some frustration that the State's incentive scheme was for solar OR/ battery but not both.
- A few raised questions about how sustainable batteries are in relation to their lifespan/chemicals/recycling etc. but this was not a prevalent concern.

07

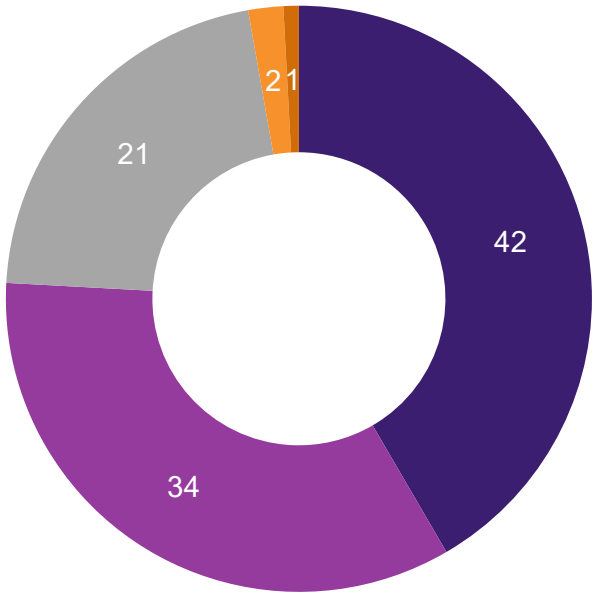
Community batteries are an appealing new concept

- Only a few solar PV owners had first-hand experience with Virtual Power Plants and Community Batteries; they were enthusiastic in their involvement in these programs and other focus group participants were very interested in these new approaches.

ATTITUDES TO THE GROWTH OF SOLAR

Quantitative results confirm that over three quarter of Australians (76%) feel positive about the growth of rooftop solar.

Attitudes towards growth of solar in Australia (%)



Groups more likely to be positive (% positive)
Are not financially vulnerable (77%) compared to 69% who are.
Know a lot or a moderate amount about solar feed-in tariffs (87%) compared to 71% of those who don't.
Are working full time (80%) compared to 70% of those who are retired.
Have a household income of $100,000 or more (83%) compared to 73% for those earning less.
Already have solar (89%) compared to 72% of those who don't.

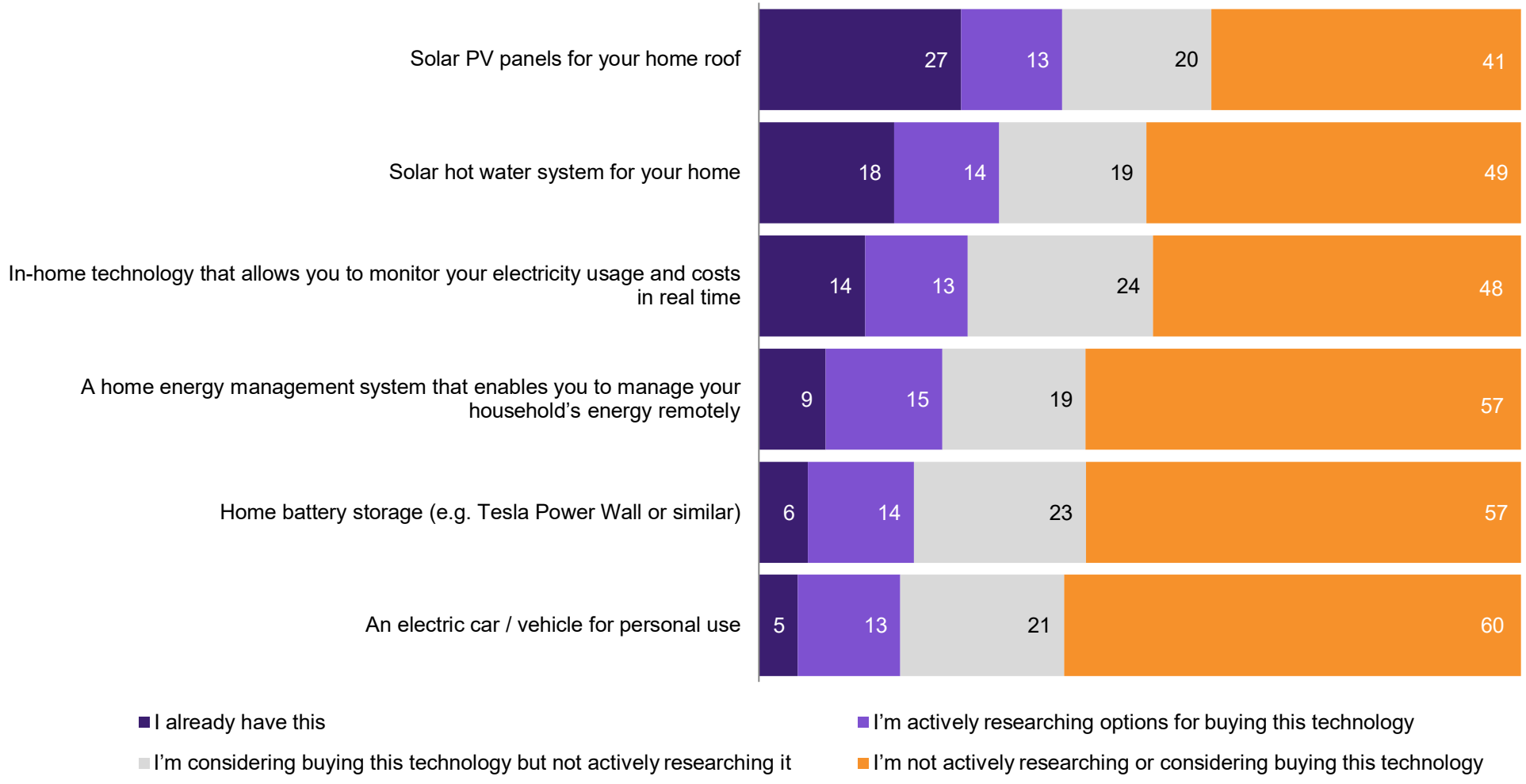
Groups more likely to be negative (% negative)
Own their home outright (4%) compared to 1% those who are renting.

Q8. Currently around 25% of homes in Australia have rooftop solar and this is projected to grow to around 50% by 2030. Overall, how do you feel about the growth of rooftop solar in Australia? // Base: All main sample participants (n=1,205).

CURRENT UPTAKE OF SOLAR AND OTHER TECHNOLOGY

Over a quarter of Australian bill payers already own PV solar panels (27%), while close to a quarter have, or are considering buying home battery storage (23%) or in home technology to monitor electricity usage (24%).

