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Customer and Stakeholder Engagement for the 2024-29 Regulatory Proposal – Phase 2

Research report prepared for
Essential Energy

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Woolcott Research and Engagement is an Australian privately owned research and engagement agency that provide professional, independent and timely market research and engagement services. Our professional staff arrange, undertake and publish commissioned research and community engagement projects for industry, corporations, governments, integration agencies and individuals.

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1. Executive Summary

This report summarises the findings from Phase 2 of Essential Energy's customer and stakeholder engagement program for the 2024-29 Regulatory Proposal.

The engagement program as a whole consists of four phases with a range of connected customers, business partners and stakeholders and utilises a variety of methods across the IAP2 engagement spectrum.

The engagement program for Phase 2 consisted of the following components:

- Virtual drop in website containing information and videos about the issues to be covered for Phase 2

- Ten deliberative forums with residents and small to medium businesses across the Essential Energy network area – five on reliability/resilience and five on pricing

- One group discussion with young people (16-18 year olds)

- Six in-depth interviews with Aboriginal and Torres Strait Islander customers (ATSI)

- Six in-depth interviews with culturally and linguistically diverse customers who speak a language other than English at home (CALD)

- Six in-depth interviews with large business/commercial and industrial customers (C&Is)

- Three in-depth interviews with retailers and two with aggregators

- One in-depth interview with a critical infrastructure provider

- One group session with renewable developers

- One group session with new technology providers

- One group session with Local Councils

- One group session with consumer and industry advocates

- Stakeholder and Pricing Collaboration Collective meetings

- Survey with 606 residential and 201 small/med business customers (the findings from this are presented in a separate report)

All of the components were conducted online or by phone due to the COVID-19 pandemic.

In total, 1278 individual customers took part in the Phase 2 engagement (residential and small, medium and large business/C&I customers) along with 43 business partners (renewable developers, new technology providers, retailers, Councils) and stakeholders (consumer and industry advocates, Stakeholder Collaboration Collective and Pricing Collaboration Collective).

It should be noted that the recruitment of retailers, aggregators and critical infrastructure providers was difficult, due to some engagement fatigue, difficulty finding and getting in contact with the with the relevant

person and some stating that they were not willing to participate in discussions on behalf of their members or the government.

In most of the sessions, questions and discussions were related to:

1. The revised customer priorities

2. Reliability and power quality

3. Resilience

4. Consumption pricing

5. Two-way pricing

1.1 Engagement Findings

1.1.1 Customer priorities

The list of priorities was finalised with participants during Phase 2, with almost all agreeing with them without further changes in the second forums (94%). Participants were then asked to rank the final list in order of importance with the order below emerging.

Figure 1: Diagram of ranking of priorities

Affordability was particularly important for financially vulnerable, CALD and ATSI participants, as well as transparency and simplicity (understanding the complexity of electricity). This was backed up by consumer advocates who stated that making things easy to understand for vulnerable people was key to ensuring that they could manage their energy usage for the lowest cost. It will require close collaboration with retailers. Affordability, customer service and reliability were crucial for C&I customers.

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Business partners and stakeholders also agreed with the co-developed priorities.

Councils found resilience particularly important for the communities who have been affected by bushfires and floods.

New technology providers highlighted the importance of 'control' in the future, particularly for those who invest in solar and batteries, as they often do so to grasp *control* of their energy future. However, to make the system work in the future a significant amount of control will have to be given up to Essential Energy and the question will be how consumers will feel about that. Advocates stressed that customers should understand that they can choose when and how they use electricity but the price they pay will reflect those choices.

Renewable developers were focussed on resilience and future focussed as their main priorities.

1.1.2 Reliability

Customers rated their level of reliability high with 93% giving a rating of 7-10 out of 10 with 66% giving a 9-10. Those in the Southern region rated their electricity supply as more reliable – 83% gave a rating of 9-10 compared to 59% in the Northern region and 58% in the North Coast region. Those without solar were more likely to state that their supply was more reliable with 70% giving it a rating of 9-10 compared to 52% of those with solar.

Following on, customers were asked if they wanted the level of reliability to be improved (at slightly higher cost), lowered (at slightly lower cost) or maintained for the same cost. Since most were happy with their level of reliability most wanted Essential Energy to maintain the current level (87%).

For those customers experiencing very poor reliability, the vast majority of participants were willing to continue to pay 10c per quarter to carry on improving the reliability for these worst served customers (91%).

They were then asked about their experience of unplanned outages and what communication they would value throughout such power interruptions. Generally, although annoying, an outage of under 2-3 hours was thought to be manageable, unless there is a medical need for supply. Impact was thought to be greater depending on:

- Time of day (worse in the evening when there is generally higher consumption as opposed to daytime/nighttime)

- Time of year/climate (worse in hot or cold conditions – particularly hot when cooling is required)

- Whether they work from home or run a business

- Whether they rely on electricity for water supply

Although shorter outages were not thought to have a huge impact on most customers, communication is thought to be very important throughout the outage to:

- Keep people informed

- Show customers that the problem is known about, being investigated and worked on

- Prevent customers from having to try to find out information themselves

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- Help them make decisions/prevent further impacts (particularly business owners)

Overall, participants wanted Essential Energy to provide communication at critical stages during an unplanned outage. The vast majority wanted to receive a text message at the beginning of the outage that acknowledged that Essential Energy knew about it (89%), then an estimated time to restore power (91%) and any updates to the estimate if required (88%). Of lesser importance was to receive a text to confirm when power is restored (55%).

1.1.3 Power Quality

Most participants rated their level of power quality as high - 91% gave a rating of 7-10 with 69% giving a 9-10.

The Southern region tended to give a higher rating with 80% giving a 9-10, compared to 59% in the Northern and 69% in the North Coast regions. Fifty per cent (50%) stated that they had not been impacted by power quality issues in the last 12 months.

Those who had been impacted tended to experience flickering lights and/or brownouts (34% and 31% respectively). Both of these experiences were more common amongst those in the Northern region (both 42%). Around one in six participants also experienced damage to their appliances or equipment. Incidence of exports being turned off or participants being declined to have solar panels connected to the network was extremely rare.

Information was then provided on the possible methods and options for investment to improve power quality and prevent further issues from occurring in the future. The methods of real time network monitoring with use of dynamic network assets were well received, particularly as the costs were seen to be quite acceptable. Two thirds of participants favoured the highest level of investment (Option 4) with most of the rest preferring the second highest level (Option 3). Option 4 was preferred mainly because of the perceived value for the cost and it was felt to be a longer term preventative strategy rather than a quick fix or 'band aid' solution. However, some were more cautious about how quickly we need to reach Option 4 so preferred Option 3.

Options 3 and 4 were also supported by business partners and stakeholders. Option 4 was believed to be the best long-term response but the question was thought to be how quickly we should aim to move to it, the 2024-29 period or the following one.

1.1.4 Resilience

Customers reported that outages that last for longer than 12 hours and cover widespread areas impact them in a much more substantial way than 'normal' outages, and the impacts compound as time goes on and the more widespread the outage is. These outages are even more severe for businesses than residents.

Lack of communications during such an outage were a real concern, and they were thought to be particularly problematic for those who rely on electricity for their water supply, the elderly and more vulnerable community members.

Organisational roles during an outage were seen to be quite clearly defined:

- Essential Energy's role was seen to be to fix the outage, communicate about progress and provide an estimated time to restore power. Also ensuring those with a medical need are provided for.

- The Community's role was thought to be checking in with, and assisting, those who are likely to be most impacted, such as the elderly or those with medical conditions.

- The State and Local government role was to provide community shelter, food and spaces to go, financial relief and to coordinate services for the community.

- The role of the emergency services was seen to be keeping the community safe and coordinating with other agencies to ensure the things that need to be done are happening.

Participants in the engagement were then presented with methods that Essential Energy could use to increase resilience - either by assisting the community or strengthening the network. Overall, methods to strengthen the network such as real time network monitoring, SAPS/microgrids and batteries, composite poles and undergrounding were favoured over those to assist the community with just over half supporting Essential Energy increasing resilience through strengthening the network compared to 9% supporting Essential Energy assisting communities. Two in five wanted to see an equal focus on both.

A range of investment options were presented to participants in the engagement – from continuing in the current way where costs are passed through to customers if/when an extreme event occurs through to focusing on implementing methods to improve resilience in a substantial way.

There were relatively equal numbers of participants in the forums who preferred Options 3 and 4. Many saw Option 3 as a stepping stone to Option 4, giving Essential Energy the opportunity to 'test the initiatives' before investing larger sums of money in infrastructure. Some participants questioned whether moving to Option 4 was perhaps going too far and investing in assets and initiatives that were unnecessary. Ultimately it was suggested that a 3.5 option may be more appropriate, that offered slightly better outcomes than Option 3, but was not as costly as Option 4.

On the whole business partners and stakeholders agreed with customers that action is required and thought that Option 3 is probably the most appropriate at this time.

Participants were also asked whether they thought the network should be turned off on extreme fire risk days in high-risk areas. This was thought to be an extreme solution, and quite poorly understood, so there were very mixed responses to it with 42% supportive, 31% against and 20% neither.

1.1.5 Consumption Pricing

The majority of participants preferred the concept of postage stamp rather than location pricing with three quarters stating that they were unsupportive of pricing varying across locations. Locational was seen to disadvantage those living in rural and remote areas which was thought to be unfair as people often don't have a choice about where they live. It was also felt that these areas are often disadvantaged anyway.

Seasonal pricing was also not well supported with just under two thirds stating that they did not support this. It was believed that it could be confusing to change pricing across seasons and could mean that older people or those on low incomes may jeopardise their health by not using electricity when prices are higher in summer and winter when it is really needed on really hot or cold days.

Participants were asked whether they would be willing to have some of their appliances controlled (e.g. air conditioning being turned down or dedicated hours for electric vehicle charging) in return for cheaper network charges. As a concept this was not well received by most, with 58% stating they would be unwilling as they would like to use their appliances when and how they want to. However, 28% did say they would be willing to consider this depending on the appliance and how it would be controlled. If the impact on customer lifestyle and choice is low then there is a greater likelihood of acceptance.

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There was support for Essential Energy offering more cost reflective tariffs such as time of use and demand charges as it was understood that they better reflect what it costs to supply electricity and that they will help support the electricity system in the future with the uptake of more solar and EVs. However, there were concerns about customers understanding them and being able to react to price signals. Therefore there was a strong belief that customers should be offered a choice of tariffs, i.e. being able to choose the one that suits them best (albeit through their retailer).

1.1.6 Two-way Pricing

The initial response to two-way pricing by many residential customers was quite negative, for the following reasons:

- It is seen to discourage solar uptake so is going against the vision for the future.

- It is seen to go against the government and societal push towards a greater use of renewable energy.

- It is seen as 'penalising' those who have invested to 'do the right thing' to help the environment and benefit everyone. Solar generation should be valued so those customers who are able to help generate 'green' energy should be rewarded.

- People invested in solar based on calculations done at the time so any changes to feed in tariffs changes this ('moving the goal posts').

- Many in the country with solar are not well off and originally invested in solar to reduce their bills.

- The amount that non-solar customers save under two-way pricing is seen as insignificant.

- Two-way pricing only really benefits those with a battery (or Electric Vehicle), i.e. currently the very wealthy.

By the end of the forum there was some acceptance that two-way pricing would solve some of the issues associated with integrating new technologies and renewables (total: 56%, solar: 43%, non-solar 61%) and would improve fairness (total: 62%, solar: 53%, non-solar 65%).

There was also some positivity towards the idea of Essential Energy turning their exports up or down for a reward. This should be explored further in future engagement.

However, stakeholders were more supportive of two-way pricing as they understood that it will allow more exporting technologies to connect to the network and will open up access to new markets. They also thought it would be a fairer way to distribute network costs and could encourage new solar customers to install systems that better suit their own consumption needs.

In order for two-way pricing to be fully accepted there would need to be a culture shift in the way that household solar generation is viewed by the community (i.e. adoption of solar is for household level needs rather than for broader society level generation).

1.1.7 Transition to Two-way Pricing

There were very mixed views about what the level of free export should be if two-way pricing is introduced. This will require further exploration with more time and information provided.

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Most participants preferred the application of two-way pricing in a postage stamp manner rather than locational (69% compared to 21%).

Around three quarters believed that it should be brought in on an opt in basis in 2024 and then brought in for all exporting customers in 2025 (60%).

Most business partners and stakeholders were also supportive of an opt in for two-way pricing however there was some disagreement about whether it should be locational and about the level of free exports (solar installers believed it should be higher whereas others thought lower). Locational two-way pricing was thought to be better for the network but harder for customers and retailers in terms of its complexity. Grandfathering was suggested by stakeholders as a way of transitioning that would be more palatable to customers.

1.2 Implications for Essential Energy and the Next Phase of Engagement

In general, options should be 'pulled apart' and built up for the regulatory proposal and evaluated in the context of the total bill impact. Some conclusions can be drawn from this phase that are outlined below.

Reliability

- Customers are generally happy with their current level of reliability under normal conditions and so investment to improve reliability of power supply in most areas is not supported at this time.

- However, there is support to continue to pay 10c a quarter on average to help improve reliability for Essential Energy's worst-served customers so this program should be continued.

Power quality

- Having power quality decline and exports limited in the future was not felt to be an acceptable scenario. Therefore there is a desire to invest to improve power quality for the future.

- In the next Phase options should be put to customers that are between 3 and 4 with increasing levels of real time monitoring and dynamic management, to test support for a faster or slower pace of change in the next regulatory period.

Resilience

- Customers, business partners and stakeholders have given a clear indication that some investment is required into building a more resilient network.

- Resilience options should be created and tested between options 3-4 to ensure that the preferred balance between methods such as composite poles, undergrounding, SAPS and microgrids is adopted in the next regulatory period.

- Phase 3 should explore how quickly the pace of change should occur and in which areas.

- Deeper deliberation is required of the concept of de-energising the network in high-risk areas during extreme weather to prevent bushfires. This should be explored further with customers in areas that may be impacted by such actions, along with what support may be available to them during these times.

Pricing

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- Similar to 5 years ago, there is little support for changes to how consumption charges are applied (locational or seasonal versus postage stamp).

- There is some support for encouraging customers to move to more cost-reflective tariffs although there is concern about the complexity of these. Education and communication will be key to ensuring customers understand any tariff options introduced.

- It will be important to ensure that there is a choice in tariff options and that they suit the diversity of customers – some will want more control whereas some will want to set and forget.

- Tariff structures should be designed with the future in mind so that they can be in place for a number of years (10-15 ideally) so people can get used to them.

- Some are open to having some of their appliances managed for a reward or rebate. If this is something that Essential Energy is interested in taking forward then more detail should be provided to customers so it can be explored further in future engagement.

- Due to its contentious nature, further engagement is required on two-way pricing – a 'Deep Dive' in Sydney is planned with a small group of customers.

2. Background and Objectives

2.1 Background

Essential Energy builds, operates and maintains one of Australia's largest electricity distribution networks, providing electricity to regional, rural and remote NSW, and parts of southern Queensland. It covers 95 percent of NSW that is 737,000 square kilometres with 183,612 km of powerlines.

As a government owned entity the business is regulated by the Australian Energy Regulator (AER), and every five years it must present a Proposal to the AER which outlines its investment plans, the costs to deliver those plans and the proposed prices that customers will pay. The Proposal for 2024-2029 is due to be submitted to the Australian Energy Regulator (AER) for review and approval in January 2023.

Essential Energy is committed to placing customers and stakeholders at the centre of everything it does. Therefore, in order to develop its proposal, the business has adopted a comprehensive engagement program to identify customers' needs and priorities.

Essential Energy's approach to engagement for the previous proposal (2019-24) received considerable praise from the AER and customer representative groups, as well as winning the Energy Networks Australia and Energy Consumer Australia (ECA) 2018 award for consumer engagement. In a constantly evolving environment, there is a desire to build on this and do even better for the next one.

Woolcott Research and Engagement, with the assistance of ERM (previously KJA) were commissioned to develop and conduct the customer and stakeholder engagement program for the 2024-29 proposal.

2.2 Engagement Program Objective and Goals

The objective of the engagement program is to ensure the views and expectations of Essential Energy's diverse customer base are accurately and meaningfully reflected in the business's 2024-29 Regulatory Proposal, such that it is capable of acceptance and approval by the AER.

The goals of the engagement program as a whole are:

- To identify and understand all issues that are important to customers.

- To involve customers in decisions that affect them.

- To understand their individual perspectives on matters relating to Essential Energy's business.

- To distill technical concepts from the electricity industry in a way that can be more easily understood by the general public.

Specifically, for the Phase 2 forums, groups and depths, the objectives were:

- To test the revised customer priorities -

    o whether they agree with the priorities that were amended from the findings of Phase 1,

    o whether they suggest any changes, and

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- o which they consider to be most important;

- To understand views and preferences in relation to reliability (for residents and SMBs)-

    - o how reliable they consider their electricity supply to be,

    - o preferences for the future level of reliability,

    - o the impacts of unplanned outages,

    - o communication preferences during unplanned outages, and

    - o whether they are happy to continue to pay to improve reliability for Essential Energy's worst served customers;

- To understand views and preferences in relation to power quality -

    - o to what extent they are impacted by power quality issues,

    - o reactions to possible methods and investment options for power quality issues

- To understand views and preferences in relation to resilience –

    - o impacts of extended outages resulting from major events

    - o impacts of the increased duration and the widespread nature of many extended outages

    - o expectations of the roles of Essential Energy, local and state government, emergency services, insurance companies and the community during extended outages

    - o reactions to possible methods and investment options for managing resilience

- To understand customer and stakeholder perceptions of equity and fairness in consumption tariffs, specifically

    - o level of support for locational pricing,

    - o level of support for seasonal pricing

    - o level of support for encouraging more cost reflective consumption tariffs

    - o whether customers should be offered a choice in tariffs

    - o willingness to allow appliances to be controlled in return for cheaper network charges

- To understand customer and stakeholder views on two-way pricing and how best to transition to this if it is introduced.

The desired outcomes of this phase were to gain a clear understanding of customers' expectations and priorities in relation to key service outcomes

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3. Engagement Program Design

3.1 Overview of the Engagement Program

The program involves four phases of engagement with a range of connected customers, business partners and stakeholders and utilises a variety of methods across the IAP2 engagement spectrum. The work adheres to The Research Society and International Association of Public Participation (IAP2) Core Values and Codes of Ethics. A summary of the program is outlined in the diagram below.

Figure 2: Engagement Program Outline
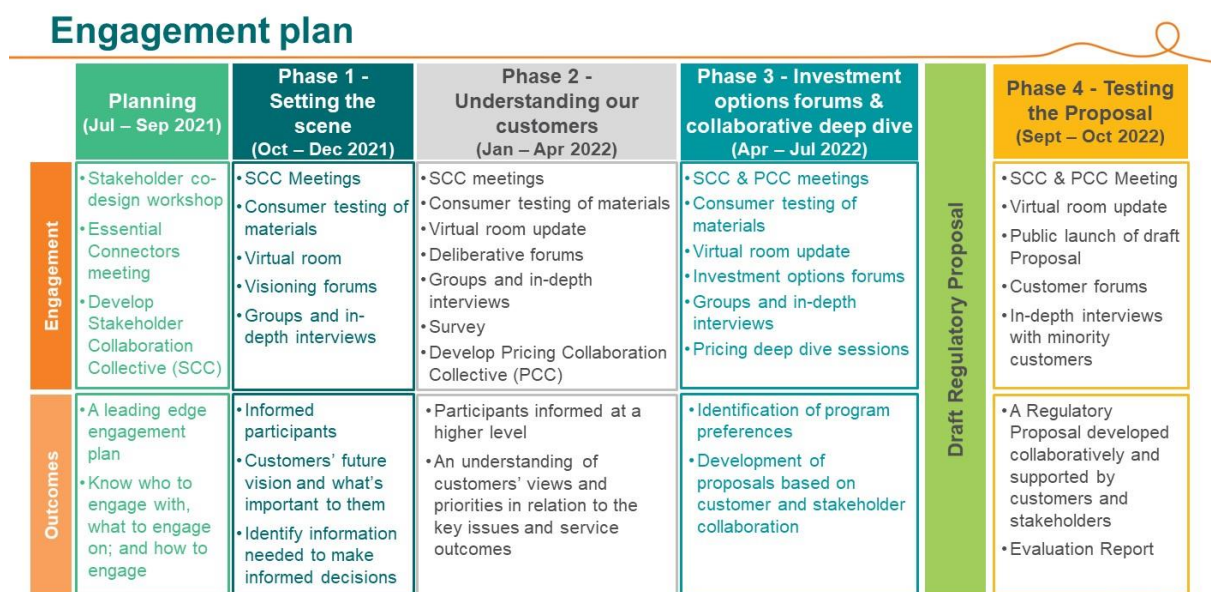
3.2 Phase 2

The engagement program for Phase 2 consisted of the following components:

3.2.1 Connected customers

- Virtual drop in website including online survey

- Ten deliberative forums with residents and small to medium businesses – five on reliability/resilience and five on pricing

- One group discussion with young people (16-18 year olds)

- Six in-depth interviews with Aboriginal and Torres Strait Islander customers (ATSI)

- Six in-depth interviews with culturally and linguistically diverse customers who speak a language other than English at home (CALD)

- Six in-depth interviews with large business/commercial and industrial customers (C&Is)

Phase 2 also involved a survey with 606 residential and 201 small/med business customers which included different topics. The findings from this are outlined in a separate report.