Uptake and consideration of energy technology (%)

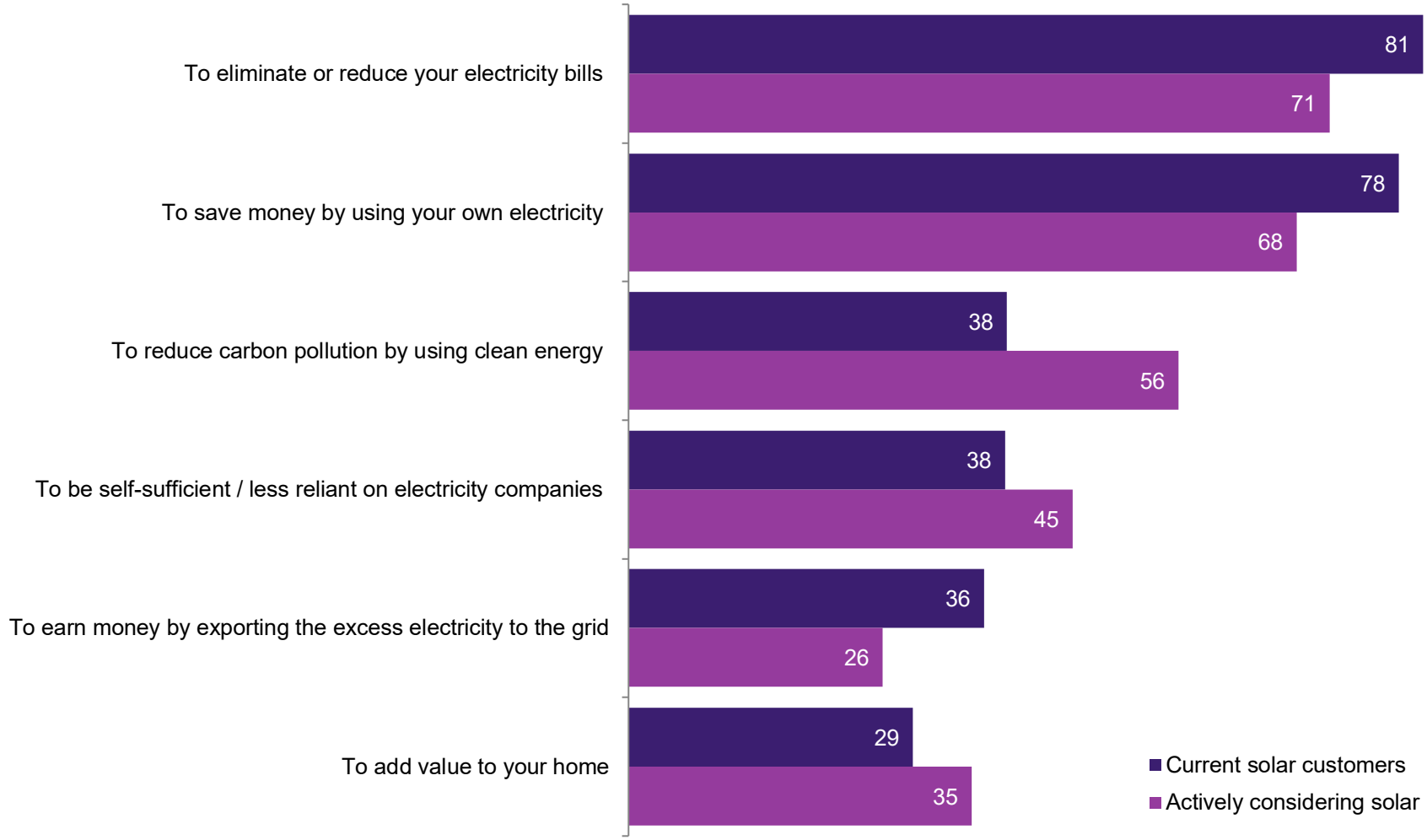


D5. Next, we would like to know if you have, or are considering, any of the following electricity technologies? // Base: All main sample participants (n=1,205).

REASONS FOR GETTING SOLAR PANELS

The most important reasons for buying/considering solar are to reduce bills and save money. Reducing carbon pollution and being self sufficient are secondary considerations while earing money from exporting is relatively less important.

Reasons for buying / considering solar (% selecting each as a top 3 reason)

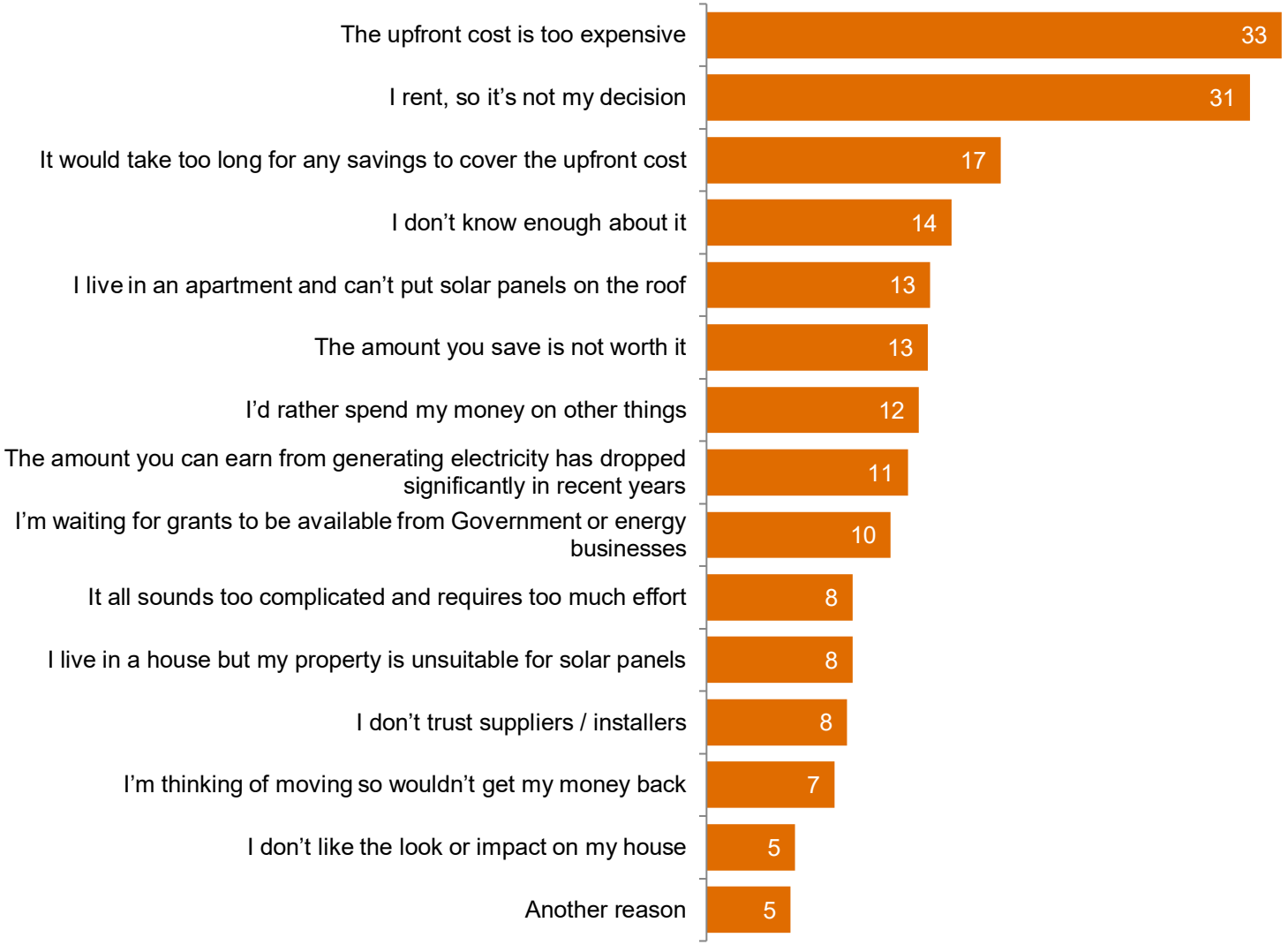


Q5. What are the most important reasons why you purchased/have home solar panels? What are the most important reasons why you are considering home solar panels? Please rank the following from most important to least important… // Base: Those who have home solar PV panels (n=1,114) and those who are actively researching home solar PV panels (n=158).

REASONS FOR NOT CONSIDERING SOLAR PANELS

Key barriers for not considering solar panels include the upfront cost being too expensive (33% noted this), followed by being a renter (31%), payback periods (17%) and lack of knowledge (14%).

Reasons for not researching or considering home solar panels (% selecting each reason)



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Q6. Which of the following reasons explain why you are not actively researching or considering buying solar panels for your home? // Base: Those who are not actively researching or considering buying solar panels for their home (n=774).