3.2.2 Business partners and stakeholders

- Three in-depth interviews with retailers and two with aggregators

- One in-depth interview with a critical infrastructure provider

- One group session with renewable developers

- One group session with new technology providers

- One group session with Local Councils

- One group session with consumer and industry advocates

- Stakeholder and Pricing Collaboration Collective meetings

The approach for each element is outlined below.

3.3 Connected Customers

3.3.1 Virtual drop in

The virtual drop in site was updated for Phase 2 with a summary of the findings from Phase 1 and further information on reliability and resilience and pricing. All forum participants were strongly encouraged to visit the site prior to attending, to undertake some pre-reading to ensure they were informed on the relevant topics.

The content can be viewed using the Virtual Room link at https://www.essentialenergy.com.au/ext/regulatory-proposal/

3.3.2 Deliberative forums

Ten deliberative forums were conducted with residents and small to medium businesses – known as 'small customers' by Essential Energy.

With the prevailing risks around Covid-19, the forums had to be conducted online utilising the Zoom platform. This allowed for the delivery of information in a larger group setting, as well as smaller group discussions in 'break-out rooms' that gave facilitators the ability to gather more in-depth feedback.

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Table 1: Locations and number of participants at the deliberative forums

Location	Participants
Ballina	58*
Broken Hill	45
Dubbo	79
Inverell	35
Taree	50
Wagga Wagga	87
Bega	48
TOTAL	402

* Ballina numbers were lower than planned as recent flooding meant many residents were displaced from the their homes

The forums consisted of a mix of presentations from Essential Energy executives, 'breakout' discussions and activities and polling sessions. There were 6-9 participants in each of the pre-assigned breakout rooms per forum. Each forum ran from 6:00 - 8.00pm.

For each forum Woolcott Research & Engagement provided a lead facilitator, Ian Woolcott (who chaired the sessions and managed the flow and timing), six to nine breakout room facilitators and two support staff members. Woolcott facilitators ensured that all issues were covered in the discussions and that everyone's views were heard and captured. They ensured that no one participant dominated the discussion in their breakout session and that everyone had a chance to have their say and provide feedback. They also probed into issues that arose within the discussion to ensure that sufficient detail was gained.

Polling was also included whereby participants were able to answer questions shown on screen, with results given in real time. A copy of the agenda used by the facilitators is in Appendix A.

Essential Energy executives attended to present information, observe the discussions throughout the sessions and to answer any questions that arose. John Cleland (CEO), Chantelle Bramley (General Manager Strategy, Regulation and Corporate Affairs), Luke Jenner (Executive Manager Engineering) and Justin Hillier (Chief Financial Officer) presented at the forums. Overall, there were 132 observers from Essential Energy and other stakeholder organisations across the ten forums, with 58 different Essential Energy staff members observing at least one, showing the high level of staff interest and engagement.

All the participants who took part in the Phase 1 forums were invited to attend Phase 2. Participants were recruited to reflect the demographics of the Essential Energy network area and each breakout room included a mix of demographics in terms of age, gender and solar/non-solar user status. The recruitment screener and

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information can be found at Appendix B. Participants were offered $250 to take part in both forums for Phase 2, in appreciation for their time and to cover any expenses incurred.

The table below shows the demographics of those who attended the forums. There was a good spread of ages, which was consistent across the regions. Slightly more females attended than males (56% and 44% respectively). Four percent of respondents spoke a language other than English at home, with incidence of speaking a language other than English at home being slightly higher in the Southern region (7%). One in twenty participants identified as being of Aboriginal or Torres Strait Islander origin. Close to one in five were the owner of a small or medium business (SMB), which was consistent across locations. Approximately one fifth (22%) resided in a rural area, with thirty per cent of North Coast participants living in rural areas. Forty three percent (43%) stated that they had solar panels for electricity, however this varied across regions with approximately half (51%) of those from the Northern region having solar panels. Almost one fifth (19%) reported that they had problems paying their electricity bills in the last 12 months.

Table 2: Participant profile for deliberative forums

	Total (%)	Southern (n=135) (%)	Northern (n=159) (%)	North Coast (n=108) (%)
AGE				
18-44	**38**	35	42	38
45-64	**45**	45	40	51
65+	**17**	20	18	11
GENDER				
Male	**44**	43	45	43
Female	**56**	57	55	57
LANGUAGE OTHER THAN ENGLISH				
Yes	**4**	7	3	2
No	**96**	93	97	98
ABORIGINAL OR TORRES STRAIT ISLANDER				
Yes	**5**	3	6	4
No	**95**	97	94	95
Prefer not to indicate	**<1**	-	-	1
SMB				
Yes	**19**	20	18	20
No	**81**	80	82	80
RURAL				
Yes	**22**	20	19	30
No	**78**	80	81	70

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	Total (%)	Southern (n=135) (%)	Northern (n=159) (%)	North Coast (n=108) (%)
SOLAR				
Yes	**43**	36	51	41
No	**57**	64	49	59
FINANCIALLY VULNERABLE				
Yes	**19**	15	19	22
No	**81**	85	81	78

What age bracket do you fall into? / Do you speak a language other than English at home or with family members? / Are you of Aboriginal or Torres Strait Islander origin? / Are you the owner or a decision maker for a small or medium business (less than 200 employees)?
Base: All respondents (n=402); Southern (n=135), Northern (n=159), North Coast (n=108)

Data was weighted during analysis to be representative of the Essential Energy network area on region, age, gender and solar penetration.

3.3.3 Groups and depths

Similar to Phase 1, the forums were supplemented with groups and depths with harder to reach audiences such as young people, those from an Aboriginal and Torres Strait Islander background or different language background and large C&I customers. Where possible the same participants took part as in Phase 1.

The forum materials and questions were adapted for an in-depth interview format. This can be found at Appendix C.

Table 3: Groups and depths with connected customers

	Participants
Youth – 16-18 year olds	7
ATSI customers	6
CALD customers	6
C&I customers	6
TOTAL	**23**

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3.4 Business Partners and Stakeholders

Group interviews were conducted with renewable developers, councils, solar installers and new technology providers and consumer and industry advocates. In-depths were conducted with retailers and aggregators and critical infrastructure respondents.

Lists of potential participants for the in-depth interviews and group sessions were provided by Essential Energy and supplemented by Woolcott Research and Engagement. Recruitment was conducted internally by Woolcott.

It should be noted that the recruitment of retailers, aggregators and critical infrastructure providers was difficult, due to some engagement fatigue, difficulty finding and getting in contact with the with the relevant person and some stating that they were not willing to participate in discussions on behalf of their members or the government. It was planned to include three critical infrastructure providers but only one was actually willing to participate in the end.

Natalie Lindsay (Head of Regulatory Affairs) and Justine Langdon (engagement lead for the 2024-29 Regulatory Proposal) from Essential Energy attended the group sessions and presented information on the issues. An example of the discussion guide can be found at Appendix D.

Table 4: Groups and depths with business partners and stakeholders

	Participants
Renewable developers	6
Local Councils	9
New tech providers	6
SCC and PCC meeting	12
Consumer and industry advocates	4
Electricity retailers and aggregators	5
Critical infrastructure	1
TOTAL	43

3.4.1 Renewable Developers

Participants attended from the following organisations: ESCO PACIFIC HOLDINGS PTY LTD, ITP Renewables, Elliot Green Power (Nevertire), Providence Investment Management Pty Ltd and Moree Solar Farm Pty Ltd.

3.4.2 Councils

Representatives took part from the following Councils: Tamworth Regional Council, Wagga Wagga City Council, Wentworth Shire Council, Port Macquarie-Hastings Council, Eurobodalla, Broken Hill, Hay and Tweed Shire Council.

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3.4.3 New Technology Providers

The following solar installers and new technology providers took part in the group session: Tesla, Reposit Power, AG-MURF AUSTRALIA PTY LTD, Stuart Watson & Associates Energy Consultants, Self Sufficiency Supplies and SolarWise.

3.4.4 Retailers and Aggregators

The following businesses took part in the engagement: Origin, Energy Australia, Red Energy and Q Cells. In some cases several staff members took part.

3.4.5 Advocates

Representatives took part from Energy Consumers Australia, Salvation Army, Cotton Australia and the EV Council.

3.4.6 Stakeholder Collaboration Collective

A reference and advisory group was formed during the planning phase to engage and collaborate with Essential Energy throughout the project. The group meets at least five times each phase to provide input and feedback on the draft engagement information, key questions and materials. They will also provide their own feedback on the topics throughout the engagement program. The sessions are conducted via Zoom.

The members of the group are:

- Energy Users Association of Australia, Andrew Richards

- Council of Small Business of Australia, Dominic Schipano

- St Vincent de Paul, Gavin Dufty

- Public Interest Advocacy Centre, Craig Memery/ Thea Bray

- Cotton Australia, Jennifer Brown

- Australian Energy Council, Ben Barnes

- Total Environment Centre, Mark Byrne

- Renew, Dean Lombard

- Australian Energy Regulator, Adam Young

At one of the meetings in this phase, the Collective were asked for their feedback on the relevant topics of this Phase – power quality, resilience and two-way pricing.

The Pricing Collaboration Collective also contributed opinions, with their members being from:

- Energy Users Association of Australia

- Council of Small Business of Australia

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- St Vincent de Paul

- Public Interest Advocacy Centre

- Renew

- Cotton Australia

- Tesla

- Reposit

- EnergyAustralia

- Distributed Energy Services

- NSW Planning

3.5 Interpreting the Findings in this Report

3.5.1 Percentages and averages

Percentages are rounded to whole numbers and as a result, for some closed-ended questions (where a total of 100 per cent may be expected), total percentages may not add to exactly 100 per cent due to rounding. In addition, the open-ended (or free response) questions permit the respondent to provide as much detail as they like in explaining their response. As a result, a single response often contains more than one idea, theme or concept, and where this occurs the single response has been coded into multiple categories (or response codes) to separate these out and represent each part of their response. Because results are reported on a respondent basis, it follows that the sum of the percentages for each open-ended question generally exceeds 100 per cent.

Mean scores have also been calculated for scale questions and have been rounded to one decimal place.

3.5.2 Test of statistical significance

Tests for statistical significance have been conducted to indicate differences in results that are considered significant at the 95% confidence interval. This means that where there is a statistically significant result, we can be confident that this has not occurred by chance.

Where results have been found to be significantly higher, they are indicated in green, and where they have been found to be significantly lower, they have been indicated in red.

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4. Agreement with Customer Priorities

4.1 Connected Customers

4.1.1 Main forums

Level of agreement with customer priorities

At the commencement of the Phase 2 forums, Essential Energy presented a summary of the findings from Phase 1 including an outline of customers' vision for the future and the revised priorities based on their input.

Figure 3: Customers' vision for the future created from Phase 1
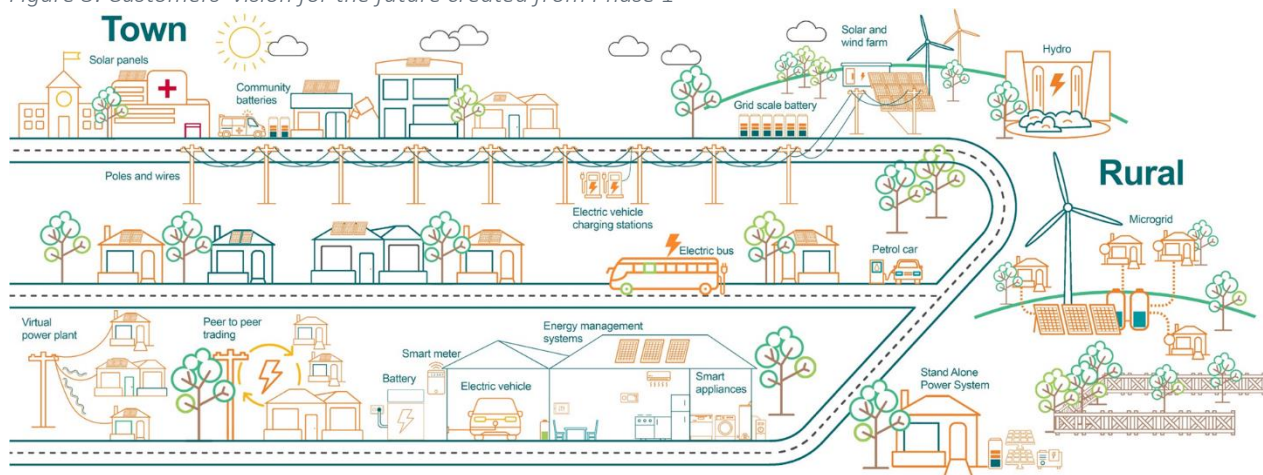
Figure 4: Customers' priorities created from Phase 1

Participants then answered two questions regarding to what extent they agreed or disagreed with the priorities presented and what, if anything, they would change in the priorities.

Most of the forum participants agreed with the priorities as they were presented, with two fifths strongly agreeing. Agreement with the priorities was fairly consistent across regions, age and solar/non solar customers.

Figure 5: Agreement with priorities presented
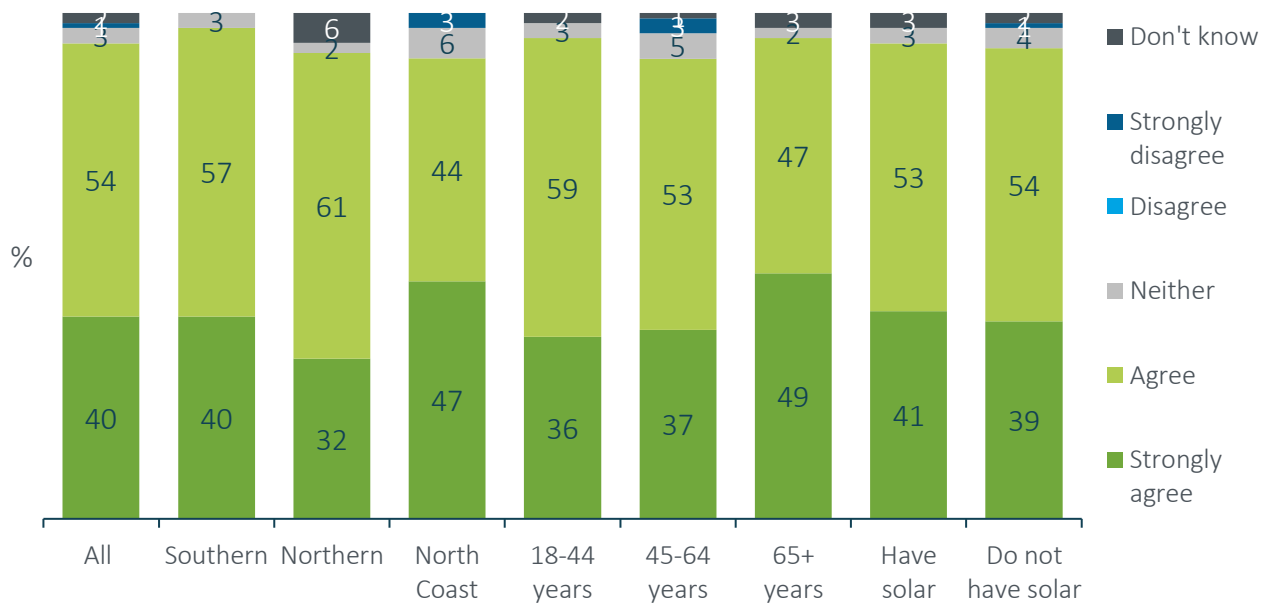
Overall, to what extent do you agree with the priorities presented?
Base: All forum participants who answered this question (n=400); Southern (n=124), Northern (n=137), North Coast (n=139), 18-44 years (n=157), 45-64 years (n=138), 65+ years (n=104), Have solar panels (n=104), Do not have solar panels (n=295)

In terms of what, if anything, they would change regarding the priorities, the vast majority indicated that they would not change anything. There were a handful of comments that were made which resulted in some minor changes to the wording of the priorities for the Phase 2b forums:

- Equity/Collective Good was retitled to just be Collective Benefit

- The description of Future Focused was slightly tightened to 'Proactively plan and integrate renewables and new technologies in a sustainable way'

- The word 'things' was taken out of the descriptions. For example, the Good Customer Service and Communication description was changed to "Be easy to deal with and keep customers informed" and the Transparency and Simplicity wording was tightened and it was confirmed that this priority is really about ensuring customers have the information they need to manage electricity and make informed choices.

The revised priorities were presented to participants in the Phase 2b forums as shown below.

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Figure 6: Revised customer priorities shown in Phase 2b forums
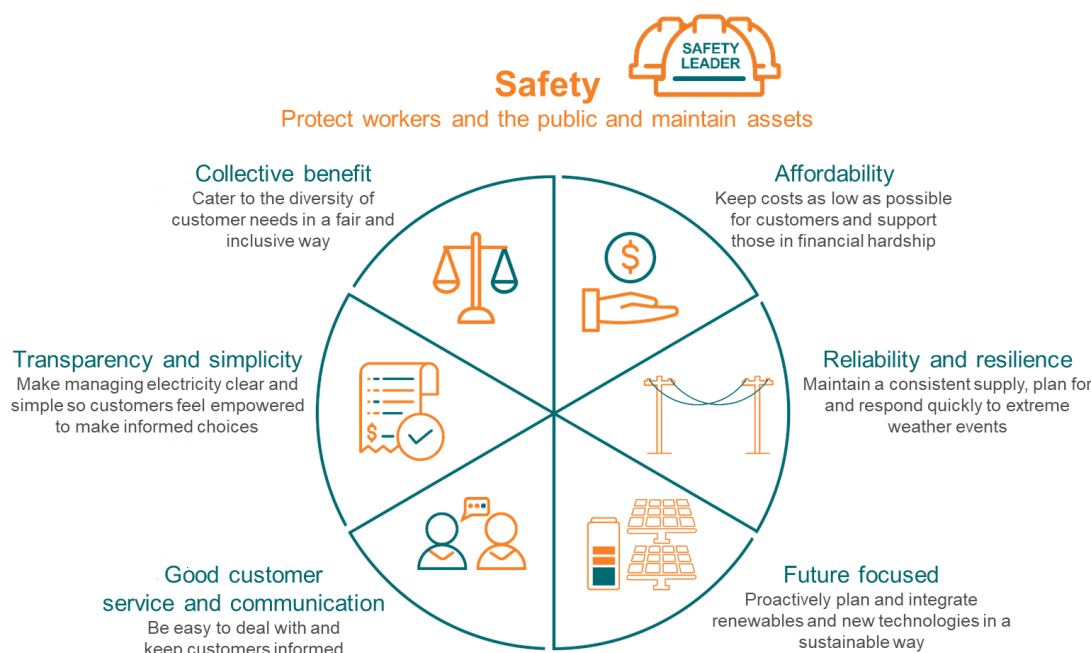
Recognising that Safety is a given, participants were then asked to rank the remaining priorities in order of importance.

Reliability and resilience and affordability were the most important priorities to most participants. Reliability and resilience was a high priority across regions, age ranges and solar panel ownership, with seventy per cent ranking it in 1st or 2nd place. However, prioritisation of affordability somewhat varied across regions, being ranked higher on average in the North Coast and lower in the Northern region (mean of 2.0 and 3.1 respectively). Good customer service was fairly important to participants, however less than one third (31%) ranked it as their 1st or 2nd priority. Collective benefit, future focused and transparency were fairly similar in their rankings on average. However, preference for collective benefit somewhat varied across the regions, with those in the Northern region rating it as more important on average (3.1).

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Figure 7: Ranking of revised priorities

	1st	2nd	3rd	4th	5th	6th	Mean
Reliability and resilience	41	29	11	10	6	3	2.2
Affordability	37	28	11	7	8	8	2.5
Good customer service and communication	17	14	25	20	17	7	3.3
Collective benefit	11	17	15	16	19	22	3.8
Future focussed	11	13	19	14	19	25	3.9
Transparency and simplicity	8	13	16	19	20	24	4.0

%
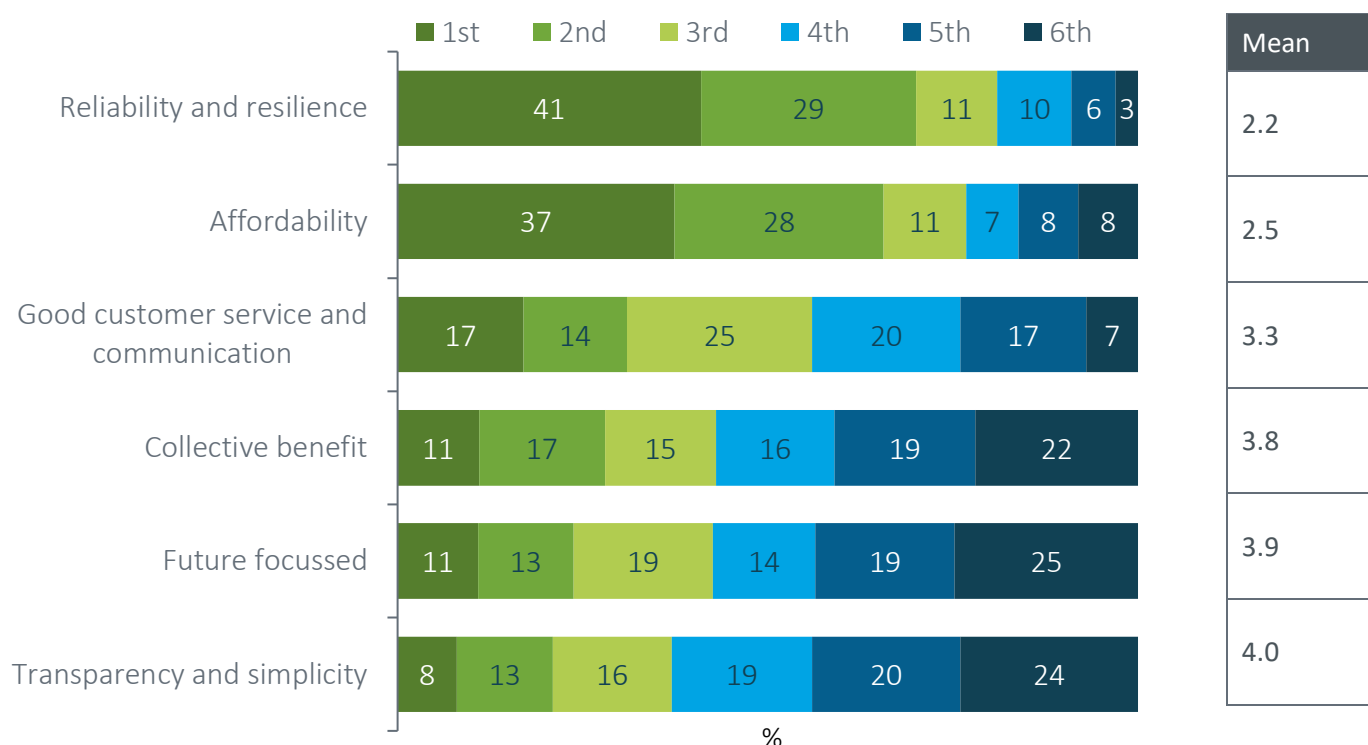
Please rank the priorities in order of importance – from 1st to 6th.
Base: All forum participants who answered this question (n=382)

4.1.2 CALD and ATSI priorities

In these one-on-one depth interviews, the responses from ATSI and CALD participants reflected the findings from the forums, with participants agreeing with the priorities presented. Affordability was thought to be particularly important for these groups and it was suggested that it should underpin all decision-making. In rural and remote areas reliability was assumed to be more of a priority. Communication and education were also obvious themes that emerged from discussions as electricity pricing was thought to be complex and would only get more so in the future.