Personal experiences with solar

Solar customers we spoke with are all very pleased with their decision to go solar. Despite moderate awareness of reduced feed-in tariffs, solar is still seen as a good deal with all satisfied with their purchase and the benefits they have personally seen (mostly on their lower, or non-existent, electricity bills).

Frustrations were mostly related to confusion in working out the best system to get or worry about their systems becoming potentially obsolete in the future.

Other more minor issues and gripes related to issues with installations at their home, dealing with specific solar companies, the impact from trees, implications for house values and visual appeal, storm damage and insurance costs.

There is also a clear trend towards getting larger systems – this is mostly driven by falling system costs and reduced feed-in tariffs (to a lesser degree).

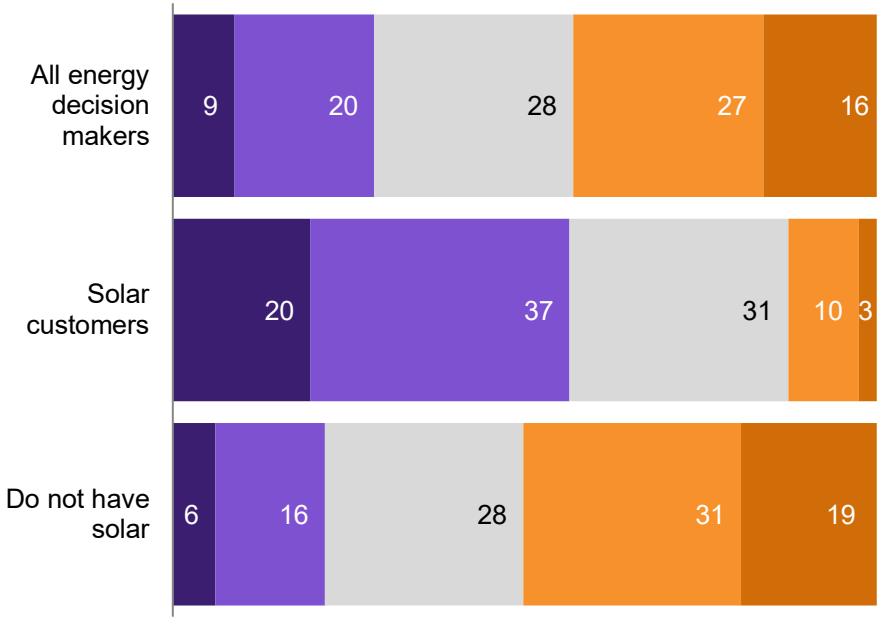
Financial benefits and decisions are closely tied to system payback periods. People want to make smart decisions around this, and by implication, they will evaluate the proposed reforms in this context.

Those who have solar have typically approached the decision in a very rational way, most have researched the options carefully and made a rational decision that they would be better off financially. As such, around half of solar customers have a moderate or strong understanding of tariff structures and are able to evaluate the reforms in terms of what it will mean for them.

CURRENT KNOWLEDGE ABOUT SOLAR FEED-IN TARIFFS

Nearly a third (29%) of energy decision makers know at least a moderate amount about solar feed-in tariffs and this rises to around half (56%) of those who have solar.

Knowledge about solar feed in tariffs (%)



Groups more likely to know a lot or a moderate amount about solar tariffs (%)
Those aged 34 or less (35%) compared to older respondents (26%).
Medium to large businesses (34%) compared to small businesses (26%).
Homeowners (33%) compared to those who are renting (21%).
Already have solar (56%) compared to (22%) who don't.

Groups more likely to be unaware or know nothing about solar tariffs (%)
Financially vulnerable (59%) compared to 40% who aren't.
Annual household income less than $40,000 (56%) compared to 37% of those who earn more.
Women (54%) compared to men (32%).
Those living in WA (57%) compared to 42% for all other States.

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Q7. Overall, how much do you know about the topic of "solar feed-in-tariffs" (e.g., how much money solar customers earn for exporting certain amounts of electricity and how much tariffs may have changed in recent years)? // Base: All main sample participants (n=1,205).

REACTIONS TO THE AEMC REFORMS

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INFORMATION SHOWN TO PARTICIPANTS

Participants were shown the following information (below and on the following slides) about the AEMC reforms before responding to them.

The next part of this important survey will show you some more information about the growth of home solar in Australia.

Please read this carefully, so you can meaningfully respond to the following questions.

The state of solar power in Australia

- *Australia is a world leader when it comes to using rooftop solar with around 25% of homes already having a rooftop solar system.*
- *People who install solar systems benefit by using the power they generate in their own homes, and they also earn extra money by exporting – or selling – energy back into the grid.*

The issue of "solar overload"

- *However, the electricity network (poles, wires, substations etc.) was not designed to have so much solar energy flowing back into the network from people's homes.*
- *As more and more new solar systems are installed the amount of solar electricity flowing back into the network in the middle of the day is overloading the network in some areas.*
- *"Solar overload" happens especially during autumn and spring, when there is lots of sunshine but often very little household energy use during the day, so almost all the electricity generated is exported to the electricity network.*
- *At times when there is more solar electricity being exported than the network can handle, customers can have their solar systems trip off (preventing further export) and it can even cause power outages in their local area.*

Broad options to prevent future "solar overload"

In simple terms, "solar overload" could potentially be addressed by the following ways:

1. *Investing more to upgrade the electricity network – with costs factored into every customer's bills.*
2. *Preventing people from exporting solar energy completely or limiting their solar exports when the network is overloaded.*
3. *Putting in incentives so solar customers earn more from exports at times when solar energy is needed and less at times when there is too much solar energy for the network to handle.*
4. *Encouraging more people to buy home batteries so they can store more of their electricity when the network is overloaded and then use it later.*

Next, we will show you a proposed package of solar reforms to address the issue of "solar overload" and enable the continued growth of rooftop solar in Australia.

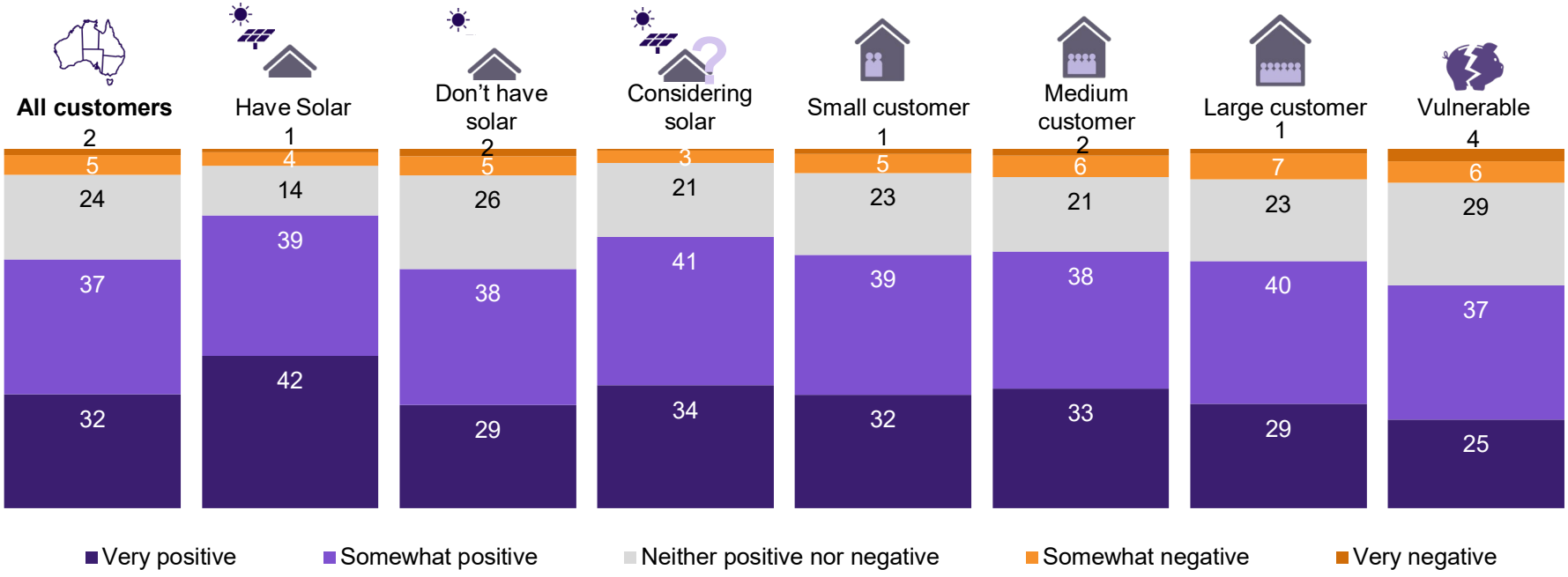
These reforms have been proposed by the Australian Energy Market Commission (AEMC) – an independent statutory body that is jointly funded by Australia's federal and state governments.