> *"That makes a bit more sense. Current circumstances mean affordability is more of a priority with everything going up except wages." – ATSI participant*

> *"Communication [is important], because a lot of people won't use the service if they don't understand it." – ATSI participant*

> *"You can get 20 different electricity plans, it is very complex!" – ATSI participant*

4.1.3 Youth group

Similar to the main forums, Youth Group participants were satisfied with the revised priorities, and there was a consensus that reliability and resilience as well as safety and affordability were the most important.

> *"I think that resilience being added on to reliability is a good thing, no one wants to go without power." – Youth Group participant*

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Participants focused on resilience and reliability in the discussion as it was thought that electricity supply is vital particularly as extreme weather events will become more common in light of global warming.

> *"I think that resilience being added on to reliability is a good thing, no one wants to go without power."* – Youth Group participant

> *"There's only going to be more floods, so if that's not a priority, I don't know what will happen."* – Youth Group participant

Youth group participants also indicated that being future focused was particularly important for them, by which they meant that renewable technology should be integrated into the network and infrastructure should be built for the long-term.

> *"Going into the future a lot of people are looking to invest into renewable technology."* – Youth Group participant

There was also some discussion about the meaning of collective benefit, with participants agreeing that both solar and non-solar customers should be considered in the policymaking process. Additionally, there was agreement that power infrastructure needs to be ethical, in that it needs to respect Aboriginal and Torres Strait Islander land.

4.1.4 C&I customers

The majority of C&I customers agreed with the priorities and the revisions to them.

Affordability was key for large customers as most complained that the energy bill was a large component of their costs – and it had been increasing.

> *"Affordability is important. The retailers gouge!"* – C&I customer

Customer service was often mentioned as another important factor. Some suggested that as Essential Energy was a monopoly and they had no choice of network provider, that the organisation needed to be customer focussed.

> *"The need to keep in mind that we have to use them – they have to be customer focussed"* – C&I customer

Reliability was also crucial for many of these customers who relied on their power to be consistent in order to operate.

4.2 Business Partners and Stakeholders

4.2.1 Local Councils

Due to the recent fires and floods, Council participants were very much aligned with the need for Essential Energy to prioritise reliability and resilience. The consensus was that reliability was important for the whole of community however, resilience was critical for some communities where the risk of extreme weather events was high.

> *"During the fires we lost telecommunications and power for our sewer. It was terrible"*

"Loss of power has a massive impact on Council operations, on water, and it has also had a huge commercial impact. It has been so hard to get our community back on its feet. Businesses trying to operate without power is so difficult."

Participants also agreed with the other priorities and tended to place a high level of importance on aspects such as, future focused, customer service and affordability.

4.2.2 Renewable Developers

Renewable Developers tended to agree with the priorities and the changes that were introduced. It was seen to reflect the comments that they had made in the previous round of engagement and to address their needs.

The most important priorities for this segment were future focused and reliability and resilience. Being future focused was particularly important for renewable developers as many felt that this was something that they had been waiting for all DNSP's to focus on for a while. There was a strong feeling that Essential Energy needed to prepare for the future challenges in the energy market that were likely to lie ahead.

"I agree they all look good. I like the future focus one as we have been wanting this for years from the energy market."

"We are keen on the future focused area. This hasn't been a target in the past."

There was also discussion regarding the need for focus on transparency and simplicity in working with renewable generators to meet the future vision for the network. Aligned with this was as the desire for improvements in communication and service with renewable generators in order to work more collaboratively in meeting the needs of both parties.

"In order for the integration of more energy sources, the communication needs to be improved."

4.2.3 New Technology Providers/Solar Installers

New technology providers were in full support of the priorities and thought that they gave a strong focus for Essential Energy going forward. They believed that they should be adopted 'sooner rather than later'.

"It is excellent. This is a really forward-thinking approach. If things were looked at through this lens going forward, then you would be on the right track."

They stressed that the 'future focused' priority was particularly important but mentioned that the changes will be difficult for consumers to understand and navigate. They suggested that control and choice will continue to be important for customers in the future. When prosumers get adopt renewables and energy storage they are doing it to 'grasp control of their energy future'. However, to make it all work in the future a significant amount of control will have to come from Essential Energy and the question will be how will consumers feel about that.

4.2.4 Retailers and Aggregators

In speaking to aggregators and retailers, they responded positively to the customer priorities.

Amongst aggregators, while all six categories were recognised as important, it was acknowledged that their customers are a sub-segment who are motivated towards solar and batteries and therefore attribute different weightings than the more traditional customer base. Community, environment – which it was suggested could

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be bundled into future focus, and value (as opposed to cost saving) were the top three choices. Cost saving was notably the least important.

> *"Being future focussed is key to me"* - Aggregator

> *"What we're finding is what people really mean by cost is value and they're much more interested in the grid and the collective benefit. If they can't see that, the future looks expensive."* - Aggregator

> *"The final one [of the three] is cost saving, and that is quite a long way down the list."* – Aggregator

> *"In Victoria, we've had a lot of conversations about reliability and resilience after the bushfires so it's now a theme. It will happen in Lismore and Byron Bay, it may not be batteries, it might be generators but that will become a different conversation with consumers in the future."* – Aggregator

For the retailers, there was more focus on good customer service and affordability. There was a feeling that if Essential Energy ensured they were providing excellent customer service in all areas, then the remaining priorities would fall into place.

> *"They need to put the customer first in all their decisions"* – Retailer

> *"Customers call the network from time to time, and they need to be able to resolve issues"* - Retailer

> *"Affordability is the most important to us as retailers"* – Retailer

Given the recent weather events, resilience was also considered to be important.

4.2.5 Consumer and Industry Advocates and the Stakeholder Collaboration Collective

Consumer advocates and stakeholders agreed with the revised priorities presented. Some particularly liked the coupling of resilience with reliability as they mentioned that customers do not distinguish between 'normal' outages and those resulting from extreme events.

They believed that all the priorities listed are important and found it difficult to select which were more or less important, particularly in light of the linkages between them.

Transparency and simplicity was highlighted as a priority that will become more important in the future as the market becomes even more complex and will require close collaboration with retailers. Making things simple and easy to understand for vulnerable people was thought to be particularly important.

Choice/agency or control were also mentioned as important for the future. Stakeholders believed that it needs to be clear that Essential Energy are not pushing for behaviour change but rather linking customers' decisions and actions to the price they pay. Customers should understand that they can choose when and how they use electricity but the price they pay will reflect those choices.

4.2.6 Critical Infrastructure Providers

The critical infrastructure provider agreed with the co-developed priorities and believed that reliability and resilience are most important. They stressed that as a critical infrastructure provider resilience is a key area of focus for them.

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They also believed that customer service was particularly important and that Essential Energy should treat them differently to other customers, even other large customers, as each of their 'connections' actually supplies hundreds of customers.

> *"From a power connection perspective – they might see us as one 'customer' but we might have hundreds of customers hanging off one grid connection. There is a magnitude of connections. We need a different type of customer service that actually recognises that we are talking about hundreds of customers from one grid connection."*

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5. Reliability and Unplanned Outages

5.1 Connected Customers

5.1.1 Main forums

Reliability

At the beginning of this session, participants in the forums were asked to rate the reliability of their electricity supply in normal operating conditions. The vast majority of participants rated their electricity supply reliability highly (93% between 7 and 10). However, there was some variation in electricity supply being rated very highly (between 9 and 10) depending on region and solar ownership. Those in the Southern region were more likely to rate their supply as being more reliable with 83% scoring it 9-10 compared to 59% in the Northern region and 58% in the North Coast region. Those without solar were more likely to state that their supply was more reliable with 70% giving it a rating of 9-10 compared to 52% of those with solar.

Figure 8: Reliability of electricity supply
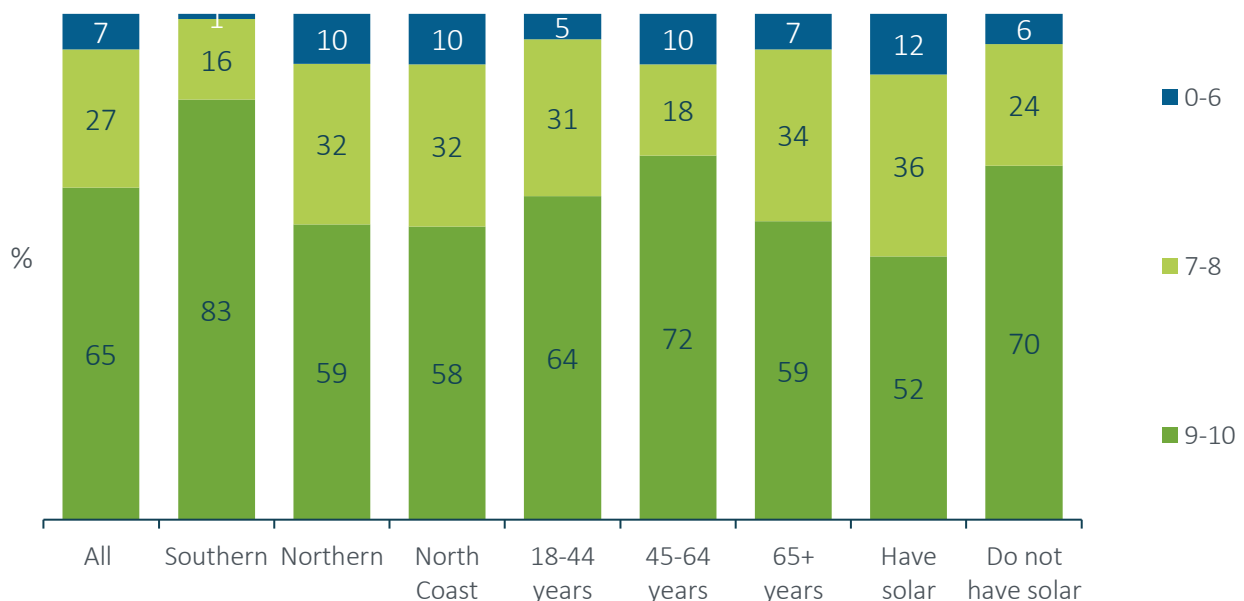
Remembering that reliability is based on planned and unplanned outages that occur under normal operating conditions, not when extreme weather events occur, on a scale from 1-10, how reliable would you say the electricity supply is where you live?
Base: All forum participants who answered this question (n=365); Southern (n=103), Northern (n=130), North Coast (n=132), 18-44 years (n=148), 45-64 years (n=128), 65+ years (n=89), Have solar panels (n=98), Do not have solar panels (n=266)

Participants were also asked whether they wanted Essential Energy to reduce its current level of reliability for a lower cost, maintain its current level of reliability or increase reliability for a slightly higher cost. Most participants preferred that their current level of reliability be maintained (87%). This preference did not vary significantly across region, age or solar ownership.

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Figure 9: Preference for change in reliability

Reduces its current level for a slightly lower cost

	All	Southern	Northern	North Coast	18-44 years	45-64 years	65+ years	Have solar	Do not have solar
Reduces	7	9	6	6	9	5	4	7	7
Maintains	87	89	86	85	85	88	89	84	88
Increases	7	2	8	9	6	7	7	10	6
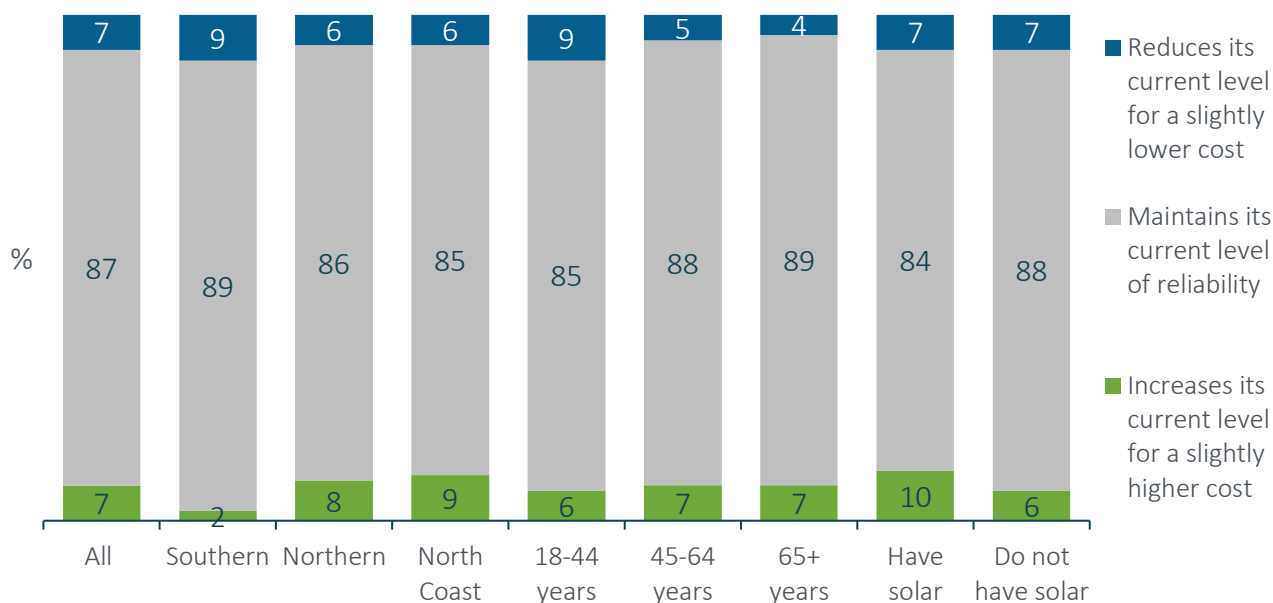
Which would you prefer? I would prefer that Essential Energy:
Base: All forum participants who answered this question (n=388); Southern (n=116), Northern (n=130), North Coast (n=141), 18-44 years (n=160), 45-64 years (n=133), 65+ years (n=94), Have solar panels (n=100), Do not have solar panels (n=288)

However, most participants (91%) were happy to continue to pay 10c a quarter for Essential Energy to improve reliability for its worst served customers. Support to continue this payment was consistent across regions, age ranges and solar ownership.

Figure 10: Willingness to continue to pay 10c a quarter to improve reliability for areas with very poor reliability
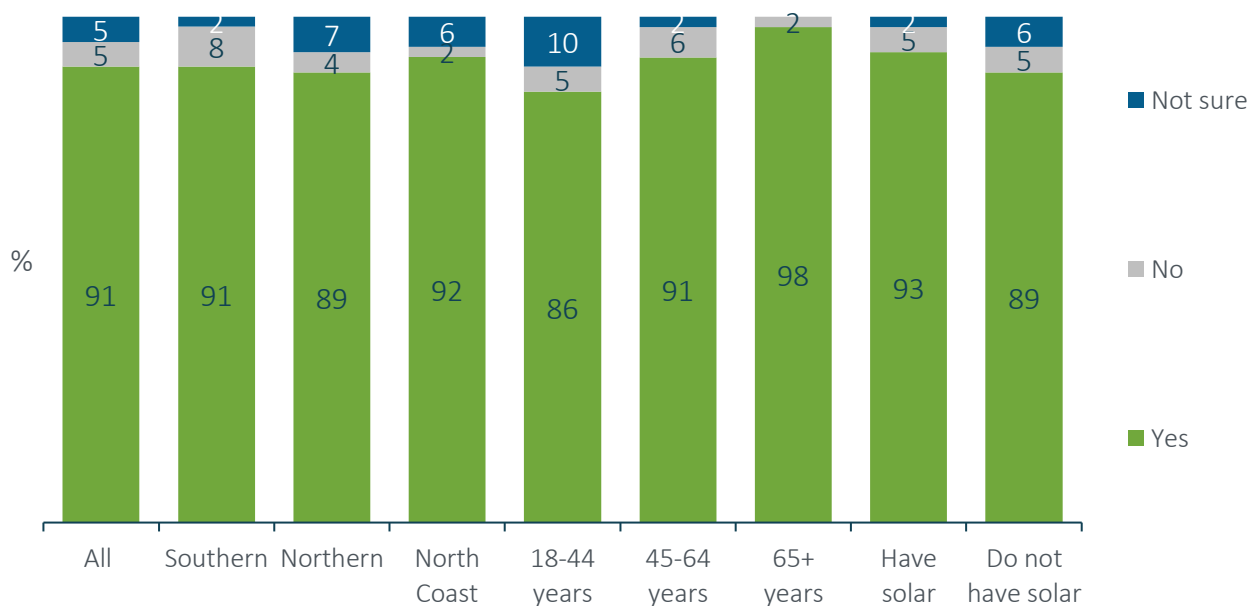
	All	Southern	Northern	North Coast	18-44 years	45-64 years	65+ years	Have solar	Do not have solar
Not sure	5	2	7	6	10	2	2	2	6
No	5	8	4	2	5	6		5	5
Yes	91	91	89	92	86	91	98	93	89

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Are you happy to continue to pay 10c a quarter for Essential Energy to improve reliability in areas with very poor reliability?
Base: All forum participants who answered this question (n=397); Southern (n=122), Northern (n=140), North Coast (n=135), 18-44 years (n=165), 45-64 years (n=135), 65+ years (n=97), Have solar panels (n=108), Do not have solar panels (n=289)

Experience of unplanned outages

Participants were asked about their experience during unplanned outages and at what point they become a problem. In general, participants across all locations suggested they could cope with an unplanned outage in the range of 2-3 hours, with evidence of regional specificity relating to climate, and rural and remote locations.

The top-of-mind concern during an unplanned outage was in relation to freezers and fridges and the chance of food spoiling. Some participants, including those living on remote and rural properties, mentioned that they run large freezers storing vast quantities of meat, which could present a significant financial loss in the wake of an unplanned outage.

> *"When you have done a home kill and the freezer is full, then it's really important that it is less than 3 hours." – Taree participant*

> *"It's a massive problem for a long period of time. If it goes for something like 6-7 hours, you'll lose all the food in your fridge and freezer." – Wagga participant*

> *"Time is ticking with freezers. 1-2 hours we can get by reasonably well with the cabinet's temperature, after that we start looking at insurance." – Inverell participant*

Participants expressed a high degree of awareness of the effect of an unplanned outage on the vulnerable - people with a disability, those reliant on medical equipment and devices, and the elderly.

> *"I need power for two sleep apnoea machines at home." - Bega participant*

> *"If you have someone ill or fragile in your household you may be relying on heating or cooling to protect them from extreme weather." – Ballina participant*

> *"If someone is receiving treatment for a chronic illness like myself, potentially a very short period of time like half an hour would impact me if I was having treatment at home." – Dubbo participant*

> *"For disabled people like me, an outage of three hours would be a real problem." – Broken Hill participant*

The degree of impact of an unplanned outage was described as relative to several factors including:

a) Time of day

> *"It depends on the time of day or night. Different times have different impacts depending on what you need to do." – Broken Hill participant*

Participants considered that an unplanned outage during the daytime was much easier to tolerate than an outage during the evening. In many cases this was related to interruptions in meal preparations and family nightly routines.

"You have to rush around and find lights and my house is fully electric so I couldn't cook. It would be quite difficult." – Bega participant

"I think it depends on what time it happens. Afternoon or evening with kids means a big impact." – Ballina participant

"Earlier in the evening when you're cooking dinner is a problem. We don't have outages very often but last time we did I was cooking dinner and there were things I needed to do that I couldn't do." – Inverell participant

"My son has special needs and he's really scared of the dark, so I have to leave a light on. If it's not on he'll start screaming and his brain goes into instant fry mode." – Dubbo participant

b) Time of year

There was also a seasonal aspect to coping with an unplanned outage. Participants living in hotter climates such as Broken Hill stated their dependence on air conditioning which makes outages less tolerable, while participants in Ballina were less affected. Those living in areas that experience extreme winters (for instance Bega) expressed similar concerns about their ability to heat their home.

"If it's in the middle of summer you need air con, you don't want to lose that for too long." – Dubbo participant

"It depends on the season, worse in the summer when it's real hot, probably 30 minutes to 3-4 hours." – Inverell participant

"In winter I'm reliant on electricity for heating and I would be miserable without it." – Bega participant

"It's more an inconvenience when it's unplanned because of the weather and the elderly people don't know what's happening." – Wagga Wagga participant

c) Working from home and increased use of technology

The migration to a working from home dynamic in the wake of the Covid-19 pandemic, has increased reliance on an uninterrupted electricity supply. Participants discussed the effect of this shift on their immediate need for residential power for increased device usage, and the requirement for charging these devices.

"For me the impact is immediate. I work from home and I rely on the internet. No power, no internet, it's pretty instant." – Taree participant

"As soon as we lose power we lose everything as we work from home. We couldn't work properly and it would be a massive headache. Anything post an hour would be a problem." – Dubbo participant

"More than 45 minutes becomes annoying, when I run out of power for my USB. It would impact my income beyond that limit as I mostly work from home." – Bega participant

"With COVID I have been working from home so without power I couldn't work. After one hour I would be impacted." – Wagga Wagga participant

d) Water pumping reliant on electricity

Many rural and remote participants relayed their reliance on electricity to pump water to their homes for a plethora of purposes - drinking, showering, flushing toilets, feeding animals and firefighting. Responses centred on a more immediate need for power than their more urban counterparts.

"My water runs off pressure pumps so if I don't have power, I don't have water. I can do without water for a few hours, but after that it becomes a real inconvenience." – Wagga Wagga participant

"I'm on a property where we use tank water pumped by electricity. So, without electricity we don't have water, and that's a bigger problem than the electricity itself." – Wagga Wagga participant

"I live on a farm, so I rely on electricity for my water because we're on tanks and I have to feed my livestock especially in summer that could be a big issue. At least if you're in town you can get water but because I'm out of town I can't get water, so as soon as the power's gone I'm affected." – Ballina participant

"I find that it doesn't matter the time of day, if you have fish tanks or incubators for animals, it's a problem from the start because things die." – Bega participant

"If you're a rural customer relying on power to pump water and use toilets, unplanned are very inconvenient in the middle of summer [as] you have no water or firefighting capabilities." – Wagga Wagga participant

There were a few participants who were relatively undeterred by the prospect of an extended unplanned outage as they had invested in either a generator or solar technology and a battery.

"It might not affect me at home because I have solar power and batteries, but it would affect me at work." – Taree participant

"16-20 hours would be okay as I have a small solar system here so I can get by with the basics for a little while." – Wagga Wagga participant

"We actually installed gas because we were sick of not being able to cook during outages and bought a generator to keep things alive." – Bega participant

"Our Tesla battery backs up, but before that [was installed] it would be about 30 minutes because of the internet, wanting to get on the internet and all the devices that are connected to it." – Bega participant

"I'm on standalone solar so it's not a big deal unless the NBN tower goes out and then we have no mobile access." – Taree participant

For the small to medium businesses there was an urgency conveyed and a preference for prompt notification of an unplanned outage. Responses were indicative of the type of business conducted, the level of automation, and the timing of the outage. Immediate issues were highlighted as an inability to open premises, attend meetings, make phone calls, charge computer batteries, attend to patients, process food, manufacture fertiliser and even run the local bus service. Safety was also a critical concern expressed by businesses working with machinery.

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"Everything in the business is electronically based, customer interaction included, so a couple of hours maximum. Four hours seems too long. From a safety point of view, accidents can happen with machinery if an outage is too long." – Dubbo SMB participant

"The dairy fridge gets tricky. In this situation cheese has to be kept at a consistent temperature and we'd feel uncomfortable selling that to customers, probably an hour [is OK]." – Bega SMB participant

"As far as my catering is concerned it's a nightmare. As soon as I lose temperature on my food, the clock is ticking. I have very cautious principles and I don't take risk. It's usually expensive." – Broken Hill SMB participant

"I'm running blind, I can't access patient data or payment information." –Wagga Wagga SMB participant

"From an IT perspective, if it's at night it's not a problem but our system runs the local bus service during the day so that can cause panic after a few minutes." – Bega SMB participant

Communication during unplanned outages

Participants spoke of the need for communication via text to occur within 30 minutes of the commencement of all unplanned outages, as opposed to just longer unplanned outages.

"Need communication in all outages, it builds trust. It doesn't matter how short." – Inverell participant

"All of them as it saves us ringing you." – Taree participant

"Anything more than 30 minutes to an hour if it's unplanned so we can work out whether we need to send staff home or not." – Dubbo SMB participant

"A courtesy text message would be great. It's nice to have an acknowledgement if there's an issue." – Bega Participant

"It doesn't have to be a lot, if you're out in the bush you don't know if Essential Energy knows you have an outage." – Dubbo Participant

Critical to the initial text was an acknowledgement of the outage, as participants spoke of transparency as *essential to the delivery of effective customer communication.*

"People like transparency, even if they don't know what the issue is yet, they should let people know that they're on the issue and are working to solve the problem." – Wagga participant

"Communication is important for all outages; it makes us aware that EE is aware and takes the shock out of it." – Taree participant

"Notice is key. The first thing you do when there's an outage is turn to your phone or your laptop, especially if you've got kids. As long as you have that notice, you can prepare." – Wagga participant

Some participants stressed that prompt text communication could help to alleviate pressure on the Essential Energy call center.

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"I think a text lets us know that they're aware of the problem, that's the most important thing so we're not flooding the phone lines to report the issue." – SMBs Wagga Participant

"It would probably save a lot of phone calls to Essential Energy." – Dubbo Participant

"It's good customer service if you tell people what's happening then they won't get angry and start harassing Essential Energy and clogging up the phone lines." – Bega Participant

An estimated time of restoration (ETR) was also considered to be important information so that customers felt empowered. Participants expressed a strong preference for an over-estimate of power outage in comparison to an underestimate, to set expectations and avoid disappointment.

"I agree they should under promise and over deliver." – Taree Participant

"Estimating a longer ETR would make you feel good because of getting comms, and if they deliver earlier well that's a nice outcome." – Wagga Wagga Participant

"It's always a bit better to be a bit pessimistic and slightly over-estimate the outage." – Bega Participant

"Estimating a longer ETR would make you feel good because of getting comms, and if they deliver earlier well that's a nice outcome." – Wagga Wagga Participant

There was a consensus from participants that there is comfort in a text that details the extent of the outage and exactly who is affected. Respondents felt that this information assisted them in planning their customary daily activities and gave them the opportunity to make alternative arrangements such as adjourning to unaffected areas, or to air-conditioned buildings.

"Where it's happening. The whole area or just a few streets. You'd want to know if you can still go to work without being impacted." – Bega Participant

"It would help you work out what to do, like finding an alternative for dinner." – Broken Hill Participant

"I like to know in advance about the area affected and how long it's going to last. Our alarms and front door to the business rely on electricity." – SMBs Dubbo Participant

"The area if they can tell us, so you can consider if your loved ones are also impacted or an elderly neighbour. You can think if you need to let others know who aren't tech savvy." – Bega Participant

Many participants were interested to know the cause of the outage as they stated this would inform their understanding and tolerance of the duration.

"I think with more information, Essential Energy will be considered in a better light, for example if they say there's been a fatal accident and poles are down, then we are more likely to cut Essential Energy a bit of slack." – Bega/Taree Participant

"If you could give us a reason then we know whether it's something that's in your control or out of your control." – Ballina Participant

"I'd like to know the cause of the outage. If it's a car accident you'd have more patience or appreciation, for instance. Contextualising is a good thing." – Wagga Wagga Participant

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Although a text messaging service was the preferred communication channel, alternative platforms were considered vital by some participants, particularly if the mobile network service was affected.

"We need a phone number that doesn't rely on a mobile phone service for when you can't access wifi." – SMBs Taree/Ballina Participant

"We lost our Telstra network in the floods and had no ability to do anything and no way of contacting anyone. It would be helpful if Essential Energy could have access to a service that has uninterrupted backup." – SMBs Taree/Ballina Participant

There was discussion centered on the need for a phone-based app for outage notification, while many participants acknowledged their familiarity with using the internet for the latest updates.

"I would prefer a portal that tells you what the outage is and how long it would be." – Wagga Wagga Participant

"I want notifications from an app on my phone with a link to more information." – SMBs Wagga Wagga Participant

"Somewhere you can log into to have a look rather than receiving 100,000 text messages." – Broken Hill Participant

"From experience, if you google search power outages it gives us the map of where the power is out." – Wagga Wagga Participant

Overall, participants preferred Essential Energy to provide customers with communication updates at three critical stages during an unplanned outage.

1. An initial text that acknowledges the unplanned outage within 30 minutes of occurrence, with a broad, generous ETR (if possible).

   "Tell us that it's off and unplanned straight up." – Dubbo Participant

   "I'd like two texts, one initial to give you a bit of an idea, then another text to follow up with a more accurate ETR." – Wagga Wagga Participant

   "An earlier estimate and then updated when they find out more information, even if it's not accurate." – Taree/Ballina Participant

2. A follow up text once the maintenance crew has established the issue, detailing the extent of the outage and a more precise ETR.

   "I'd prefer something quick and then a more updated version later." – Broken Hill Participant

   "They can send another SMS later once they have a good idea of the time it will take to restore." – Dubbo Participant

   "Regular updates sound good. It's also a reminder that the people working on the problem haven't forgotten that you're there and you know they're doing something." – Broken Hill Participant

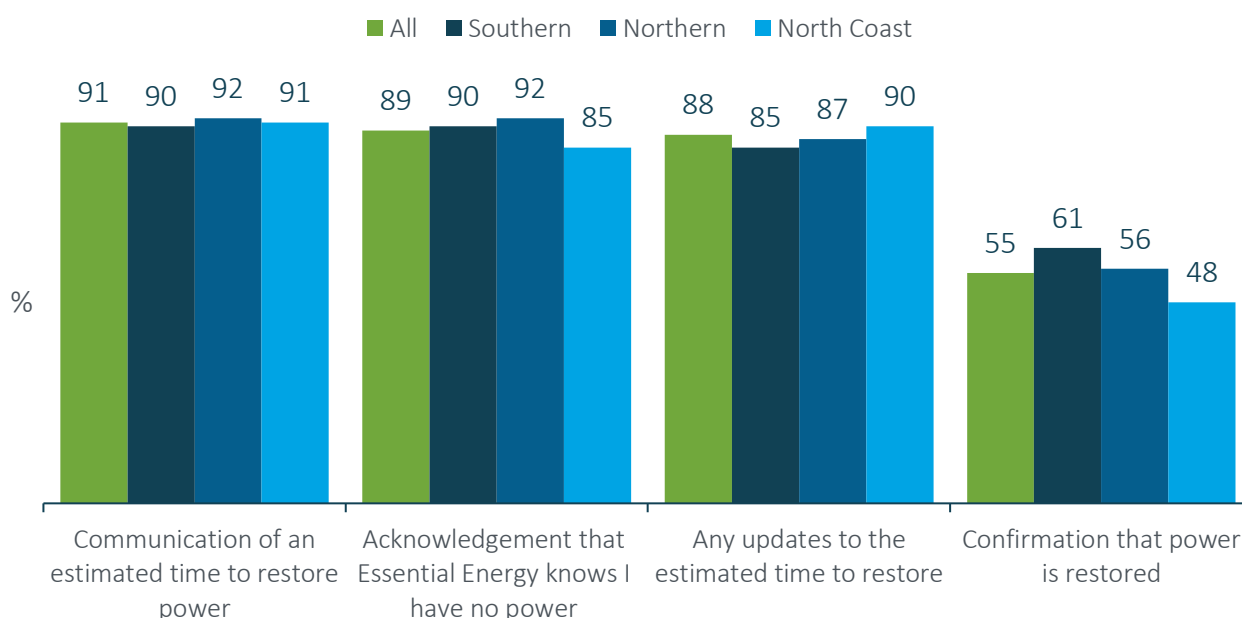EXPERIENCE | INNOVATION | INSPIRATION

3. A final text alerting customers that power has been restored. This follow up was particularly significant for households with occupants away from the property when the outage occurred.

"They should send a follow up message notifying people that the power has been restored, in case people are not home and are waiting for the power to be restored when they come home." – Wagga Wagga Participant

"Communication is important for all outages; it makes us aware that Essential Energy is aware, and it takes the shock out of it." – Bega/Taree Participant

When polled on this issue the vast majority of participants wanted to receive a text message that acknowledged that Essential Energy knew about the outage (89%), an estimated time to restore power (91%) and any updates to the estimate (88%). Over half (55%) wanted to receive a text to confirm when power is restored, however 45% did not indicate that they wanted this type of communication.

Figure 11: Preference for text message updates during unplanned outages

Legend: ■ All   ■ Southern   ■ Northern   ■ North Coast

%

	Communication of an estimated time to restore power	Acknowledgement that Essential Energy knows I have no power	Any updates to the estimated time to restore	Confirmation that power is restored
All	91	89	88	55
Southern	90	90	85	61
Northern	92	92	87	56
North Coast	91	85	90	48

What sort of text message updates would you like from Essential Energy during unplanned outages?
Base: All forum participants who answered this question (n=396); Southern (n=122), Northern (n=139), North Coast (n=135)

5.1.2 Youth findings

Some participants had experienced unexpected outages that has lasted less than a day, with the impact mainly being just to disrupt the normal course of their day. However, they were told the reason for the outage and were satisfied with the restoration time. The impacts were not thought to be that great.

"There wasn't any Wi-Fi and the water slowly stopped working… our mobile data didn't work as well, but it was fixed quickly." – Youth Group participant

"It was a hot night, so we were just sitting around doing nothing… we tried to go up the road but it was out down there too… It disrupted the day; we couldn't do our normal thing, so we had to wait until it came back on." – Youth Group participant
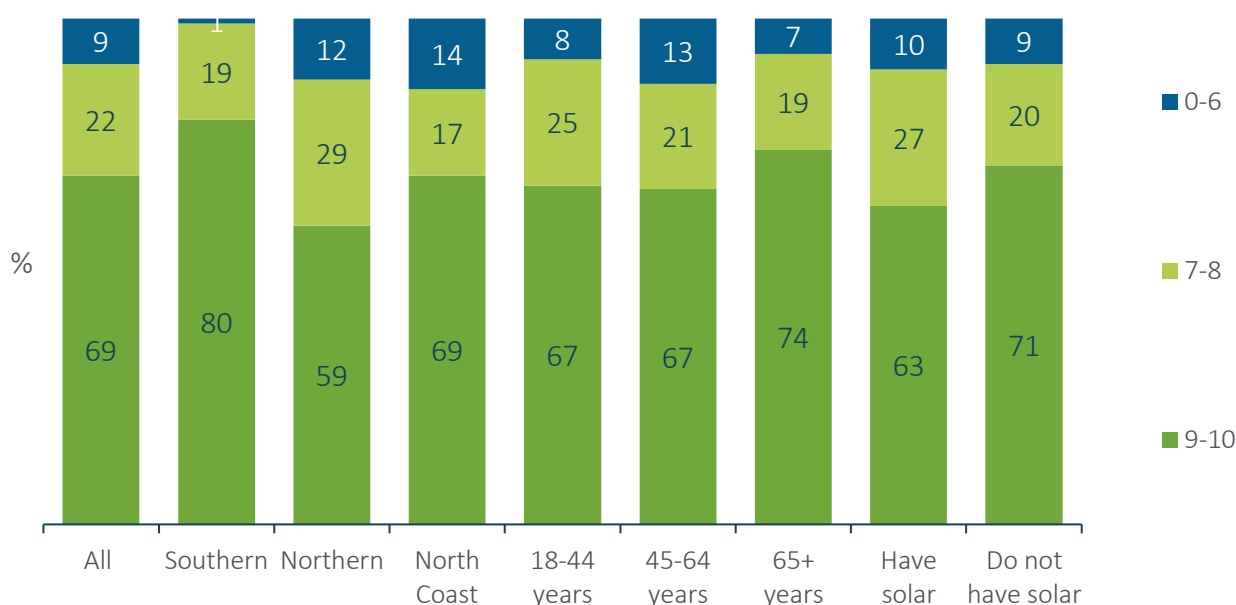
6. Power Quality

6.1 Connected Customers

6.1.1 Main forum findings

Rating of power quality

Participants in the forums were asked to rate the power quality in their area. Most (91%) rated their power quality highly (7 to 10 out of 10), however incidence of rating power very highly (9 to 10 out of 10) varied considerably across region and by solar ownership.

Figure 12: Power quality rating

On a scale from 1-10, how would you rate the power quality where you live?
Base: All forum participants who answered this question (n=408); Southern (n=122), Northern (n=143), North Coast (n=143), 18-44 years (n=166), 45-64 years (n=140), 65+ years (n=102), Have solar panels (n=109), Do not have solar panels (n=299)

Power quality impacts

When polled about the power quality issues experienced in the last 12 months, half of the forum participants indicated they had not been impacted by power quality issues in the last year. This figure varied somewhat across regions. Those who were impacted by power quality issues in the last 12 months tended to experience flickering lights and/or brownouts. Both of these experiences were somewhat more common amongst those in the Northern region (both 42%). Fourteen per cent of participants also experienced damage to their appliances or equipment, however this was less common in the Southern region (7%). Incidence of exports being turned off or participants being declined to have solar panels connected to the network was rare (3% and <1% respectively).

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Figure 13: Power quality issues experienced in the last 12 months
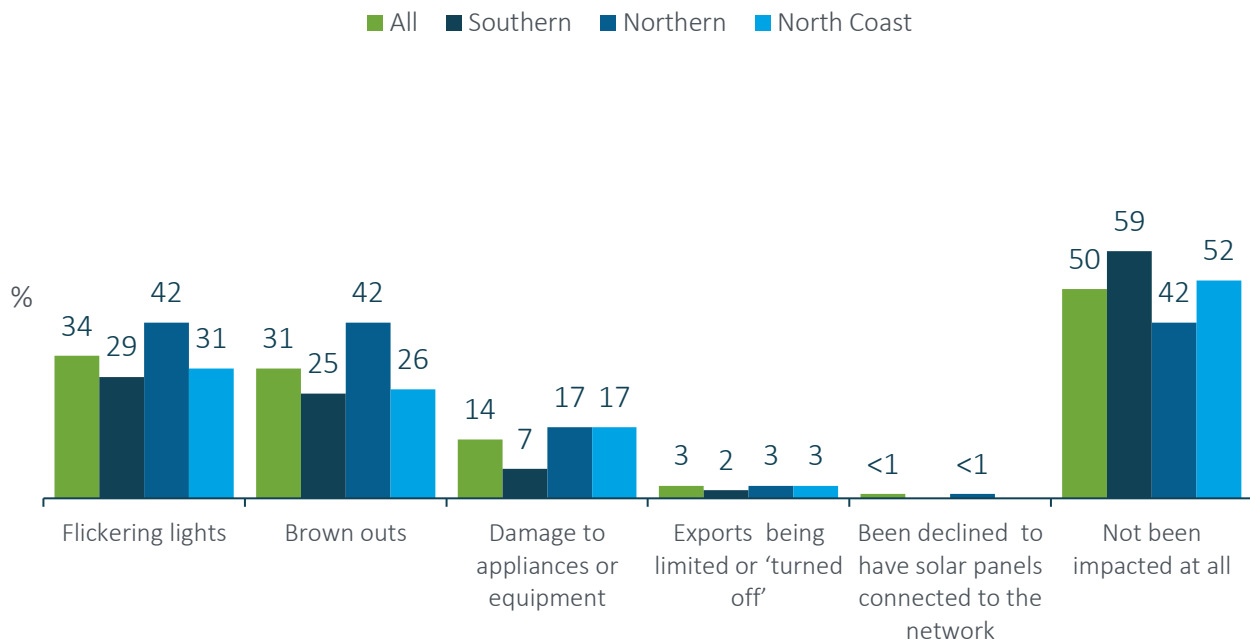
How have you been impacted by a power quality issue in the last 12 months? Select all that apply
Base: All forum participants who answered this question (n=409); Southern (n=122), Northern (n=144), North Coast (n=142)

Reactions to options for managing electricity quality

In this session participants were shown a presentation explaining what power quality is, how power quality challenges are growing for the network, some methods to manage power quality and four options for consideration in the future for managing power quality (inclusive of an estimated bill impact increase per annum for each option). In summary, the four options included: Option 1 – Do nothing more; Option 2: Mitigate existing problems over time; Option 3: Mitigate existing problems and pre-empt some; and Option 4: Avoid the problems from occurring.

Within the breakout sessions participants discussed their preferred option and reasons for and against the option; which outcomes they felt were the most important; and how supportive they were of each of the methods to manage power quality outlined in the presentation.

Interestingly while power quality issues were not widespread, there was an understanding amongst participants that in the future power quality may decline, and this was not felt to be an acceptable scenario – that is, to experience more frequent brown outs, lights flickering and potential damage to appliances.

> *"Power quality is the upmost priority, what's the use of having intermittent power that will damage equipment" – Wagga Wagga participant*

Initial reactions to learning that Essential Energy was proposing some methods to improve power quality in the future were very positive. At the outset there were many positive comments made regarding Options 3 and 4. In particular participants immediately noticed the estimated impact to their bill was $2.15 for Option 3 and $5.54 for Option 4 over a year which were both generally considered minimal. Taking into consideration the significant improvements in technology and power quality and that they would avoid the power quality

problems from occurring, these increases in cost were generally thought to be relatively small by most participants.