One of the AEMC's main responsibilities is to make the rules for Australia's energy system, including how electricity network companies can serve and charge their customers.

CONTEXTUAL SUPPORT FOR SOLAR INVESTMENT

Over two-thirds (69%) feel positive about upgrading the network to accommodate more solar energy with only 7% feeling negative about this broad proposition.

Attitudes to network investment (%)



Groups more likely to feel positive (%)	Groups more likely to feel negative (%)
Know a lot or a moderate amount about solar feed-in tariffs (79%) compared to 65% of those who don't.	Feel negative about the growth of rooftop solar (53%) compared to 6% who do not.
Non vulnerable (71%) compared to 62% of vulnerable people.	Those who own their home outright (9%) compared to 5% who are renting.
Those with a household income of $60K or more (76%) compared to those earning less (62%).	Aged 55+ (10%) compared to 6% of younger respondents.
Already have solar (81%) compared to (67%) who don't.	

Q9. In principle, how do you feel about the idea of upgrading the infrastructure of the electricity network to accommodate more solar energy? // Base: All main sample participants (n=1,205), Those who have home solar PV panels (n=1,114).

INFORMATION SHOWN TO PARTICIPANTS – *CONTINUED*

Participants were then provided with more detailed information about the proposed reform and its impact on both solar and non solar customers

Some of the information about the proposed reform is quite detailed and you will need to read it carefully, so you can meaningfully respond to the following questions.

The AEMC's proposed reforms to address solar overload and enable the growth of solar in Australia.

What is being proposed?

The AEMC is proposing a suite of changes to require network operators to make investments to upgrade the electricity grid. The specific changes to Australia's electricity rules, include:

1. *New rules and regulations for electricity network companies to ensure that their solar customers can reliably export solar energy when they expect to do so.*
2. *Retailers changing solar feed-in tariffs so solar customers could earn more money by exporting electricity at times when their solar energy is most needed.*
3. *Retailers changing solar feed-in tariffs so solar customers could earn less money if they export electricity at times when the network is already overloaded).*

What impact will it have on solar and non-solar customers?

The financial benefit or impact for both solar and non-solar customers will depend on many factors, including where they live in, the size of their solar PV system, and whether they can change how they use and export solar energy.

On average, the AEMC predicts the following changes from its proposed solar reforms:

1. *Non-solar customers (currently around 75% of all customers) would see their electricity bills fall because they would be contributing less to the cost of providing solar export services.*
2. *On average, solar customers who do not change how much or when they export could have their export earnings reduced by about 5-10%. The benefits they get from using their own solar power would remain unchanged.*
3. *Some solar customers (e.g. those with batteries) could earn more than now because they can store their energy and use it themselves or export it when it is needed most.*

Importantly, these changes will not increase the profits of network companies (since network revenue is set by the energy regulator).

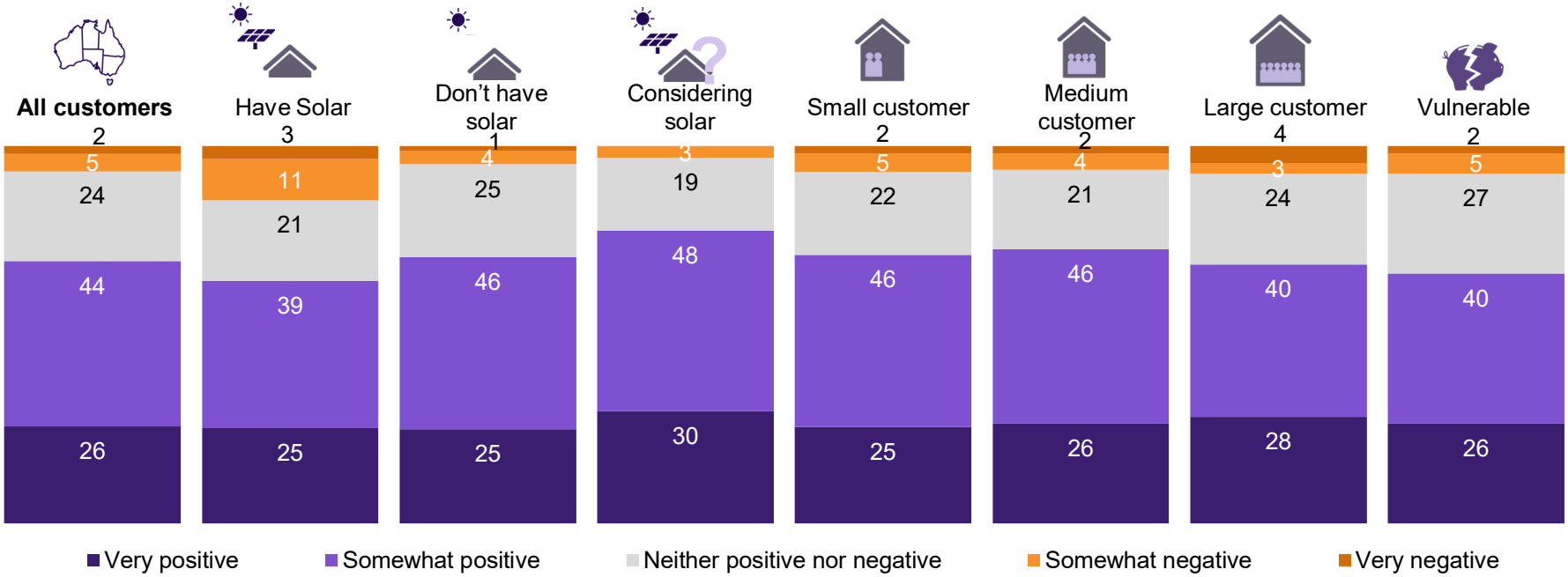
The revenue raised from exports tariff will be used to upgrade the electricity network to support the growth of energy exports from solar, batteries and electric vehicles.

The proposed changes are part of the AEMC's long-term plan. Any changes in network pricing would need to be approved by the Government regulator. New solar pricing options, reflecting the changes, would not be implemented until 1 July 2024 at the earliest.

SENTIMENT TOWARDS THE AEMC REFORMS

Over two thirds (69%) feel positive about the proposed reforms to enable the growth of solar in Australia with only 7% negative about it. Support is consistent across key segments with highest support amongst those considering solar panels (78%) and medium customers (73%).

Attitudes to AEMC reforms (%)



Groups more likely to feel positive (%)	Customer segments more likely to feel negative (%)
Those working (74%) compared to 62% of those unemployed.	Feel negative about the growth of rooftop solar (49%) compared to 5% who do not.
Those renting (74%) compared to 63% who own their home outright.	Live in a free-standing house (8%) compared to 4% for those living in apartments
Household income of $60K or more (75%) compared to those earning less (66%).	Retired (11%) compared to those working (6%)
Those considering solar (78%) compared to 64% who have solar.	Already have solar (14%) compared to (5%) who don't

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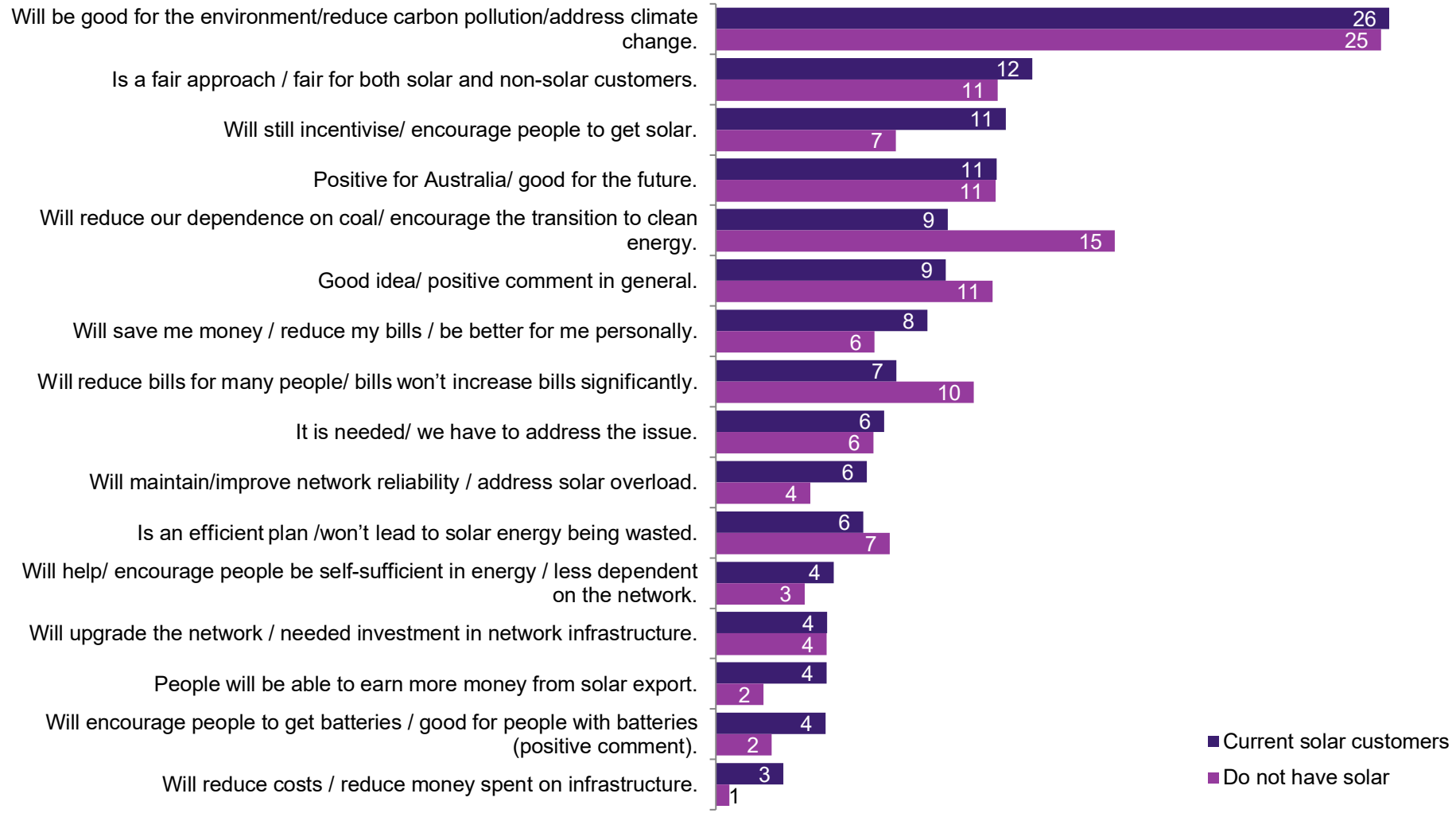
Q10. Overall, how do you feel about the proposed reforms to enable the growth of solar in Australia? // Base: All main sample participants (n=1,205), Those who have home solar PV panels (n=1,114).

REASONS FOR FEELING POSITIVE ABOUT THE REFORMS

Those feeling positive about the reform mostly spoke of environmental benefits (26% of positive solar customers mentioned this), that it is fair for both solar (12%) and non-solar customers (11%) and that it will incentivise people to get solar (11%).

Positive reasons (% of coded themes <u>amongst those feeling positive</u>)



Q11. Why do you feel (insert response from Q10) about the proposed reforms to enable the growth of solar in Australia? Please be as specific as possible in your response. // Base: Those who rated NET positive and have home solar PV panels (n=691) and those who do not (n=653).

REASONS FOR FEELING POSITIVE

In the words of the majority who feel positive…

"The changes should assist with times when less is being produced by solar and minimise the need for more and larger power stations."

"It will reform the electricity industry and possibly make electricity cheaper in the future."

"I think overall it will benefit most Australians, allow for an income stream for some and is better for the environment."

"it sounds like good value for most people and is another step towards reducing carbon emissions."

"Australia has the highest solar radiation of any other continent... i.e. some of the best solar energy in the world. Solar power is pollution free, no greenhouse gases and reduces dependence on foreign oil & fossil fuels. Clean power available everyday of the year, even on cloudy days. Return on investments, unlike paying power bills."

"It gives certainty to solar providers and the electricity network for the future and encourages people to think about what they want to do & work out what is best for them."

"I have solar with a tesla battery to store power created from the solar panels. The potential to earn more money by exporting to the grid at their times of need is something that creates positivity towards the change. The key is that it depends on how much the potential earnings would be and if it was worthwhile for me."

"The overload issue has been coming for a long time and needs to be addressed before the system is frequently overloaded and customers have blackouts. it is true that the current situation favours those who can afford solar and is subsidised by those who cannot."

"Can see the benefits and reasons but it does impact on solar owner in a money sense; not that this is the most important reason to have solar."