> *"It doesn't seem to me like a large amount to ensure some amount of stability in the power" – Dubbo participant*

> *"Definitely 4. I can see that it will result in the best service for customers. You get what you pay for" - Bega*

> *"I'd go the whole hog. $5 isn't all that much really, it will avoid problems occurring" - Ballina.*

> *"$5.54 is like a cup of coffee, so doesn't seem much to me." - Bega participant*

Overall Option 4 was well liked and often preferred mainly because of the perceived value for the cost. It was felt to be a longer-term preventative strategy and not a quick fix or 'band aid' solution.

> *"Given the cost $5.54 a year is neither here nor there, it's better to go for the best and get a good system up and running" – Wagga participant*

> *"It's the most future proof of all – a little bit of money now will hopefully let me stick on as many panels and not be cut off - the other ones are only band aids."- Ballina participant*

> *"I'm pro Option 4 as well. At home I haven't had any power issues or concerns but the one quick outage I had in my business two and a half years ago cost me far more than the increases in the bill cost, so I'd like to ensure no power outages in the future" – Bega small business owner*

Many also appreciated Option 4 because power quality management was fully automated and the maximum amount was being invested in the network to prepare the network for the changes that will occur in the future with greater use of solar panels, electric vehicles, and batteries. There were many who felt that while the outcome of improved power quality would be important in the future, the notion of not limiting exports from solar (in particular) was very important as we needed to encourage people to move toward solar and other renewable sources of power, not discourage them.

> *"It has to be number 4. You're talking about future proofing the electricity supply, it's reliability, its ability to have people off the grid with their own power supply" – Wagga Wagga participant*

> *"The future is going to mean we have to go this way – I see option 4 as the most appropriate. More and more people are going to have EVs, putting power back in and will want secure power. As the world changes, we have to change with it" – Dubbo participant*

> *"Probably having the solar panels denied, is the most important, it's not logical to me, to have solar denied. More solar we have not necessary individually but collectively the more we replace the power station" – Inverell participant*

> *"I have 10 KW on the roof and I can't fully export because the size of the lines won't take it therefore Option 4" – Taree/Ballina Small Business Owner*

Some however questioned whether Essential Energy should instead transition through the various options, perhaps moving towards Option 4 as an end goal over time.

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"Do we go 3 and then 4? Or start as 1, go to 2, 3 and 4 a bit later, so perhaps go in a step method with the end goal being Option 4. It comes down to whether we can go straight to level 3 or 4 – are the systems ready, or do they have to overhaul everything? Do we need to transition into this" – Dubbo participant

Option 3 was sometimes preferred because it was slightly less expensive and it provided some improvements to the network but was perceived to be better because it would be targeting only the areas that needed investment rather than a 'blanket' approach to improvements. Some were also put off by the mention of a fully automated network (as in Option 4), fearing that a lack of human involvement would cause problems in the future.

"For me, probably option 3 but the more technology you introduce the more things that can go wrong. I am very wary about automating everything and it goes pear shaped very quickly"…..."I would agree with that too, I'm wary of issues with technology. There are all sorts of issues – breakdowns that sort of things" - Broken Hill participants.

"I think Option 3 is acceptable, mainly for cost reasons" – Bega participant

"I'm probably looking at Option 3. As a small business owner I'm worried about the price difference between Option 3 and Option 4" - Dubbo small business owner

In terms of the cost impact on Option 4, while many agreed that the bill impacts were quite small over a year, there were some participants who anticipated that there would be other additional costs (perhaps added by the retailer) so the accumulated increase may be considerably more, therefore Option 3 was preferred.

"In an ideal world, Option 4 is the way to go, what concerns me is that there are a number of increases that add up."- Wagga Wagga participant

"I'm also concerned that the retailer will add to these costs, so I'd rather steer away from higher cost options" – Dubbo participant.

Many also mentioned that the more vulnerable people in our community may have difficulties paying the extra amount each year so thought Option 3 was very good second-best option.

Options 1 and 2 were rarely mentioned as preferred options of managing power quality because they were not seen to go far enough in improving the network and did not have any automated technology. It was not felt to be taking advantage of the advances in technology that Essential Energy had available to them.

"The Option 1 thing that scares me is that power quality will decline – I don't think anyone will choose that." – Ballina/Taree participant

Manual versus automated response to power quality

Many were in favour of a more automated intervention – it was considered more efficient and would use more technologically advanced systems. As mentioned, however there were some who had concerns about a lack of human involvement and relying too much on automation, with no manual overwriting possible would not be ideal. Another concern with automation was that it would have the potential to replace people with machines and there would be job losses in regional areas, which was poorly received.

"Automation is more efficient and will benefit everyone" – Wagga Wagga participant

"Option 4 is out of the equation because I don't trust full automation I like human involvement- so 2 or 3"…. "I agree, I'm not big fan of fully automated, I don't mind number 4, but I don't want people to lose their jobs" – Ballina participant

"One of the things that I have an issue with is that if it's all fully automated, that you don't have the power to ring someone up and get them to fix something. I want to make sure there's still the opportunity for people to fix the issues" – Dubbo participant

"Everything I'm involved in with my working life – every time a business wants to invest in software, they make the gains by sacking people" - Ballina/Taree participant

Real-time network monitoring

There were many positive comments made in reference to real-time monitoring, mainly on the basis of investing in improved technology, staying up to date with the latest developments in technology and improving efficiency. However, there were also questions about what 'real time monitoring' actually meant, with a few participants expressing concerns regarding being monitored personally in some way or a lack of privacy.

"I just think real-time is the way of the future – technology, it's a no brainer for me. We need to invest now and make substantial decisions now" – Bega participant

"Does that mean it's going to be watching every appliance I have? And are they going to stop us doing things – with smart metering. They can decide for whatever reason they might restrict me – and I don't like that with option 4" – Ballina participant.

Investing in dynamic network assets

There was a high level of appeal and many positive comments amongst participants toward the idea of Essential Energy investing in assets like batteries and smart transformers to actively manage the network. These types of ideas were felt to be the way of the future because they took pressure off the poles and wires.

"It's absolutely the way to go – we have the technology, and all these Tesla batteries it can be done now let's do it" - Bega participant

"Investing in assets to actively manage the network is good because its preventative. Investing in solar panels is better for the environment as well. It needs to move with the most modern technology to the maximum extent" – Bega participant

Preferred Option – polling results

When polled regarding their preferred power quality option, the results reflected the comments made by participants in the breakout rooms with most preferring Option 4 (66%). This was consistent across regions and age ranges. This preventative option was also highly popular amongst those with solar (73%).

Support for Option 3, which entailed mitigating existing problems and pre-empting some, was also fairly popular (27% preference), however this varied across age ranges and solar ownership. Option 2 was not popular, with only three per cent of participants preferring this option. Three per cent of participants preferred Option 1, which involved doing nothing more and maintaining the reactive approach, however preference for this option was somewhat higher in the North Coast region, amongst those aged over 64 years and amongst those with solar.

Figure 14: Preferred power quality option
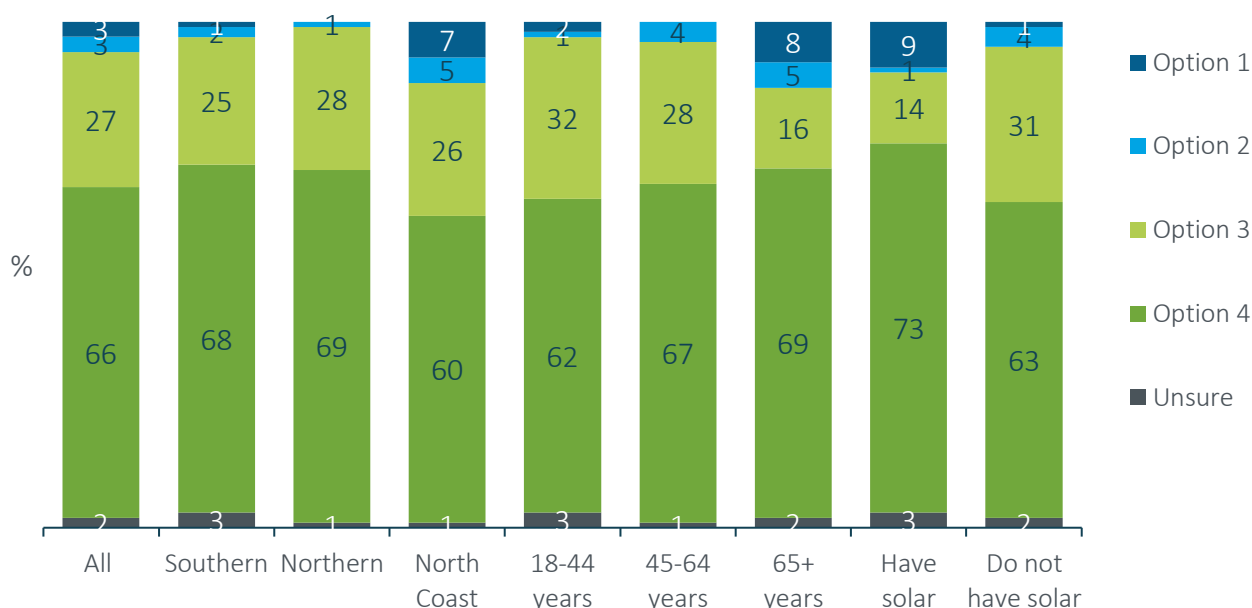
Which is your preferred option as to how Essential Energy should manage power quality issues?
Base: All forum participants who answered this question (n=402); Southern (n=125), Northern (n=141), North Coast
(n=135), 18-44 years (n=162), 45-64 years (n=139), 65+ years (n=101), Have solar panels (n=111), Do not have solar
panels (n=291)

6.1.2 CALD and ATSI findings

Participants from ATSI and CALD communities had experienced flickering lights and brown outs only on an intermittent basis. These power quality issues were not considered to be significant, as participants had only experienced minor impacts.

Of the participants who had solar, some had considered investing in batteries, but the cost was stated as prohibitive. Similarly, EVs were expressed as being unaffordable, particularly in remote and rural communities.

> *"It's still [financially] difficult for people working and living in remote areas." – ATSI participant*

> *"When they talk EVs, it really doesn't apply to our communities." – ATSI participant*

When the four options to improve power quality were presented, together with the suggested methods Essential Energy could employ to achieve better outcomes, participants preferred options 3 and 4. Cost seemed to be top of mind in respondent's decision-making with job loss also factored into responses.

> *"$5.54 is a big coffee in Dubbo, that is nothing." – ATSI participant*

> *"Option 4 will take people out of work, it will cost $5.54. That's insane." – ATSI participant*

> *"Price is influencing me the most and power quality, number of exports and export limits, they're all nearly the same. It will be the same as now. We expect blackouts during times of emergencies even with Option 4 you will probably have a blackout." – ATSI participant*

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The rural sector was discussed as the ideal location for batteries and transformers, creating a more dynamic network for active management.

> *"Rural might benefit more from active management because it takes longer for Essential Energy workers to get out there." – ATSI participant*

6.1.3 Youth Group findings

Similar to the customer forum participants, the youth participants indicated that they had limited experience with power quality issues. Some had experienced brown outs, which just felt to be an inconvenience, and none reported flickering lights.

> *"It was more just a nuisance than anything, just had to wait for everything to come back on." – Youth Group participant*

> *"We've had to reset the microwave clock a few times, but that's about it." – Youth Group participant*

They felt that automation could be incorporated into power quality management, however they wanted to maintain some ability for assets to be manually adjusted.

Like the consumer forums, the Youth Group participants preferred either Option 3 or 4, with a recognition that power quality will decline without investment into the system.

> *"I reckon Option 3 looks alright; it's going to benefit everyone. If you go with 4 you have to pay heaps more… if something goes wrong, you still have some manual back up." – Youth Group participant*

For the Youth Group the most important outcomes were to ensure that export of solar was not limited or connection denied as these were felt to go against the priorities of Collective Benefit and Future Focused. Participants understood that the network was under strain so they felt that improving infrastructure and being smarter about export management was an acceptable approach. Dynamic management of the network was also supported, as long as it was paired with improving infrastructure to ensure long-term functionality of the network.

> *"I wouldn't say quality needs to improve because it's pretty good where I am, just everything around it." – Youth Group participant*

> *"I feel like, one of the goals at the beginning was Collective Benefit… if everyone wasn't given the same access to that technology, or some are limited, then it doesn't align with that goal." – Youth Group participant*

> *"They don't affect me personally, but with the whole going green, I think some people would object to that because it's more sustainable for more people to be using solar." – Youth Group participant*

6.1.4 C&I findings

Feedback from C&I customers was similar to other connected customers and business partners. For many power quality was extremely important, with most suggesting that theirs was not that bad.

> *"Power quality is pretty good. There are, not many issues with quality – we have blackouts but quality is ok" – C&I customer*

There were one or two however who complained about the power and had invested in solar and wind power to maintain the energy stability.

> *"We are supposed to run our equipment and we had to upgrade the power feed. We found we had voltage drops. We had anticipated that the power would be good enough but it wasn't so we had to go off grid. We weren't getting enough power." C&I customer*

In almost all cases, Option 3 was preferred. For most this seemed more realistic and cheaper than Option 4. C&I customers agreed that Essential Energy needed to be more proactive and invest in the future to mitigate problems of the past.

They felt that monitoring of the network made sense to help control power quality and improve service levels and the installation of batteries made sense.

6.2 Business Partners and Stakeholders

6.2.1 Local Councils

As with connected customers, there was a high level of appeal in Option 4 however, it was seen to represent a significant cost increase for customers which was not appropriate. In that regard, Option 3 emerged as the preferred option. It was seen as being better from a cost benefit point of view and was a more palatable increase.

The concept of full automation was discussed and there was one or two Council participants that suggested that full automation of any system was not always full proof. There was concern amongst some that moving to a fully automated grid would result in less people on the ground, therefore making it harder in the long run to deal with Essential Energy.

> *"As long as we have people on the ground that we can talk to we should be alright. It gets extremely hard to deal with EE when they are further afield." Council participant*

> *"Regional areas need to operate and afford the cost of living - we would not be keen for Option 4." Council participant*

6.2.2 Renewable Developers

For Renewable Developers, many preferred Option 4, although some felt that Option 3 was adequate enough in the short term.

> *"Ultimate preference is for option 4 with my generator hat on."*

They particularly liked the prospect of automation and felt that these options would help set up the network for the future. However, there was some discussion that Option 3 would possibly provide the ability for the network to move toward the future vision without having to commit now to a more expensive solution. The belief was that the energy market was changing so rapidly that future innovations may negate the need to go to the full expense of option 4.

> *"After 2030 how much new generation will they be connecting, have they factored in everything that will be changing?"*

"From our perspective, we would like renewable generation to increase, but if it is not going to benefit the end users there is a fundamental issue regarding how the energy is getting to them."

Some felt that they needed further detail as to how these options would impact renewable generators in order to make a firm decision.

"It is an extensive task to roll out option 4. It would be good to share what the plans are to deliver option 4."

6.2.3 New Technology Providers/Solar Installers

There was substantial support for Option 4 amongst new technology providers, particularly as the cost to consumers was seen to be so low.

"For 10c a week to be able to export any amount of power they want and have better power quality it seems like a no brainer."

"The costs are so low with the benefits so high. It is a better long-term strategic decision – to lay the foundations now for the future (Option 4)"

They believed that the potential that option 4 provides is well worth the expenditure, particularly with developments like peer-to-peer trading and the increased uptake of electric vehicles expected in the future.

"If peer-to-peer unfolds in a meaningful way, to have dynamic export limiting to enable people to sell energy when the network can cope with it makes a lot of sense."

With the focus of governments and society as a whole on decarbonisation, it was thought that Option 4 allows for more renewables so fits well with this drive.

Encouraging people to sign up to dynamic management of their energy resources for a reward was also thought to be key in the future, so that customers feel they have an element of empowerment. It will have to be carefully communicated so that it "doesn't feel to people that the big network company is taking control because people will hate it".

Improving power quality improves the service to all consumers, regardless of whether or not they have solar, so new technology provides thought that should be the focus in communications.

The group suggested that they could supply Essential Energy with private data at a low cost, as part of real-time network monitoring, which will help to move to option 4.

6.2.4 Consumer and Industry Advocates and the Stakeholder Collaboration Collective

Similar to consumers, Options 3 and 4 were favoured by advocates and stakeholders as it was believed that doing nothing was not really an option and would increase prices substantially for customers further down the track.

Option 4 was believed to be the best long-term response, it was more a question of how quickly we should aim to move to it. This option was also thought to have other benefits that are not power quality related, such as quicker connections for solar and electric vehicles.

"How fast and what are the trade-offs are the key questions. Who will be the winners and losers of a quick transition?" – Consumer Advocate

Electric vehicles were thought to be primarily a load on the network rather than an exporting method in the regulatory period to 2029. It will only be after this period that electric vehicles may be used for storage too.

It was stressed that there are other ways of solving power quality issues too that are not network solutions such as implementing standards around solar inverters.

6.2.5 Critical Infrastructure Provider

Outages were the biggest pain point for the critical infrastructure providers and it was thought that customer service would be key to this. They would like Essential Energy to let them know as soon as possible if there is a power outage and what the ETR is, so they can let any impacted customers know.

"One of the biggest driver of costs is sending a truck out. If we see a bit of the network go off line and we don't know it is power related then we send a truck out which is a cost. The quicker we have visibility that there is a power outage the quicker we can let customers know."

They were strongly supportive of Option 4 as it would lead to cost reductions in their business. Again it was reiterated that Essential Energy should treat them differently to other large customers, particularly as Telcos are going to become classified as an 'essential service' in the next regulatory period.

7. Resilience Scenario

7.1 Connected Customers

7.1.1 Main forum

Reactions to an outage scenario

The forum participants were presented with a hypothetical scenario in order to generate discussion on the difficulties they may face in an extended outage, and how they may go about dealing with the impacts.

The scenario presented was:

> *I'd like you to think about a scenario for a moment. Imagine there had been a big storm late yesterday afternoon and the power went out at 5pm. It affected half of the local government area, not just your street. So it's a big event. It is now the next day at 5pm and it isn't back on. You have been notified by Essential Energy that they are assessing the network and will provide an update in the next day or two.*

The forum participants were then asked to discuss what their main concerns would be some 24 hours into the outage. While a range of different concerns emerged, for many their first thoughts tended to relate to the contents of their fridge and/or freezer, and the potential of 'losing' everything that they had stored due to the progressive thawing/food spoilage that would occur over time:

> *"The biggest issue is spoilage. I can get by without lights, and may be annoyed if I can't have a hot shower, but the biggest expense is loss of perishables." Wagga Wagga Participant*

> *"Food storage is a major concern. A hot shower would also be missed. But I've had no power for 5 days before. It is what it is, you can't stop it - you just put up with it." Taree Participant*

> *"Food rotting in the fridge and freezer." Wagga Wagga Participant*

> *"The fridge and freezer thawing out would be my biggest concern." Bega Participant*

> *"Probably fridge spoilage – both fridge and freezer." Dubbo Participant*

> *"Because we live in a rural area - we have a full pantry and a full fridge." Taree Participant*

While some participants mentioned having a back-up generator that they would use in such a situation, the vast majority did not. Most didn't have a real solution for this type of scenario but some mentioned using alternative means of cooking to make use of what they had in the freezer before it spoilt.

> *"It's going to have quite a serious effect on most households who don't have access to a generator. We have a generator, so we have some capacity to power the fridge and freezers." Wagga Wagga Participant*

> *"I'm lucky enough to have a generator so my only real concern would be is there fuel available at the local fuel station as we can run some of the necessities using that." Ballina Participant*

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"Having made it through the fires previously I saw the need to get my own insurance in place, so I have a back-up generator." Bega Participant

"I would just keep the fridge closed as long as I could and use other things around the house. I have a gas BBQ as an alternative." Taree Participant

"I've got a gas BBQ so with perishable food I might be able to cook it and make it last a bit longer." Broken Hill Participant

However, spoilage and stock loss was of greater concern for the SMB participants. While not relevant to all, those that had perishable goods tended to indicate that an outage of 24 hours duration would have a significant negative impact on their business, while others were concerned about the inability to transact, or for the safety of their premises.

"We have thousands of dollars of perishable stock, so it would be a major concern." Wagga Wagga participant

"As an aquarium owner, 24 hours will affect my filtration system. Stock will start to die." Taree Participant

"Put simply it means no income, an inability to operate." Ballina Participant

"We wouldn't be able to take electronic payment from anyone. We could take cash if people had it, but the cash register is electronic, so that wouldn't work either." Bega Participant

"Security would be a major concern for us – lack of lights to monitor movement. We had some nefarious characters sneaking in recently, vehicles broken into at another business." Inverell Participant

"For the motel, I would be saying goodbye to a lot of guests who may move to another premise with power or roll on and continue on their travels." Broken Hill Participant

Another major concern to participants generally was that of communication. In the majority of break-out groups there were participants who indicated that an outage of more than 24 hours was likely to mean that they had no means of communication available – as their mobile phones were likely to run out of power, and their internet service would not be available. In terms of a potential solution, some felt that their power packs would be useful to re-charge their mobile phones, but they weren't sure that they would be of any more use than that.