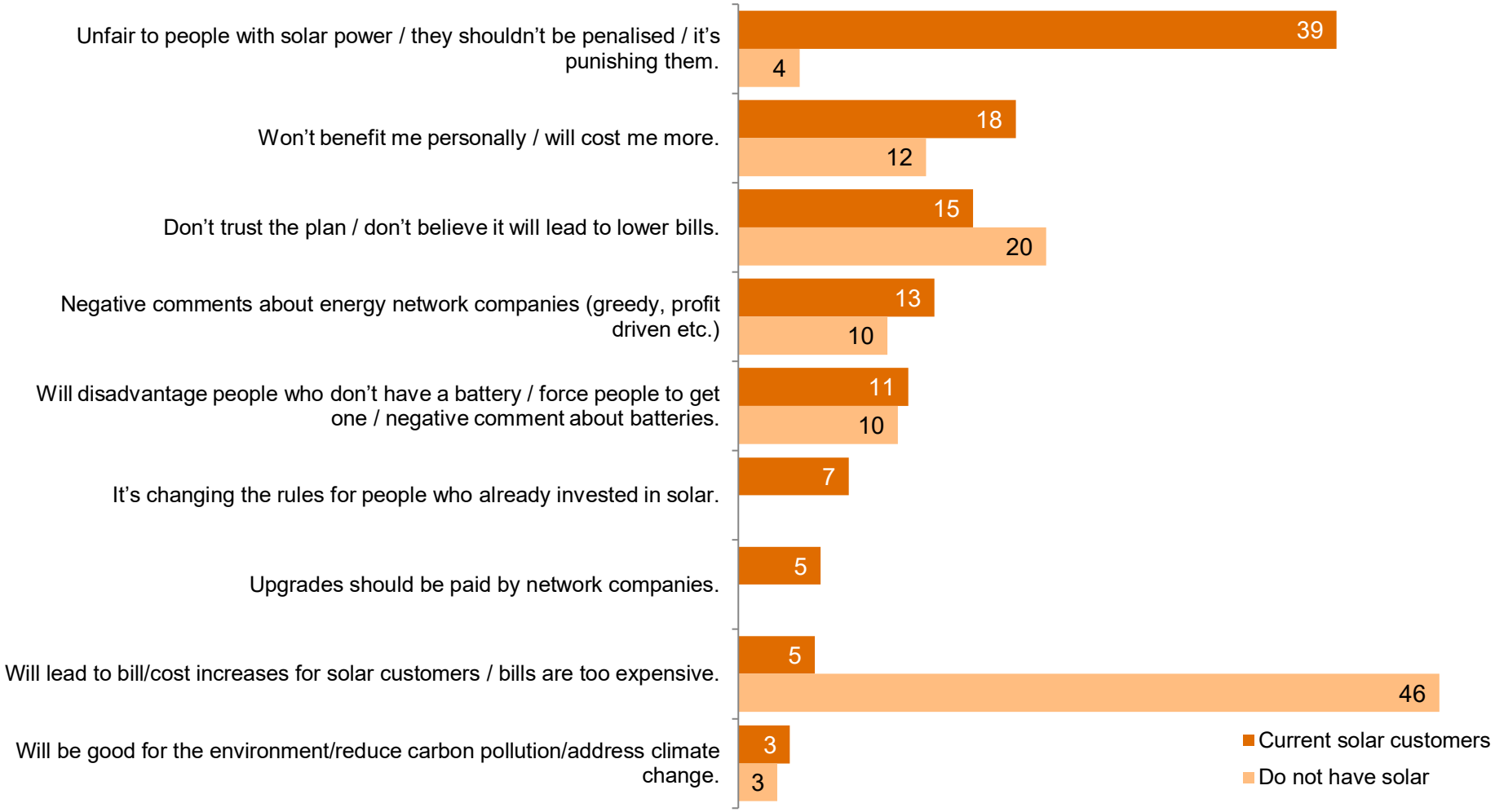
"It makes the whole system more stable and better for the environment."

Q11. Why do you feel (insert response from Q10) about the proposed reforms to enable the growth of solar in Australia? Please be as specific as possible in your response. // Base: Those who rated NET positive and have home solar PV panels (n=691) and those who do not (n=653).

REASONS FOR FEELING NEGATIVE ABOUT THE REFORMS

The minority of people feeling negative toward the proposal mostly mentioned that it unfairly penalised those who have solar (39% of negative solar customers mentioned that, while others spoke of bill increases and broader distrust of the plan).

Negative reasons (% of coded themes amongst those feeling negative)



Q11. Why do you feel (insert response from Q10) about the proposed reforms to enable the growth of solar in Australia? Please be as specific as possible in your response. // Base: Those who rated NET negative and have home solar PV panels (n=169) and those who do not (n=44).

REASONS FOR FEELING NEGATIVE

In the words of the minority who feel negative…

"They want you to put in solar panels and give you incentives to do so, now they are saying there is a problem, and we are going to lose the benefits that we signed up for."

"They will be changing established contracts and forcing customers to limit their feed in kW input."

"We've only recently gotten solar. We wouldn't be very happy if our potential savings were minimised a lot."

"Initially lots of promises were made for households to get solar installed in order to benefit /lower emissions, but now the legislators want to penalise people for doing the right thing by charging them."

"The energy companies campaigned for customers to get solar systems. Now they want these same people to pay for the infrastructure that is not suitable for the amount of solar energy produced. They (Energy companies) should have been aware of this fact before and made suitable improvements in a gradual way that would have negated this situation. They can't have it both ways. They should have done the maintenance that was required instead of giving out free light bulbs."

"I purchased my solar system with a long-term contract with high feed in tariffs to compensate for the expensive outlay of the system when solar panels were rare. I would expect this tariff to be maintained for the remainder of the period. then it can change as I would purchase a new system with a battery."

"The electricity companies should pay for the upgrades; the taxpayers have already paid for the infrastructure before it was privatized. It's their time to make long term investments , just like mining companies etc."

"I don't trust the energy companies and feel any changes would benefit them and not us the consumer."

"It seems this penalises people who currently have solar systems without batteries, which would be the majority."

"This issue should have been resolved before installing rooftop solar was encouraged."

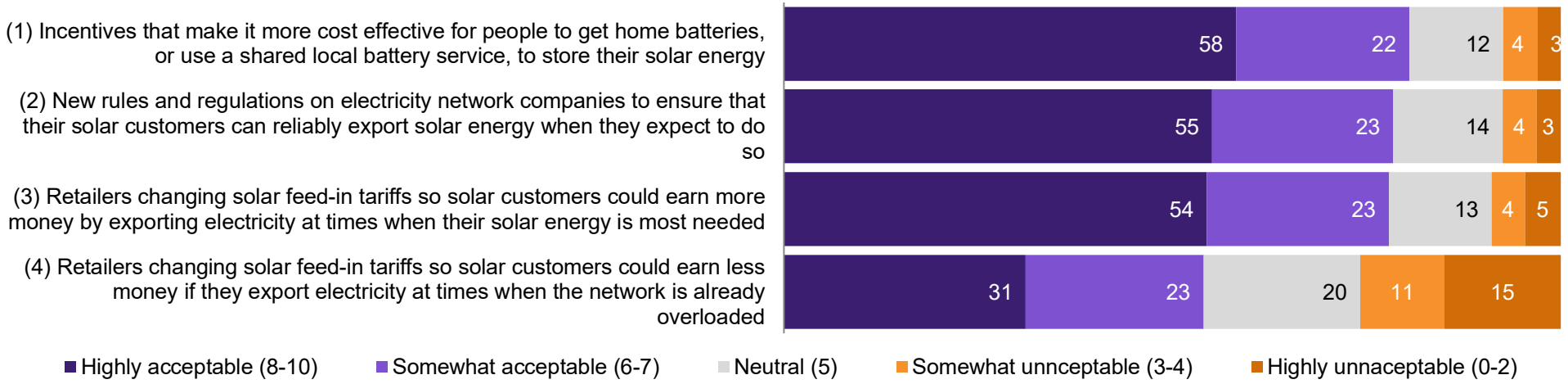
"Yet another rip-off. Customers were encouraged to buy solar panels and are now expected to pay even more."

Q11. Why do you feel (insert response from Q10) about the proposed reforms to enable the growth of solar in Australia? Please be as specific as possible in your response. // Base: Those who rated NET negative and have home solar PV panels (n=169) and those who do not (n=44).

ACCEPTABILITY OF ASPECTS OF THE REFORM PACKAGE

The majority of participants consider all aspect of the reform package acceptable. The potential for solar customers to earn less is the most contentious of the four aspects although 54% still find this acceptable compared to 26% who do not.

Acceptability of specific aspects (%)



% acceptable vs % unacceptable	All customers	Have solar	Don't have solar	Considering solar	Small customer	Medium customer	Large customer	Vulnerable	Know a lot or a moderate amount about tariffs
Aspect 1	**81 : 7**	83 : 7	80 : 7	84 : 7	83 : 6	82 : 8	77 : 6	78 : 8	84 : 8
Aspect 2	**78 : 7**	83 : 7	77 : 7	82 : 8	81 : 6	80 : 8	74 : 15	77 : 9	83 : 12
Aspect 3	**78 : 9**	81 : 9	78 : 8	83 : 6	79 : 8	82 : 7	69 : 19	73 : 12	82 : 10
Aspect 4	**54 : 26**	46 : 37	56 : 23	64 : 19	51 : 28	59 : 23	52 : 32	47 : 31	62 : 27

Q12. How acceptable are the following parts of the proposed solar reforms to you? // Base: All main sample participants (n=1,205), Those who have home solar PV panels (n=1,114).

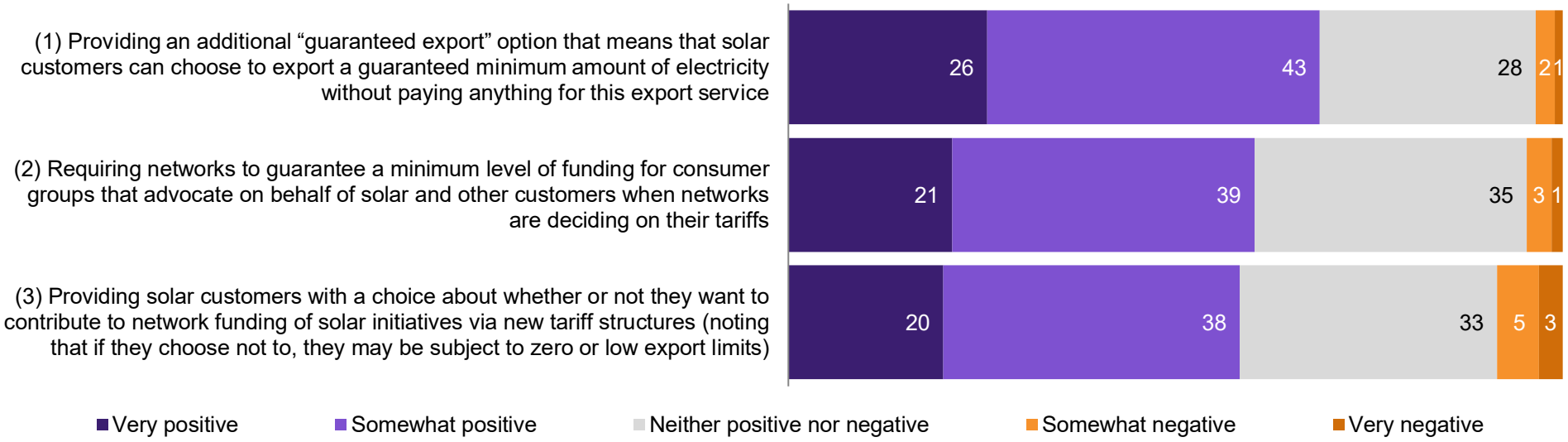
ATTITUDES TO POTENTIAL REFORM AMENDMENTS

NEWGATE RESEARCH

ATTITUDES TO POTENTIAL ADDITIONS TO THE REFORMS

There is strong support for reforms that involve providing an additional guaranteed export option (69% +ve and 3% -ve), guaranteeing funding for consumer groups (60% +ve and 5% -ve) and providing customer choice around contributions to network funding (58% +ve and 8% -ve).

Attitudes to additions (%)



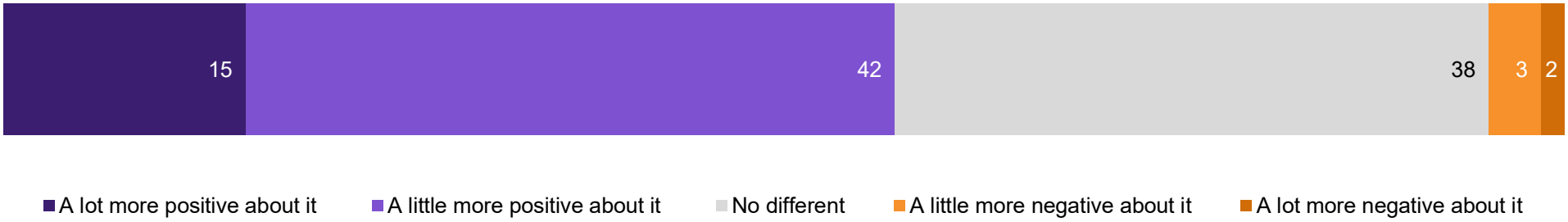
Positive vs Negative	All customers	Have solar	Don't have solar	Considering solar	Small customer	Medium customer	Large customer	Vulnerable	Know a lot or a moderate amount about solar tariffs
Addition 1	**69 : 3**	72 : 4	68 : 3	77 : 1	72 : 3	71 : 4	66 : 4	66 : 4	72 : 5
Addition 2	**60 : 5**	65 : 4	59 : 5	68 : 5	62 : 5	62 : 5	64 : 4	58 : 7	71 : 4
Addition 3	**58 : 8**	53 : 17	59 : 6	66 : 7	57 : 11	63 : 6	60 : 12	49 : 9	66 : 12

Q13. The following are some potential additions to the solar reform package that are being proposed by some consumer groups. How do you feel about these additions? // Base: All main sample participants (n=1,205), Those who have home solar PV panels (n=1,114).

IMPACTS OF AMENDMENTS TO ATTITUDES TO THE REFORMS

Adding the three proposed amendments would have a significant impact on attitudes to the reform package. Over half (57%) say they would make them feel more positive about the reforms whereas only 5% would feel more negative about it and 38% would be unchanged.

Impact of amendments on attitudes to the reform package (%)



%	**All customers**	Have solar	Don't have solar	Considering solar	Small customer	Medium customer	Large customer	Vulnerable	Know a lot or a moderate amount about solar tariffs
More positive	**57**	57	57	67	57	61	58	51	67
No different	**38**	33	39	28	37	34	38	44	26
More negative	**5**	10	4	5	5	5	4	4	7

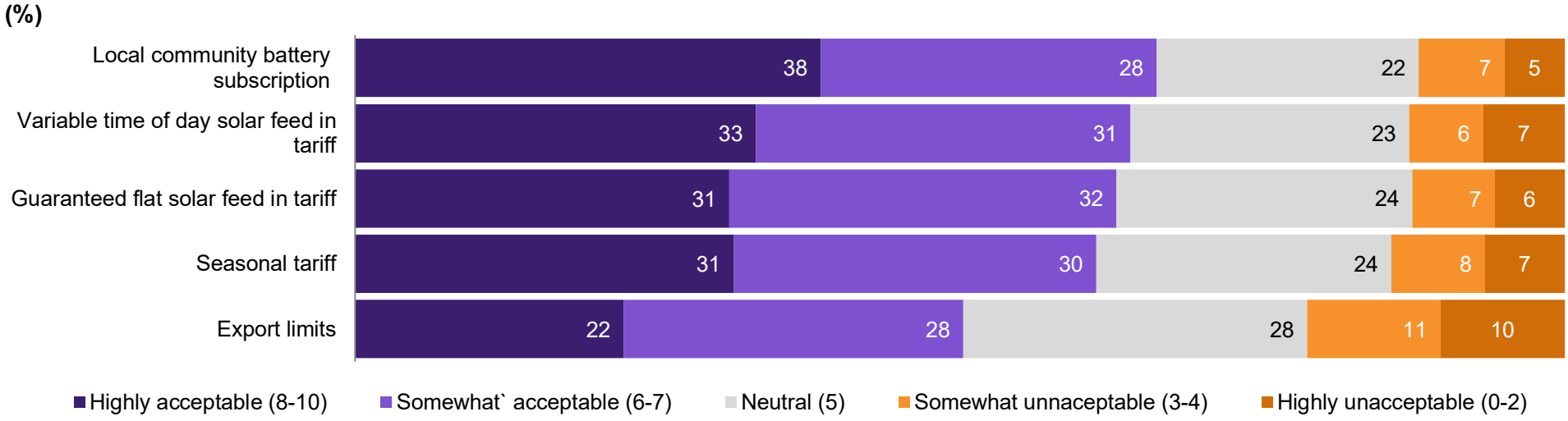
Q14. Would adding the following three amendments change how you feel about the overall reform package to enable the growth of solar energy? // Base: All main sample participants (n=1,205), Those who have home solar PV panels (n=1,114).