"You wouldn't be able to communicate – I wouldn't be able to charge my phone." Wagga Wagga Participant

"If your phone runs out of battery you can't call an ambulance – it's a huge roll on effect because we're more and more dependent on electricity." Dubbo Participant

"I have a power pack which charges a lot of devices which could get me over a few hours but after 24 hours it would start to get rough." Bega Participant

"We have pre-charged battery packs for phones, but that's about it." Wagga Wagga Participant

Some also believed that a significant outage could impact mobile phone towers – so even if they had the means of powering their devices they didn't think the phone system would be operational, which caused concern.

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"I could charge the phone from the car but there's no point if the towers are down." Inverell Participant

"Phones would be useless. We would have no way of communicating with my mother." Bega Participant

"Communication for me – this happened to me, I was out for 7 days in a flood. We had no communication at all – except radio. We would turn on the car to listen to the radio but that was telling us to get on the internet but we had no power and the mobile towers were down." Ballina Participant

The scenario was then intensified with the description that it is now 3 days after the power went out. Participants were to imagine that Essential Energy had provided an estimated time to restore power of another 3 days (6 days in total).

While some had mentioned the same issues at the 24 hour mark, an outage of three days or more was seen to be of much greater concern to most participants, and their concerns intensified.

One area of concern that was heighted with a longer outage related to how elderly family members or other elderly members of the community would cope without electricity for a lengthy period of time, as well as how those who have some level of reliance on electricity for medical reasons would be able to deal with the situation.

"I work with vulnerable older people who are homeless so heating could be a problem especially in winter as Bega can get cold at night. So there'd be people at risk in that environment." Bega Participant

"As we get older, health issues can arise quickly and if there is no access to the phone then that would be a problem." Dubbo Participant

"We're elderly and live in quite a remote area. I had great concerns during the fires because we have to drive a distance to get into the village. At my age I feel very vulnerable to long power outages and quite frankly I'm prepared to pay anything to feel safe and secure." Bega Participant

"I'd have to make sure my husband breathes all night because he's reliant on CPAP." Ballina Participant

"It would mean that I couldn't monitor the breathing of my child when he's sleeping. I'm not sure how I would handle that." Bega Participant

"I'm a diabetic and have insulin in the fridge so if it was summer it would be an issue for me. It won't last for 3 to 6 days." Broken Hill

Some participants, particularly those who lived outside town centres, often indicated that the water supply for their property relied on electricity to pump it to their house. And while this was an issue for many at the 24 hour mark, it was said to become more problematic for a longer outage. Not having electricity meant that they would no longer be able to access fresh water for drinking, cooking cleaning etc.

"We have no water as soon as the power is out so that's serious. I'm in an isolated spot so trying to save food and save eggs, it would be all systems go. I would have to try and find a generator." Bega Participant

"No power means no water, so no toilet, no nothing. We're more than 20 minutes from town, so it's not a quick duck in to try get things we need, once the power is gone we are cut off." Inverell Participant

"I wouldn't have water, but then I'd worry about the animals and where to get water for them. I don't have any backup water for them. I'd be a little scared at that point and a little depressed." Taree Participant

A few of the participants also indicated that they had been working from home due to changes in work conditions resulting from the COVID-19 pandemic. As such they were concerned that they would not be able to work while the power was out. While this was inconvenient for a shorter outage, a number of participants indicated that a longer outage was likely to impact their income.

"I work from home so no power means no money." Inverell Participant

"I'd be in big trouble because I do business form home, and I can have big contracts with time constraints." Ballina Participant

"The biggest impact is financial. You can't work from home at all. Maybe I'd try to find a friend who still had power on somewhere." Bega Participant

A lengthier outage was also seen to have a greater impact during the more extreme seasons of the year. That is, participants tended to indicate that 'basics' like heating and cooling would become more of an issue when they were experiencing very hot and very cold temperatures.

"If it's in winter heating is a problem." Bega Participant

"Depends on what time of year if it is. Winter or summer might be an issue with a baby in the house. If it is drastically hot we would have to leave and go stay with friends elsewhere." Dubbo Participant

"The seasons come into play. It would be awful in winter not having heating." Inverell Participant

"If this happened in winter or summer them I can't imagine people living without heating or cooling." Bega Participant

Participants were also asked to indicate what impact a more widespread outage would have on them. They tended to indicate that if the outage affected a larger area they would start to be impacted in other ways – such as having limited access to petrol/fuel for generators, and also that it would limit their options for using the facilities of friends or relatives that may live nearby. Some also indicated that they were likely to look for alternative accommodation if they had no local solutions and were facing a lengthy outage – but this clearly wasn't an option for everyone.

"If things are more widespread you can't buy petrol, and you can't get groceries anywhere nearby. That will be quite a problem." Bega Participant

"If it was a wider footprint, then we'd have additional problems. There'd be no fuel. The shops we can get to couldn't operate, so how would we get food?" Inverell Participant

"A smaller area means we could go to an area where there is power – someone we know. Wider is worse. Where would we go?" Taree Participant

"I would think about leaving after 24 hours, and would definitely do so after a couple of days, particularly if you can't rely on nearby friends because they don't have power either." Taree Participant

"I may want to, but I don't have the money to just leave and go elsewhere." Taree Participant

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Perceived responsibilities during an extended outage

The participants were also asked to consider what they thought the responsibilities of various entities should be during an extended outage. They tended to say that Essential Energy's priorities should be in fixing the issue causing the outage, and, if possible, to communicate with their customers to inform them of what was happening and when the power was likely to be restored.

> *"They need to concentrate on doing their job and get things back up and running." Dubbo Participant*

> *"Essential Energy should mobilise whatever they could to get the power back on again." Broken Hill Participant*

> *"Their role is to provide accurate information – and for their workers to get power back on." Bega Participant*

Some wanted Essential Energy to do what they can for residents that require electricity for health reasons, and also potentially to assist businesses.

> *"Prioritising people if they have an emergency situation where they need life support equipment and they can't leave. Get something to them to get them up and running." Inverell Participant*

> *"We'd like to hope that Essential has a large supply of generators to bring into shops to get essential shops back working, like chemists and supermarkets." Dubbo Participant*

Some also wanted Essential Energy to look into what caused the outage in the first place, and see if they could prevent a long outage from happening in the future.

> *"Investigate the cause of the long outage to stop it happening in the future." Dubbo Participant*

> *"They need to look into it to make sure it doesn't happen again." Broken Bill Participant*

There was also a lot of talk of the different entities needing to work with one another to ensure the security of residents, and to rectify the situation.

> *"I would expect Essential Energy to partner with other agencies, to get others involved if necessary." Wagga Wagga Participant*

> *"We have a lot of institutions that help us like the SES, so they could liaise with the SES to put plans in place for emergencies." Dubbo Participant*

> *"I think they should all be working together to provide water and food and everyday supplies for people who are impacted." Inverell participant*

The forum participants were also asked to reveal what responsibilities should fall to the community during an extended outage. Overwhelmingly there was a call for the community to band together and assist those who were likely to be most impacted by an outage – such as the elderly, or those with medical conditions.

> *"Community spirit, checking on neighbours. Going in making sure they are ok." Wagga Wagga Participant*

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"Making sure the people in the community are protected and helping out one another and finding ways to get people out and provide food." Inverell Participant

"Looking after each other. Have a neighbourhood network and pool resources." Taree Participant

"Welfare checks. Helping the vulnerable and aged." Ballina Participant

In terms of the perceived responsibilities of local and state government, responses were mixed. Some did not know what role or responsibility they would have, while the most common suggestions were of providing community spaces, and coordinating services for the community.

"I can imagine that they would provide evacuation centres and community centres for basics like food and shelter." Wagga Wagga Participant

"Council should do whatever they can do. If it's a major incident then the response from Council would be to offer the Bega showground and similar in Cobargo and other locations. They've got good places to put a large generator and get support back to people." Bega Participant

"I think they would play a bit of a coordination role between the main services." Taree Participant

When asked what the possible responsibilities of insurance companies should be, many struggled to immediately provide a response, and some participants couldn't see what role they would play. Ultimately though, the participants were most likely to indicate that the insurance companies may not have any immediate responsibility, but they should process any claims in relation to the outage in an expedited manner. Some felt that a claim of that nature may not be worth making due to the impact it would have on any no-claim bonus they held.

"I wouldn't expect anything in the short term. But they should make the payout happen quickly when they're submitted." Ballina Participant

"They could pay for the loss of food and stuff." Wagga Wagga Participant

"Just to process claims. Food spoilage and that sort of thing." Bega Participant

"I guess people may claim for their lost food. But you'd have to work out if that's worthwhile." Dubbo Participant

"You'd make a claim but with your excess it probably doesn't make it worth it." Broken Hill Participant

In terms of the Emergency Services, participants tended to think that their role could be significant - depending on the extent of the outage both in regard to the area impacted and the length of time that people were without power. However, their role was seen to centre on keeping the community safe. Many also talked of the Essential Services working in a coordination role with other agencies to ensure that things that needed to be done were actually happening.

"They have a responsibility around anything to do with safety." Ballina Participant

"They would help EE with taking away trees, etc." Inverell Participant

"They should be checking on the old and vulnerable to make sure they're OK. They may also need to distribute food, I'm not sure." Bega Participant.

"Making sure vulnerable people are safe. There are generators in hospitals for example – they may need to keep a check on things like that." Bega Participant

"They may have responsibility for making sure households are secure." Dubbo Participant

"The SES may have a list of vulnerable people that could be shared with Essential Energy." Wagga Wagga Participant

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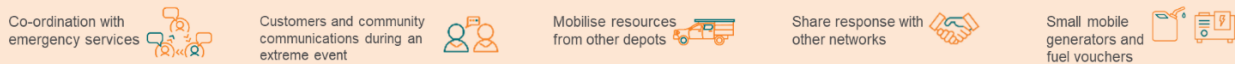# 8. Resilience Methods and Options

8.1 Connected Customers

8.1.1 Main forum
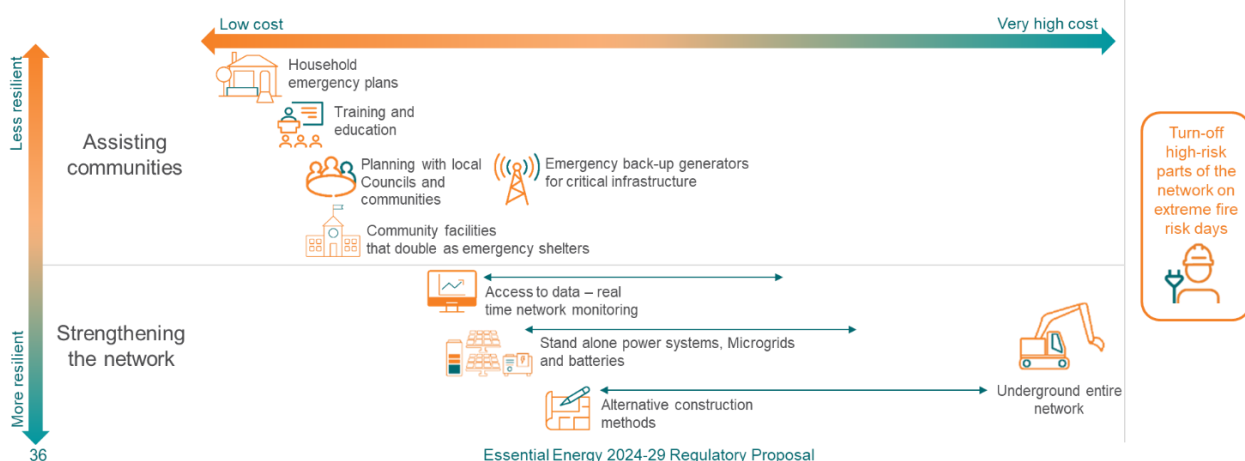
Preferred Resilience Option

Within the forums Essential Energy described how they currently responded during extreme weather events and then presented some methods for the future that could improve the network's resilience (outlined in the chart below).

Each of these methods were explained along with their broad cost implications. Essential Energy then presented four options that packaged the methods together (outlined in the chart below).

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		Option 1 - do nothing more	Option 2 – slightly more resilient	Option 3 – more resilient	Option 4 – much more resilient
METHODS	Assisting communities	No change	Used in high risk areas	Used in medium to high-risk areas	Used where any Council or community requests assistance
	Strengthening the network	No change	Real-time network monitoring, SAPS, microgrids, composite poles and undergrounding in **targeted (high-risk) areas**	Real-time network monitoring, SAPS, Microgrids, composite poles and undergrounding in **broader (medium to high-risk) areas**	– **Broad** real-time network monitoring – SAPS, microgrids used **extensively** – Composite poles and undergrounding **extended to regional centres and larger communities**
OUTCOMES	Impact	Very long outages during extreme events	Fewer and shorter unplanned outages for very targeted areas	Fewer and shorter unplanned outages across a broader area	Negate the majority of unplanned outages
	Recovery	Slow recovery across the network area	Faster community and network recovery in **high-risk areas**	Faster community and network recovery in **medium to high-risk areas**	Faster community and network recovery **across more areas**
	Other on-going benefits	No change	– **Some reduction** in maintenance costs and the costs of responding to extreme weather events – **Minor visual improvement** (less visible poles and wires)	– **Greater reduction** in maintenance costs and the costs of responding to extreme weather events – **Some visual improvement** (less visible poles and wires)	– **Significant reduction** in maintenance costs and the costs of responding to extreme weather events – **Significant visual improvement**
Cost		Costs are passed to customers	$52M over 2024-29	$118M over 2024-29	$500M over 2024-29 (20 year plan)
Bill Impact increase per annum		Bills go up and down with events	47 cents $2.04	$1.75 $7.62	$27.84 $121.20

N.B. Bill impacts are based on an: A residential customer with an **annual network bill of $741** (consuming 5MWh per annum on a flat rate tariff) ~$2,000 retail bill. A business customer with an **annual network bill of $2,186** (consuming 23MWh per annum on a flat rate tariff) ~$5,900 retail bill

In the breakout rooms participants were asked for their views on the options and which they preferred. Most participants selected either Option 3 or 4.

Option 4 was seen to provide a more complete solution that ensured Essential Energy were set up and ready for the future, particularly given climate change and recent experiences suffered through the fires and floods.

> *"Option 4 because anything that addresses the impacts of climate change that we're facing, like fires and storms and things like that, it's a more permanent, focused solution rather than a Band-Aid fixing problems as they happen." - Taree Participant*

> *"$28 a year is a not a big price to pay for those benefits." - Wagga Wagga Participant*

> *"Yes, Option 4. It seems a lot, but I think it would be worthwhile." - Broken Hill Participant*

> *"Option 4. But I wouldn't even bother with the composite poles. I would just do everything underground. As long as it can withstand the flooding." - Ballina Participant*

> *"As someone who is highly impacted by natural disasters, Option 4 sounds very appealing. We wouldn't have had half the problems if some of these things were in place. So, I prefer Option 4 especially for improving communications during events as if that's lost that's a huge issue for communities." - Taree Participant*

Participants also saw added advantages with Option 4 such as, a reduction in the number of outages, safety improvements, on-going cost savings through reduced maintenance costs and an increase in the aesthetic appeal of the street and landscape.

> *"The safety aspect of having lines underground, how many people are killed from hitting those poles, and having the lines start a fire, it eliminates that risk." - Taree Participant*

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Even the price of $28 extra a year did not seem to deter some residents, with a number claiming that it was not a great deal of money when you considered the benefits to be gained. For small businesses in particular, the price per year for a reduction in the frequency of unplanned outages was considered minimal given the potential loss of revenue and stock that could occur during an outage.

"If this stops one outage a year I'm already ahead."- Dubbo SMB participant

"Even over 20 years it's only something like $550. It's not that much over such a long period of time." - Ballina Participant

"If Option 4 is a 20 year lifespan you need to get started ASAP." - Wagga Wagga Participant

"If there is going to be more extreme weather events, then $28 a year is cheaper and you are future proofing the network."- Wagga Wagga Participant

"Option 4 might be more expensive, but it could reduce the amount of money needed in the future." - Wagga Wagga Participant

There were a significant number of participants however, that felt Option 3 was more appropriate. Many believed that it was a steppingstone to Option 4, giving Essential Energy the opportunity to 'test the initiatives' before investing larger sums of money in infrastructure.

"I like Option 3 because it is a short-term plan and is within the 5 year range. Once they have that in place then they can transition slowly to the 20-year plan" - Wagga Wagga Participant

"I am leaning towards Option 3 mainly due to the cost difference. 20 years is very different to now. Should we just jump to that now, rather than transition to Option 3 first?" Inverell Participant

"Option 3 to develop into Option 4 seems good, it has to be better for the future." - Wagga Wagga Participant

There was also a feeling that the bill impact of Option 4 was exponentially greater than the increase in perceived benefits between Option 3 and Option 4. In fact, some participants questioned whether moving to Option 4 was perhaps going too far and investing in assets and initiatives that were unnecessary. Others suggested that a 3.5 version may be more appropriate, that offered slightly better results than Option 3, but was not as costly as Option 4. This perception was largely generated by the interpretation that Option 4 included extensive undergrounding of the network.

"Option 3 seems more realistic because it covers most of the things that Option 4 covers." - Dubbo Participant

"There's a hell of a bill increase between Option 3 and 4 at $28." - Taree Participant

"It's targeted, Option 4 might be a bit over the top, it would be ideal but the cost for Option 4 is roughly 12x." - Dubbo Participant

"I think Option 3 is enough. Some undergrounding would be OK, but it's not needed here in Broken Hill really. We don't have the same issues here." - Broken Hill Participant

"Option 4 is fantastic but it comes down to whether it's something that we can adopt. It is a fair jump from 3 to 4. And there isn't anything in between - an option 3.5."- Dubbo Participant

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Option 4 is just such an extreme jump from Option 3, so I'm a little bit torn between them really. Maybe an Option 3.5?" - Wagga Wagga Participant

"There almost needs to be an Option 3.5. If you were talking about an Option 4, with most of the network underground, with 3.5 you could be strategic about where the undergrounding is. It is more important within national parks and where there are issues."- Bega Participant

A smaller number of participants were less favourable to both the higher priced options, opting for Option 2. The main concern for these customers was the perception that the cost of these options plus the costs of other initiatives would add up and the cumulative bill impact would be significant. Some also questioned the need for all the initiatives mentioned in Options 3 and 4.

"All of these costs are adding up... when you add 44c with the other things it will add up."- Dubbo Participant

"Option 2 is my preferred option. Do we really need all of these other things in Option 3 and 4? I don't know." - Bega Participant

"Option 2 – I think they should start small and focus on high-risk areas first and work up from there." - Dubbo Participant

There was a sense that all new housing developments were required to have the network underground so the focus really needed to be on the problem areas, rather than casting the net more widely.

"I'm thinking more Option 2. Surely with all of the new developments there are higher standards for undergrounding and that sort of thing, so we should only be worried out some of the key problem areas."- Dubbo Participant

Preferred resilience option – polling results

The polling question revealed that Option 3 and 4 were quite evenly preferred amongst participants (47% Option 3, 44% Option 4). However, in the Southern and North Coast region Option 4 was preferred by more (both 50%), whereas more than half (59%) of the Northern participants preferred Option 3. Additionally, preference for Option 4 increased with age. Those without solar were also somewhat more likely to prefer Option 3 (51%). Lastly, only eight per cent of participants preferred Option 2 and less than one per cent of participants supported Option 1.

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Figure 15: Preferred resilience option
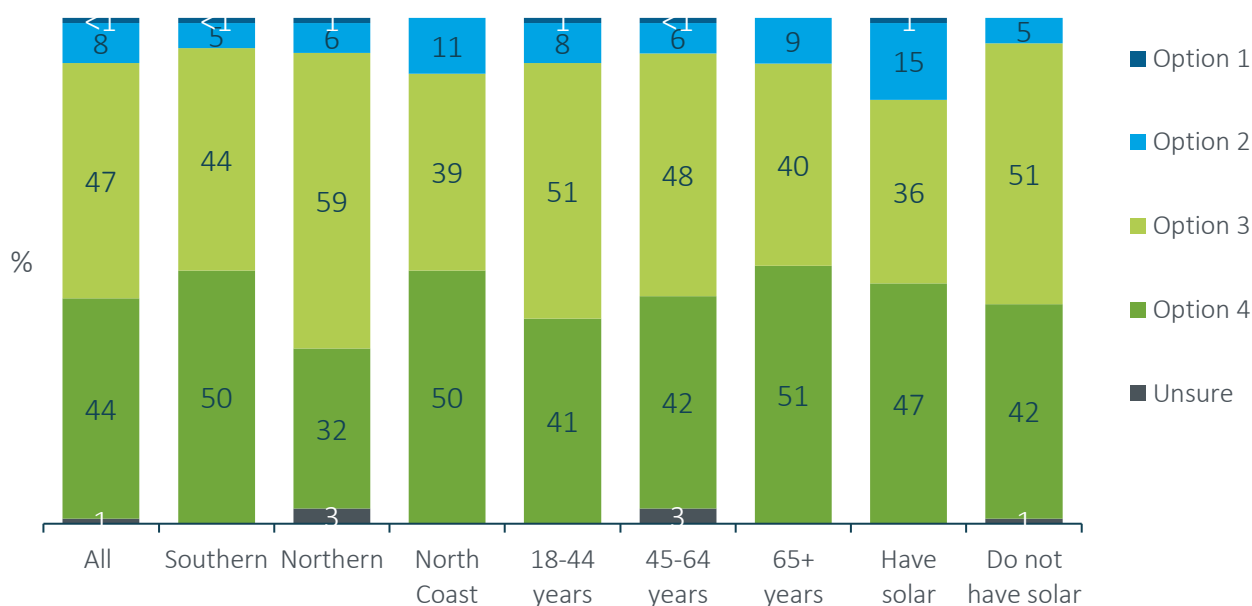
Which resilience option do you think Essential Energy should be aiming for over the longer term?
Base: All forum participants who answered this question (n=389); Southern (n=120), Northern (n=132), North Coast (n=137), 18-44 years (n=158), 45-64 years (n=135), 65+ years (n=96), Have solar panels (n=108), Do not have solar panels (n=281)

Support for Individual Initiatives

Following on from the discussion regarding the options, participants were asked how supportive they were of the initiatives or methods that made up the options.

In terms of **assisting communities**, Essential Energy mentioned working closely with other emergency services and local councils, working as quickly as possible to get the power back on, asking other network providers to assist, and providing generators with fuel vouchers to those worst affected customers.

However, Essential Energy then suggested that there were other methods that they could employ that would assist communities. These ranged from being low to high cost and from less to more resilient, for example:

- Developing household emergency plans

- Training and education for customers and communities on how to deal with an extreme event

- Working with councils and local communities to plan for extreme events and develop appropriate responses

- Deploying emergency generators to mobile phone towers to make sure communities can remain connected

In an overall sense, the majority were supportive of Essential Energy assisting the community in some way, however the extent to which it was thought that the organisation should help varied amongst participants.

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There was widespread support for Essential Energy providing back-up generators for critical infrastructure and planning the response with Councils, but some felt that it was outside of Essential Energy's role to be training communities and developing household emergency plans.

"Having the backup generators for critical infrastructure is a no brainer." - Dubbo Participant

"Really good idea. Much like the RFS has the bushfire preparedness action plan, if you live somewhere with significant outages you should have an access plan and access to generators." Taree Participant

"Assisting communities isn't just the responsibility of Essential Energy." - Dubbo Participant

"I'm not sure that's Essential Energy's role. They're the supplier of electricity, they're not the trainer of the landforce." - Wagga Wagga Participant

"I don't think Essential Energy can create household emergency plans. They can encourage that. That information is already available online. Training and education of whom and at what cost?"- Broken Hill Participant

That is not to say, that education was not seen to be important. The majority of participants were in favour of supporting the community with educational material that would better prepare them in the event of an emergency, however most felt that this would need to be a co-ordinated approach, perhaps, developed in collaboration with Essential Energy, Council and the SES, but delivered by Council.

"Unless you come from an area with lots of outages you don't think about it. So it's important to pre-empt these things."- Bega Participant

"It's important to have that information early on. We won't have power to google what to do in that situation. So good to know beforehand." - Wagga Wagga Participant

"It is good to have clear communication earlier, everyone needs clear communication so that they can understand." - Wagga Wagga Participant

"Training and education –there should be more of it because that way everyone knows what to do." - Taree Participant

In addition to helping the community, Essential Energy also described ways in which they could strengthen the network, through such initiatives as:

- Access to real time data

- Installing SAPS, batteries and microgrids which can limit the impact of extreme events

- Using alternative construction methods, such as composite poles which don't burn

- Or undergrounding parts of the network, or even the entire network

Being able to access data and monitor the network in real time seemed to be a very good idea and one participants were surprised to learn was not already happening. Many argued that this was important for Essential Energy to have visibility of the network and saw it as moving with the times and preparing for the future.

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"Surprised it hasn't been done already. Better to be proactive than reactive." – Wagga Wagga Participant

"We live in such a digital age, we have to get going with things like real time monitoring – we have to get the upgrades done and move with the times to get the results we want." - Broken Hill Participant

"Picking up a small fault to avoid a major crisis is a good thing." – Broken Hill Participant

"It's a bit like having a reliable car. If you maintain it and look after it, you avoid issues." Dubbo Participant

There was a lot of support for Microgrids and Standalone power systems (SAPS) that would enable parts of the community to operate when the main lines were down in the event of a fire or flood. Some had experienced the recent events and commented that if these were in place the impact may have been lessened.

"With microgrids and SAPS you minimise the fallout of outages and the amount of people impacted." – Ballina Participant

"If they had microgrids and SAPs in small townships when those fires went through there could have been power in those smaller areas and a far better outcome for those who are trapped." – Dubbo Participant

"SAPS are going to prove to be useful in remote areas. I think the concept of microgrids has legs. That will allow you to island off an area if there is a problem." Bega Participant

Again, the concept of batteries held significant appeal with many participants suggesting that the installation of these would solve a lot of issues.

"Tibooburra is affected when the power goes out so renewable technology would be brilliant. We need to utilise the sun and the wind and get batteries at home." Broken Hill Participant

"We get a lot of sun so with good, localised battery systems we could probably fix a lot of the issues." – Bega Participant

"How many houses are feeding into the microgrid and how big your battery is will determine how long you can survive without other forms of power." – Taree Participant

Composite poles were regarded as a perfect idea when poles needed to be replaced in fire prone areas, however some worried that car accidents would be a lot worse as they were perceived to be more solid and perhaps less forgiving.

"Alternative materials in fire prone areas is a good idea. But there is the potential to consider of more serious car accidents with these poles." – Dubbo Participant

"I sell a lot of poles and make a lot of money out of that and I'm prepared to sacrifice that to see a bit more resilience to be honest." Taree SMB Participant

"If timber is harder to find composite is the way to go especially if it uses recycled materials." Taree Participant

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"Should start somewhere, prioritise over time and start with high-risk areas, and ones due for replacement at the end of their life." Wagga Wagga Participant

Whilst there was support for replacing timber poles with composite ones, there was also a great deal of appeal in the concept of undergrounding a significant portion of the network. There was also a high degree of recognition however, that undergrounding was extremely costly and possibly not feasible in some locations and so many agreed that starting with high-risk areas made a lot of sense.

It was agreed that undergrounding would improve safety, reduce the risk of fires and improve the networks resilience, but also could reduce the number of fatal car accidents.

All seemed to be supportive of undergrounding in new developments, where possible, and were unanimously of the opinion that it was aesthetically more pleasing.

"It has to be phased in over many, many years, start with high-risk areas and work your way down. It's a very long-term plan." – Dubbo Participant

"All new developments should be underground. This is the most important aspect. They need to concentrate on this, and then they won't need to do as much to assist communities. " – Wagga Wagga Participant

"I used to live in Darwin and when they started undergrounding power it made a world of difference, but it's a heck of a cost". – Dubbo Participant

"I would like to see every power pole and wire that goes through a national park go underground as a matter of common sense. – Taree Participant

"It would be nice in the long run but to run millions and millions of kilometres of HV wire underground through national parks doesn't seem feasible." – Bega Participant

However, some could see issues with undergrounding and questioned how maintenance of the lines would be impacted and how faults could be located and repaired.

"My concern is that if they were underground there might be a delay in locating where the outage is and that would affect the ability to fix it quickly." - Taree Participant

"Above ground you can get a cherry picker to fix it relatively easily, digging and disrupting things is increasing costs." – Wagga Wagga Participant

"You'll never put the whole grid underground the cost would be astronomical." – Dubbo Participant

Strengthening the network compared to assisting communities

When asked where the emphasis should be on balance – assisting communities or strengthening the network, most agreed that strengthening the network needed to be more of the main focus for Essential Energy. Whilst participants felt that assisting communities was also important, the feeling was that this was less impactful than strengthening the network. The key argument for this was a belief that a more resilient network would in itself assist the community through a reduced impact during critical events.

"This is a more obvious role for Essential Energy, rather than setting up community services or education, rather actually managing the infrastructure." – Bega SMB Participant

"They are equally important it is hard to separate one from the other, they need the community and the system to strengthen the network. They go hand in hand." - Dubbo Participant

"Both are equally important. Strengthening the network will reduce the assistance you need to provide the community with 'a good product that supports itself'." Wagga Wagga Participant

"If you strengthen the network first you don't need to support the communities as much." - Broken Hill Participant

"Strengthening the network is a priority, and a side benefit is that the communities will be assisted." – Dubbo Participant

"To me, if they strengthen the network there will be less need for work in the 'assisting communities' category. – Bega Participant

"Idea seems nice/good for community outreach programs, but not to be prioritised over strengthening the network" – Bega Participant

"That's [assisting communities] nice and lovely, but I expect them to provide energy." Dubbo Participant

"It sounds like those measures are learning to cope without electricity, rather than building resilience into the network. We're the customers, we own the electricity, and we shouldn't have to learn to cope without it." Wagga Wagga SMB Participant

In the polling questions, just over half (51%) supported increasing resilience through strengthening the network compared to assisting communities. This preference was slightly higher amongst those in the North Coast region (56%), participants aged over 65 years (60%) and solar customers (58%). Two fifths (40%) felt that Essential Energy should strengthen the network and assist communities equally, which was fairly consistent across regions, ages and solar ownership. The minority of participants (9%) felt that Essential Energy should assist communities ahead of strengthening the network.

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Figure 16: Preference for increasing resilience through strengthening the network compared to assisting communities
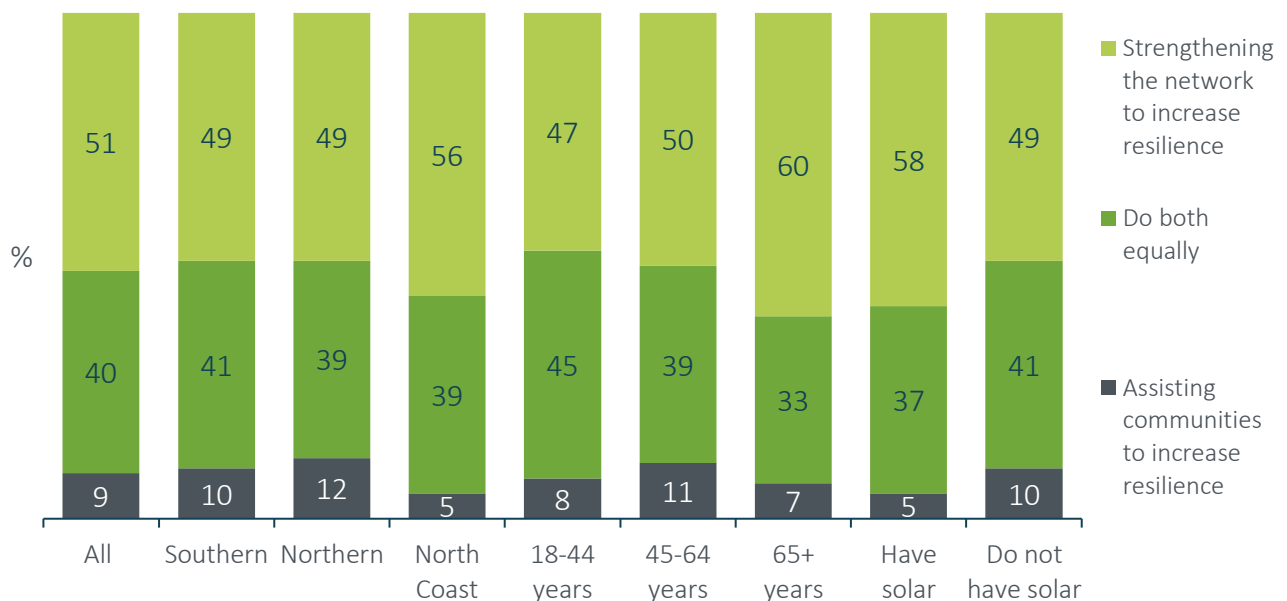
When looking at ways to increase resilience, on the following scale of 1-7 please indicate where you think the focus should be between:
Base: All forum participants who answered this question (n=396); Southern (n=120), Northern (n=139), North Coast (n=137), 18-44 years (n=164), 45-64 years (n=135), 65+ years (n=98), Have solar panels (n=110), Do not have solar panels (n=286)

Turning off the network in high-risk locations on extreme weather days

The final question of the forum session asked participants how supportive they would be of Essential Energy turning off the network in high-risk areas on extreme weather days. There were mixed views regarding this concept.

Those in favour could see that it would help prevent fires and protect whole communities against devastation. However, they did feel there would need to be a lot of communication as to the reasons for cutting the power and much warning from Essential Energy. Support would need to be provided and there would also need to be solutions in place for those who relied on power for medical reasons.

> *"If you ask the people impacted by the fires, they would be all for it but not those in town." – Taree Participant*

> *"That sounds like a reasonable strategy to protect a whole region from a natural disaster, but we should be looking at reasonably low-cost solutions before such drastic measures." – Bega Participants*

> *"If it's going to stop half the country burning down it's a good idea." – Taree Participant*

> *"If the area that has the power cut off is small and isolated, and the other people in the area with no power can travel nearby to somewhere with power, then yes this is a good idea. – Dubbo Participant*

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"It's not something I'd be happy with if I was on the receiving end, unless I had somewhere else to stay." – Broken Hill

"I'd rather have the network off than have a fire. A fire is much more disruptive." – Bega Participant

"Providing it doesn't affect the vulnerable it should be pretty good." - Dubbo Participant

"I mean if it's going to save homes and lives sure - but holey moley!" – Broken Hill Participant

Those against saw it as a harsh solution and were worried that items like water pumps wouldn't be working if there was a fire and they needed them. If this was to occur, some participants suggested generators should be on hand to assist those who really needed power.

"It's too extreme. They should spend more money in the areas to strengthen the network so they're not as vulnerable." – Dubbo Participant

"On a high-risk day it is going to be really hot, and I don't want to be without power in that sort of environment."– Broken Hill Participant

"It depends if you're in a high-risk area, I'm not sure how I feel about that, the bigger picture yes, but if it is 40 degrees with high winds and you're turning my power off, that's another matter." – Wagga Wagga Participant

"It's inequitable to turn someone's power off. I just don't support it sorry". - Dubbo Participant

"If they turned off the power- how will people fight fires if they don't have access to pumps?" – Inverell Participant

"I don't support them turning off the electricity at all, no matter what the risk, because where I am we need the air con at 4 o'clock when everyone's getting home. You can't turn it off, no way." - Bega Participant

In the polling there were mixed responses. Over two fifths (12% Very supportive, 30% Quite supportive) supported this proposition, while almost a third were against (12% Very against, 19% Quite against) and twenty per cent neither supported nor were against. The proportion of those who supported or were against the measure also varied across regions, with those in the North Coast as well as those aged between 45 and 64 years being more likely to be quite supportive (39% and 37% respectively). Additionally, fourteen per cent of participants aged 65 and over were unsure of whether they supported or were against turning off the network in high-risk locations on extreme weather days.

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Figure 17: Support for Essential Energy turning off the network in high-risk locations on extreme weather days
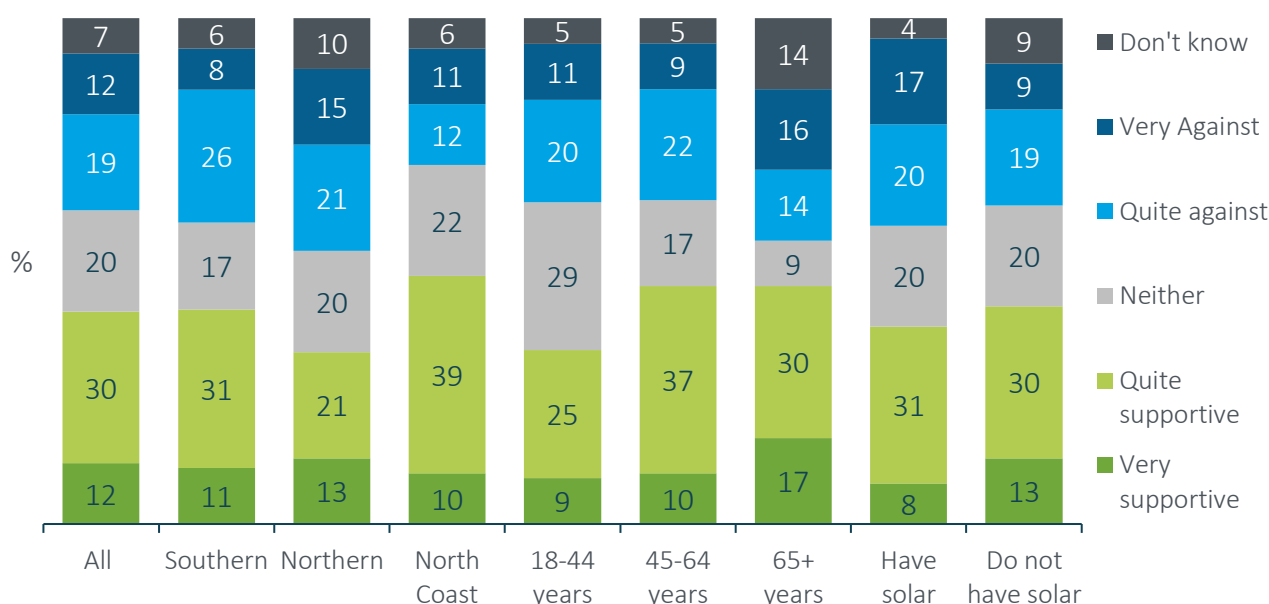
How supportive are you of Essential Energy turning off the network in high-risk locations on extreme weather days to help prevent bushfires, with the effect of some downstream customers having no power supply?
Base: All forum participants who answered this question (n=397); Southern (n=120), Northern (n=140), North Coast (n=137), 18-44 years (n=163), 45-64 years (n=136), 65+ years (n=98), Have solar panels (n=110), Do not have solar panels (n=287)

8.1.2 ATSI and CALD findings

Findings for the ATSI and CALD participants were similar to the main forums. The four investment options presented to improve resilience were considered with feedback favouring option 3, essentially as it was seen to offer sufficient improvement for a lower cost than for Option 4. Participants felt that option 4 was an excessive approach and wasn't necessary in all areas.

> *"I won't go for option 4, I will stick to this option 3 as there are a lot of benefits. We need a lot of education to our community to bring them in line with everything." – CALD participant*

> *"Number 3 because there are only certain areas that require mitigating for natural disasters, I wouldn't cover the whole grid structure as it's probably going to be too much." – ATSI participant*

There were mixed responses recorded in relation to Essential Energy's role in assisting communities. Some participants stated an expectation that training and education, emergency generators and setting up community facilities was within Essential Energy's remit, while other participants were less convinced.

> *"It's not Essential Energy's responsibility. It's good they're thinking about it. Everyone should have a backup plan." – ATSI participant*

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8.1.3 Youth findings

As in the main forums, Youth Group participants preferred Options 3 or 4. Again, Youth Group participants mentioned the increasing occurrence of extreme weather events so were keen to improve the resilience of the network. Some favoured Option 4 despite the additional cost, as they believed it would largely future proof the network. However most indicated that Option 3 seemed appropriate given it was a more acceptable cost and would still provide great improvement to the network. They were particularly concerned about the extra cost to small businesses.

> "Option 3 is the safer option, most things that need to be covered are covered… for businesses who are already struggling an extra $121.20 is a lot." – Youth Group participant

Some also preferred the more predictable nature of Option 4 compared to Option 1 with the pass-through costs.

> "Comparing the cost of Option 1 and Option 4… instead of having the cost continuously passed down to the customers, it would be better if it was one cost per annum… you already know much you'll have to pay with Option 4." – Youth Group participant

In terms of methods to assist the community, Youth Group participants were highly supportive of Essential Energy providing emergency back-up generators for critical infrastructure. The felt that training and education should relate to Essential Energy's role in the energy system, and what to expect and do in times of outages. Participants wanted a clear indication of what to do in the event of an emergency, because they saw them as inevitable. Other information about safety during extreme weather events was felt to be provided by local and state government.

> "Obviously having back-up generators for critical infrastructure like hospitals is a must, maybe a bit of training and education… but I can imagine the other things would be done by the local or state government." – Youth Group participant

> "There will be more extreme weather events in the future, so educating the community about what will happen, how EE will help is pretty effective." – Youth Group participant

For strengthening the network participants prioritised the introduction of new technologies such as SAPs and Microgrids which would support the community during unplanned outages and severe weather events. Youth Group participants were interested in this technology, and asked questions about how they would work for households and within the community.

> "They're safe proof… if something happens, we can fall back on this." – Youth Group participant

Most Youth Group attendees felt that real-time network monitoring would also be useful but emphasised the need to strengthen the network's resilience through tangible assets rather than relying on improved data and monitoring. Alternative construction methods such as using composite poles seemed logical, especially in locations prone to bush fires.

> "Where I'm from it's probably more important to have the resilience rather than the real time data." – Youth Group participant

Youth Group participants understood that undergrounding the network improves its resilience, however they also understood that it is costly and felt that undergrounding should be introduced in new development and high-risk areas, rather than throughout the entire network.

"It's a bit out there to try to underground all around the town, but new developments are very doable… undergrounding means less risk during extreme weather events." – Youth Group participant

"There's always that idea of putting everything underground, and it's a good end goal but not very realistic at the moment." – Youth Group participant

8.1.4 C&I customers

C&I customers wavered between options 2 and 3. Almost all agreed that Option 4 was going too far and was an unnecessary expense.

"I don't want the higher expense. Option 3 is fair and sensible" – C&I customer

Some preferred Option 2 on the basis that it was targeting high-risk areas and felt that the money should really be spent there first to resolve the resilience issues in those communities. It was argued that then Essential Energy could move to Option 3. Others preferred moving straight to Option 3 as it achieved a good level of resilience without the huge expense of Option 4.