REACTIONS TO RETAIL TARIFF OPTIONS

NEWGATE RESEARCH

ACCEPTABILITY OF POTENTIAL TARIFF OPTIONS – OVERALL

A local community battery subscription was most acceptable with “export limits” being the least acceptable of the four retail tariff options tested.



Guaranteed flat solar feed in tariff: Solar customers are guaranteed they can export as much as they want at any time at a flat rate (in our example the typical customer would earn 4 c/kWh, which is 1 c/kWh less than their current tariff)

Variable time of day solar feed in tariff: Our typical customer earns:

- 3c/kWh for exporting between 10am-2pm
- 7c/kWh between 5 and 8pm
- 5c/kW at other times

Seasonal tariff: Our typical customer earns:

- 1c/kWh for 2-hours per day in autumn and spring (in the middle of the day when there is an excess of energy)
- 9c/kWh in summer afternoons and winter evenings (when energy is in high demand)
- 5c/kW at other times

Local community battery subscription – Instead of buying their own battery (typically costing around $10,000), a customer can pay on average $30 per month to use a shared battery in their local community. For this, they will be able to export all the energy they generate in a day (up to say 10kWh) and then import the same amount of electricity again whenever they need it (e.g., at night when they no longer generate electricity).

Export limits – Our average customer is guaranteed to earn 5 c/kWh for exporting up to say 3kWh everyday but is not able to export any more than that (noting that this is the situation for many solar customers today).

Q15. Please let us know how acceptable the following tariff option is from your perspective? (for our average customer currently earning 5c kWh)? // Base: All main sample participants (n=1,205).

ACCEPTABILITY OF TARRIFS - SEGMENT BREAKDOWNS

As with other segments, solar customers and considerers found the local community battery subscription most acceptable.

% Acceptable vs Unacceptable	All customers	Have solar	Don't have solar	Considering solar	Small customer	Medium customer	Large customer	Vulnerable	Know a lot or a moderate amount about solar tariffs
Local community battery subscription	**66 : 12**	64 : 18	66 : 12	73 : 10	67 : 10	69 : 12	66 : 16	59 : 15	74 : 11
Variable time of day solar feed in tariff	**64 : 13**	52 : 29	66 : 9	73 : 9	63 : 14	69 : 10	59 : 18	57 : 15	66 : 19
Guaranteed flat solar feed in tariff	**63 : 13**	56 : 24	64 : 10	71 : 10	63 : 13	65 : 12	64 : 13	56 : 15	67 : 19
Seasonal tariff	**61 : 14**	54 : 27	62 : 12	70 : 11	61 : 14	65 : 13	60 : 21	52 : 17	66 : 18
Export limits	**50 : 21**	43 : 37	52 : 18	60 : 17	48 : 23	54 : 19	56 : 23	39 : 22	57 : 25

Q15. Please let us know how acceptable the following tariff option is from your perspective? (for our average customer currently earning 5c kWh)? // Base: All main sample participants (n=1,205), Those who have home solar PV panels (n=1,114).

QUALITATIVE FEEDBACK ON TARIFF OPTIONS

Preference for specific tariff options depended on people's own situation and their level of understanding and sophistication.

01

Detailed tariff information received mix reactions

- For some, the more they thought about the detail (e.g. tariff structures) the more confused they got and the more questions it raised in their mind. However, for others the actual tariffs calmed the situation somewhat, when they realised that the changes were not dramatic, that there was a possibility to actually earn more and that there was also a simple fixed option that could be offered.

02

Tariff preferences tended to fall into two camps

- Guaranteed flat tariff - for many this was the simplest version to understand, with the word guaranteed offering a level of reassurance. However some did ask if this option would address the issue of solar overload on the grid.
- Variable and Seasonal tariffs – appealed to the more savvy people as there are willing to look at the more complex tariff structures to try to optimise FiT returns. The variable tariff option also appealed to those who knew they would be home during the day to optimise energy use and those who had a battery.

03

Local community battery had broad appeal, but people did have questions

- Community batteries, when understood, are seen as a smart option for many reasons. However, it needs to be made clear that this is an alternative to having a home battery and ideally the cost needs to be contextualised with the cost of buying one's own home battery e.g. $30 a month versus typical outlay for a battery
- People did have specific questions about how the import back would work e.g. if they didn't import it all back who would have access (with some willing to share) and what would happen if they went on holiday.

04

Peak export surcharge was disliked as an option

- Qualitatively, people pushed back on the idea of being cut off from exporting solar, as a consequence no one selected it as their first preference.

APPENDIX

SURVEY MAIN SAMPLE COMPOSITION (EXCLUDING SOLAR BOOST)

	Weighted %	Actual n
Region		
Metro	72	861
Regional	28	344
Gender		
Male	49	577
Female	51	628
Age		
18-34	30	358
35-44	16	192
45-54	18	220
55-64	13	162
65+	22	273
Quarterly bill size (reported by participants)*		
Small ($0-$299)	43	512
Medium ($300-$699)	43	512
Large ($700+)	7	96
Employment status		
Working full time	40	475
Working part time / casually	18	215
Retired	23	279
Student	2	28
Unemployed	7	88
Home duties	8	96

Bill size ($)	Have solar %	Don't have solar %
0-299	50	41
299-699	35	45
700+	8	7

	Weighted %	Actual n
Household income		
Less than $20,000	4	57
$20,000 to $59,999	35	428
$60,000 to $99,999	23	269
$100,000 to $149,999	19	221
Over $150,000	11	125
Number of people in household		
1	23	275
2	35	430
3	20	241
4	15	172
5	5	59
More than 5	2	28
Home ownership		
Renting	33	400
Own outright	34	412
Own with a mortgage	31	369
House type		
A freestanding detached house	65	797
A semi-detached house, terrace house or town house	16	191
A low-rise apartment building	12	141
A high-rise apartment building (over 4 levels)	5	50
Other	2	26
Vulnerability		
Categorised as highly vulnerable	18	231
Non vulnerable	82	974

SURVEY MAIN SAMPLE COMPOSITION

	Weighted %	Actual n
Do any of the following apply to you		
A single parent of a child aged 18 or under	10	126
Receive a disability pension	10	125
Receive an aged pension	17	211
Have missed or been late in paying any electricity bills in the last 12 months	12	150
I prefer to speak a language other than English at home or with close family members	14	163
I identify as Aboriginal or Torres Strait Islander	4	47

SEGMENT DEFINITIONS

Research results were typically analysed at an overall level and amongst the following key customer segments.

Solar uptake:

- Those who have rooftop PV solar
- Those who are considering solar
- Those who do not have solar

Customer bill size (with quarterly total bills as follows)

- Small = $0 - $349
- Medium = $350 - $699
- Large = $700+

Vulnerable customers

To define vulnerable customers, we used several variables that take into account self-reported financial hardship, objective metrics of financial vulnerability, and potential risk factors. Around one in seven of the sample (15%) qualified for our definition of 'vulnerable customers' as shown on the right.

To be considered "vulnerable" participants indicated they are "Having a lot of difficulty paying bills and covering basic living expenses"

OR

- Are a single parent of a child aged under 18
- Receive the disability pension
- Receive the aged pension
- Have missed or been late in paying electricity bills in the last 12 months
- Speak a language other than English at home
- Identify as Aboriginal or Torres Strait Islander

AND

Describe the current financial situation of themselves and their immediate family they live with as:

- Doing ok and making ends meet; or
- Having some difficulty but just making ends meet

AND

- Have a household income from all sources before tax of less than $40,000.

Thank you

We look forward to discussing this project in more detail with you. If you have any questions please don't hesitate to get in contact with us.

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