"They need to relive the high-risk areas first. They don't need to go all out" – C&I customer

"Undergrounding wouldn't work in this area – it is an unnecessary cost, we're too isolated. We have lots of bushfires but couldn't underground around here" – C&I customer

8.2 Business Partners and Stakeholders

8.2.1 Local Councils

Councils tended to prefer Option 3 of the investment options presented. They were in support of increasing the resilience of the network, particularly in light of recent events, however they cost of Option 4 was felt to be prohibitive.

"Recent events have painted the picture of what is to come and what we need to be thinking about it" Council participant

"Obviously it is always great to do the best option but you have to look at the ability of the community to be able to afford it. We can't afford to do option 4 I would think." Council participant

There were however one or two who believed that moving to Option 4 was perhaps not out of the question, given the cost of the damage caused by the last fires in the region and the impact that was likely to have on customer's bills to fund those repairs to the network.

"The last fires are costing as much option 4, so you only in one event and you are up around option 4 costs." Council participant

"Given the projected increase in severe weather events you could almost assume that option 4 would pay for itself." Council participant

When asked about the role of Essential Energy in assisting communities, Council participants were in favour of this as they recognized they were not the experts in electricity and that any education material needed to come from someone who knows what they are talking about.

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There was also a feeling that there could be more collaboration with Councils by Essential Energy to develop strategies to help improve resilience in the community and to develop appropriate response tactics in the case of an event.

> *"We are not experts on electricity so Essential Energy should be doing the education on electrical matters. "* Council participant

> *"I would love to see Essential Energy working with Local Government about how to work with whole of community businesses to make them more resilience."* Council participant

The reaction to turning off the network in areas when there were extreme weather events to prevent fires was clearly welcomed by those in bushfire prone locations. Most agreed that the benefit of not starting a fire and having communities' devastated, outweighed the potential complaints from the community regarding the loss of power.

> *"Customers are going to complain but the benefits of not having a fire outweigh this."* Council participant

For others who were not in a fire prone area, the concept of no power on extreme weather days was not appealing. They were then concerned about the risk of people having to cope without air-conditioning and the potential issues that would arise from that.

> *"We are not in a fire prone area but if the power gets switched off and it is 50 degrees we would have more people dying from that."* Council participant

8.2.2 Renewable Developers

For Renewable Developers, Option 3 seemed to make practical sense, however Option 4 was preferred. The main reason was that the cost seemed to equate to the impact of the bushfires and the feeling that if Option 4 managed to mitigate the risk of only one fire, then it was going to pay for itself.

> *"The cost to fix the impacts of the bushfire is very similar to the cost of the Option 4 upgrades."*

There was recognition however, that the cost of undergrounding was expensive and some felt that Option 3 that employed a more targeted approach was a more practical and realistic option.

8.2.3 New Technology Providers/Solar Installers

Similar to other groups, the new technology and solar providers were mindful of the cost differential between Options 3 and 4. It was thought that Option 3 gives more 'bang for buck' and that future technological developments adopted by households may also help to improve resilience on top of Option 3.

> *"With the developments such as electric vehicle to home, vehicle to grid as well as solar and batteries in homes – private investment that also increases resilience to consumers - then Option 3 may be enough."*

They believed that there needs to be a good balance between assisting communities and strengthening the network.

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Batteries were singled out as a method that improve resilience but also has other benefits such as decarbonising the grid, which was seen to be transformative. Undergrounding was thought to be too costly but composite poles were thought to be a good alternative.

> *"Spend the money on decarbonising rather than undergrounding. There are more important things to do than undergrounding."*

When asked about their views on turning the network off in high-risk areas the group suggested that batteries should be installed as a back-up in those areas.

8.2.4 Consumer and Industry Advocates and the Stakeholder Collaboration Collective

Advocates and stakeholders believed Option 3 to be the best option for the 2024-29 regulatory period. It was thought that Option 4 would result in a bill increase that is unmanageable for many customers.

It was mentioned that it needs to be made clear to customers that Options 3 and 4 are not 'bullet proof' and that there would still be events that would require cost pass-throughs to customers.

Although it was understood to have been used elsewhere, such as California, stakeholders were hesitant about the notion of turning off the network in high-risk areas on extreme weather days. If this idea was going to be investigated further, they stressed the need for support structures to be included such as SAPS, it not being done on consecutive days and specific support for businesses and vulnerable customers whose health and safety might be impacted.

> *"It needs to be made sure that it isn't a shock. Communities need understanding that it is only in certain areas."*

It was believed that critical infrastructure such as telecommunications and water supply should have their own back up electricity supply such as generators, rather than Essential Energy supplying this.

It was stressed that there needs to be a coordinated response for emergencies between all of the organisations involved. Roles should be whatever is most logical for that agency.

> *"Don't re-invent the wheel or duplicate services. Liaise with the other organisations and create a co-ordinated plan that provides the community with some empowerment too. Every community will require a different response."*

8.2.5 Critical Infrastructure Provider

The critical infrastructure provider favoured Option 3 including real time monitoring, composite poles and undergrounding in high-risk areas. They did believe that resilience should be improved so that insurance costs don't go up and end up costing customers more in the long run. They particularly liked the idea of SAPS and in fact had rolled out some of this technology at their own fixed wireless sites in some of the regional areas.

Collaboration and co-funding was a key focus for improving resilience for the critical infrastructure provider.

> *"There are strong opportunities for co-funding between power companies and telcos. For example in Victoria there were storms in June and November last year in the Dandenong ranges that wiped out the networks twice in six months. That is very costly so we need to share costs to make the network more resilient."*

It was believed that the State government could play a co-ordination role to achieve this.

> *"The State govt should play a coordination role between power companies, telcos and others as we need to have a consensus view on how we do it. That will save consumers money in the long run and they will have a better outcome. The only constraint is the regulatory framework. Partnering with power companies is a real focus for us and we are aware we need to play our part too."*

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9. Pricing

9.1 Connected Customers

9.1.1 Main forum

Reactions to the pricing challenges

Within the forums Essential Energy reminded participants of the current pricing challenges:

- That the current price structures do not reflect the cost involved in supplying electricity to customers – in that it is more expensive to supply electricity to some locations and in some seasons of the year.
- How and when customers use electricity during the day impacts network costs and there is spare capacity on the network for most of the day
- Although the network was built for the one-way flow of electricity it now needs to accommodate two-way flows – which has resulted in the need for investment.

It was then explained that the current price structure results in some customers paying 'too much' and some paying 'too little' relative to how they use the network.

In order to show how these pricing issues were impacting various customers, the following examples were presented and explained – depicting the cost implications for a single person living in a small house, and a family of four living in a larger house with solar. This was explained in relation to the chart below.

The forum participants were then told that Essential Energy views the current situation as inequitable as the single person is subsidising the solar family, as their use of the network costs more than the single person's.

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Participants were then asked to discuss this situation, and to indicate whether they think it is acceptable or unfair and in need of change.

While a minority struggled to fully understand the situation, in general participants did seem to understand that solar customers were causing stress to the network that wasn't initially designed to handle the two-way flow that it was now dealing with. So, from that perspective most agreed that it wasn't necessarily an equitable situation whereby the cost that solar customers were creating (for the network) was being spread across all customers – which obviously includes a large number of non-solar customers.

> *"By looking at the structure I can understand where they're coming from. It's like those without solar are being penalised." Wagga Wagga Participant*

> *"Yes, it's not equitable. I'd like it be fairer." Taree Participant*

> *"I'm a single home owner without solar and I'm shocked that I'm subsiding those with solar. Their bills should be lower but I won't be subsiding them." Ballina Participant*

> *"I was surprised. I was concerned about how a single person can be subsidising a family. A family would cost the network more to provide electricity." Inverell Participant*

The SMB participants tended to be slightly more understanding of the situation, but their reaction was generally in-line with that of the overall customer base.

> *"It's inequitable but it's because we've got a diverse country and most of the population lives on the eastern seaboard. There's always that cross-subsidisation to provide services in the country and the more remote you get the more expensive it becomes." Wagga Wagga SMB Participant*

However, while many understood the inequity of the situation, they didn't necessarily believe that it was unfair. Many of the solar owners, and quite a few of the non-solar participants were supportive of households having solar systems - which many felt had a positive impact on the environment, and had (in the past) been encouraged by Government. So too, they understood that solar owners were likely to have invested heavily to get their system. As a result, they felt that the solar owners should benefit from the investment that they had made, and that they shouldn't necessarily be paying more to utilise the system that they had already invested in.

> *"I'm a single person and it looks inequitable but then it's the people with solar who've made the investment to put solar on." Wagga Wagga Participant*

> *"I don't know that it's unfair. If you look at the total cost over time, I've made that investment in solar panels incentivised by having lower power costs in the future" Ballina Participant*

> *"The family has paid for the solar panels, so I don't think it's unfair at all. I don't think it's unfair because they bought it to get the lower price electricity. It dis-incentivises it." Bega Participant*

> *"I think people need to be encouraged to have solar, so the pricing should encourage that rather than discourage people to take it up." Broken Hill Participant*

> *"Once you've made the investment, you're entitled to reduce the cost, most people are heading that way." Wagga Wagga Participant*

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Similarly, the business participants tended to indicate that it wasn't necessarily unfair because the solar users had made an investment in the solar system that they had.

> *"It is a little bit unfair to the people who've invested in the solar system, they're actually supplying energy back at a much lower rate than they're buying the energy for so I think that should also be taken into consideration."* Bega SMB Participant

> *"They spend the money to put in solar, why not reap the benefits."* Taree SMB participant

However, some participants did feel that the situation presented was unfair for the single person household. In this regard some reactions tended to be in response to the type of individual depicted in the smaller household. The scenario was seen to depict a low-income older individual who may well have difficulty in paying their electricity bill.

> *"I think that it doesn't seem fair for a single person to pay more. They are the ones who can least afford it."* Ballina Participant

> *"I didn't realise that was the case and it seems a bit unfair especially if the single person is a pensioner or low-income earner that can't afford solar."* Inverell Participant

> *"I think it's extremely unfair and it seems to hit those that are the most vulnerable like single people."* Broken Hill Participant

> *"It's unfair for the elderly who live on their own. They have a lesser income as well and they can't afford to put all that solar on the roof and therefore don't have the luxury that the four-person family has."* Broken Hill Participant

> *"I also have solar panels and solar hot water, but I don't think it's fair that a single person is covering the cost for that in the network."* Taree Participant

Some, though relatively few in number, took the scenario further, and suggested that the situation could be rectified if the solar producer were somehow able to use more of the electricity that they were generating – either by moving their own demand, or by investing further in a battery storage solution. One also suggested that network level battery storage may provide a solution to the issue.

> *"The people who produce the solar could be doing better if they have solar and use all the exports they produce. It would be better if they could use all of what they produce."* Bega Participant

> *"I'd like to see Essential Energy install batteries at the power stations to fix this problem."* Taree Participant

Moving towards cost reflective pricing

Following on from the scenario, participants were then asked whether Essential Energy should move towards a pricing system that better reflects how much it actually costs to supply electricity to customers and to accommodate how customers use the network.

Overall, the reactions to this idea were quite mixed. Some certainly felt that moving toward a pricing system that better reflected the actual cost of supplying electricity made sense – and could potentially provide relief for some lower income households and renters who were unable to have their own solar systems.

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"I think it's a good idea to move that way." Ballina Participant

"I think the actual cost to supply each individual user with electricity has to be taken into account." Broken Hill Participant

"As long as it's more cost-effective for the low-income earners and the working class." Inverell Participant

However, others were not sure that what would result under such a change would be fair for everyone. There was particular concern that those in outer regional and more remote locations would be disadvantaged – and it was believed that these areas were already disadvantaged in other ways. While some participants were simply supportive of all customers being subject to the same pricing structure.

"We can't penalise farmers and others who live outside of town. That's just not fair." Bega Participant

"There is a general service disparity in place for those who live remotely, and I don't think they should be charged more for their electricity as well." Taree Participant

"Remote communities are disadvantaged anyway. I would rather carry part of the weight for them." Dubbo Participant

"The more you're going to charge rural people, the more the farmers are going to pay so that goes onto the cost of food and they end up importing food instead because it becomes cheaper. So, if their costs go up the prices for food go up and that ends up hurting the rural people even more." Inverell Participant

"I prefer for costs to stay the same for everybody. I'm not sure what sort of price differential would be imposed on people but I think it's best to share it equally." Dubbo Participant

Some were also voicing opposition to this concept because they believed that it would result in higher charges for solar customers – and they felt that solar customers had done the right thing by making the investment they did and reducing society's overall reliance on fossil fuels.

"They're trying to push the whole world towards renewable energy and those of us who have invested in solar to help reduce our reliance on fossil fuels shouldn't be penalised for doing that." Wagga Wagga Participant

"It's difficult because you've got to give the family a return on their investment. They're taking that away anyway because they've made the rebate so small that it's only a saving in the use of electricity that generates any return." Taree Participant

A small number of participants were uncommitted in relation to this potential change – as they really wanted to know how they would be personally impacted before proving an opinion.

I'm not sure how this change would work. Would I pay more?" Ballina Participant

That would be better for some, but others may be worse off. We may benefit if we aren't causing any real issues for the network, but I don't know really." Bega Participant

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9.1.2 ATSI and CALD findings

In terms of whether the proposed pricing structure is fair, participants supplied mixed responses with no clear preference overall.

"No, the family has put in the effort, installed solar so good on them I reckon. They deserve to benefit from it." – ATSI participant

"It tends to be the lower economic people here that don't have solar panels, so it makes it a little fairer." – ATSI participant

"I think it's making it fair." – CALD participant

In terms of active or dynamic management of customers energy resources, some participants were in favour of this idea as it meant that Essential Energy could turn down the amount being exported.

"It gives them more control and makes them more transparent." – ATSI participant

9.1.3 Youth Group findings

Feedback was limited in this session as Youth Group participants struggled to form their opinions on the scenario presented. Similar to the main forum feedback, they believed that it was inequitable that an older person living by themselves would pay more than the four-person family, however they felt that solar was a valuable asset to the electricity network, and society as a whole, and felt that people should be incentivised to support renewable energy generation.

"It's not very fair, because there's not much the older lady can do about it… but she is using more electricity than the family." – Youth Group participant

"When you look at the numbers it doesn't seem fair, but when you actually know why, it makes sense." – Youth Group participant

"I can see what you're saying, it's really hard because there's pros and cons of each thing. The family of four is paying less because they're using a renewable source of energy, but it shouldn't cost more for the single person… it's a hard discussion to be honest." - Youth Group participant

Participants indicated that peer-to-peer trading could solve the issues with the network without changes to customer's bills.

"Couldn't they get the extra 5kW that the family produce and give it to the older lady." – Youth Group participant

9.2 Business Partners and Stakeholders

9.1.2 Local Councils

Local Councils were not asked these questions.

9.2.2 Renewable Developers

Renewable developers were not asked these questions.

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9.2.3 New Technology Providers/Solar Installers

New technology providers were not asked these questions.

9.2.4 Aggregators and Retailers

In terms of equity with the two scenarios presented, the consensus was that fairness is a complex issue.

> *"Matters of equity are tricky. Lawyers will say there are no input limits so why are there export limits?"*
> *– Aggregator*

Most retailers agreed that there was inequity, and that there were people putting extra strain on the network and not paying their share. However, it was thought that this inequity was difficult to manage with the current pricing structure.

> *"I agree that there is inequality - if you are going to use a low level of electricity you should be charged less." - Retailer*

> *"I think that it is difficult to get a return on assets and it is hard to do that with the pricing structure."*
> *– Aggregator*

> *"I agree that people are putting strain on the network, particularly with so many people feeding back. There are people who are not home during the day to use up what they are producing so they should pay" - Retailer*

One was less inclined to agree with the scenario presented, and suggested that the network needed to cope better with the two way flow and support all customers.

> *"I don't agree. We need to support the grid to be able to cope. They need to support the ins and the out" - Retailer*

One aggregator/retailer suggested that they were currently looking at products that decoupled the network tariff from their own tariffs to address the inequity.

> *"We are looking at decoupling the network tariff from our tariffs. For example, time of use – we used to simply charge it as a time of use product. We are now taking on the risk so we can reduce the tariff if the customer is paying too much" – Aggregator/ Retailer*

9.2.5 Consumer and Industry Advocates and the Stakeholder Collaboration Collective

Advocates were not specifically asked these questions but there is a general agreement that the way pricing is structured currently is not 'fair'. This feedback is presented in the 'two-way pricing' section later in this report.

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10. Consumption Pricing

10.1 Connected Customers

10.1.1 Main forum

Essential Energy presented information on the idea that they could change how pricing is applied to better reflect how much it costs to provide electricity (locational or seasonal) or they could change pricing structures to better reflect the network costs involved when customers consume and export electricity (moving from Flat Rate to Time of Use or Demand tariffs).

In the breakout session forum participants initially discussed the issue of postage stamp pricing (everyone paying the same regardless of where they live) or locational pricing (paying different amounts based on where people live).

Postage stamp pricing versus locational pricing

There was a clear preference for postage stamp pricing expressed by participants within the discussions. Overall, most felt that it was not fair to be disadvantaging people living in more isolated, rural locations because they already experienced many disadvantages. People in isolated places often have to deal with hotter climates, so already have high electricity bills for air conditioning, they have to travel great distances to local services and many do not have a choice on where they live. Overall, it was felt that as a society we should be promoting decentralisation and encouraging people to live in more isolated communities, to take the pressure off the larger towns and cities, and this concept of locational pricing was going against this.

> *"I don't like the idea of charging different rates for different places. Everyone should be entitled to the same rate – same as taxation and other things… I think it's an essential service, like health – we treat people equally regardless of locational. I don't think it's a good idea." – Bega participant*

> *"Locational pricing would be contrary to what the government has been encouraging. They want more regional relocation, and you're talking about disincentivising it."- Dubbo participant*

Interestingly while there were some who could see that it would be fairer and a more cost reflective system or a 'user pays system', they were not in support if their more remote counterparts were penalised.

> *"You could sit on the fence for both sides really, but for me, if I'm being selfish, location pricing is good but I've got friends in the country so location pricing is not fair to them." – Wagga Wagga participant*

Participants were then asked to respond to a polling question asking whether they were supportive of Essential Energy moving to locational pricing. The polling results reflected the sentiment expressed in the breakout sessions with most against this pricing option. Over half (51%) were 'very against' and a quarter (24%) 'quite against'. Those in the Northern Region and those with solar appeared to be particularly against locational pricing (57% and 62% very against respectively).

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Figure 18: Support for locational pricing
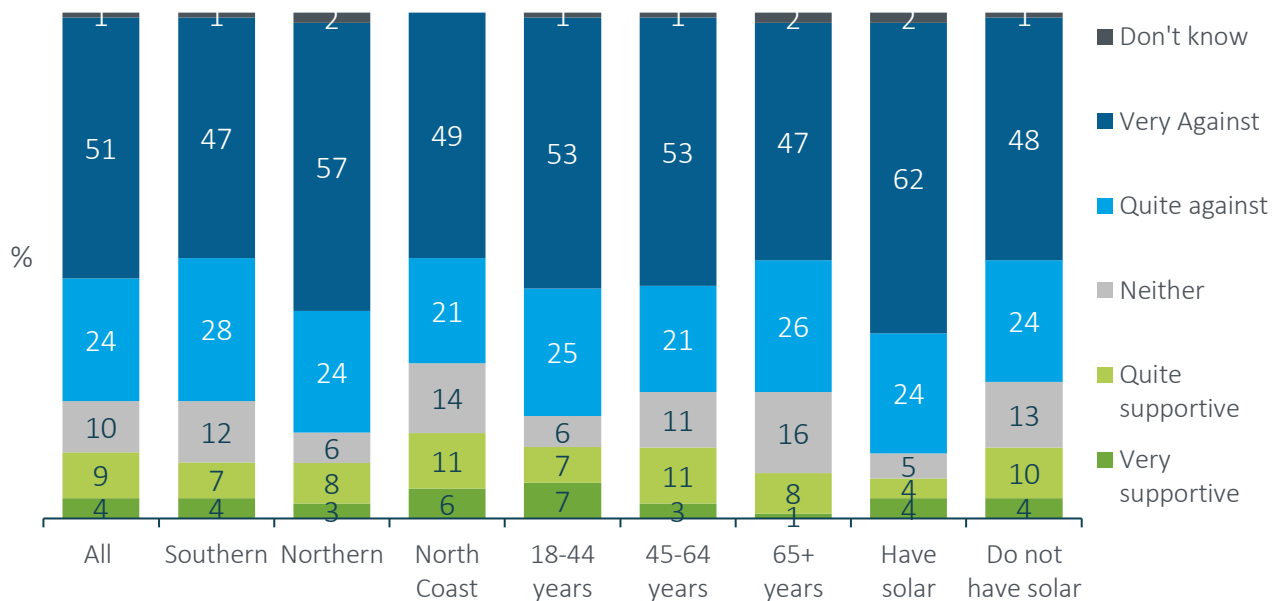
How supportive are you of Essential Energy moving to locational pricing - charging different prices according to where people live?
Base: All forum participants who answered this question (n=382); Southern (n=131), Northern (n=157), North Coast (n=94), 18-44 years (n=144), 45-64 years (n=170), 65+ years (n=68), Have solar panels (n=163), Do not have solar panels (n=219)

Seasonal pricing

It was also posed to participants, whether they felt prices should change according to the seasons or stay the same all year round. Again there was reluctance expressed by forum participants to alter prices according to the season for a number of reasons. Firstly they felt that they were already paying a large amount of money for electricity bills in the summer and winter because of cooling and heating, and while it was often put to them that they would potentially pay less in spring and autumn, many were sceptical and thought that the weather doesn't always follow the same pattern and they may end up paying for air conditioning in those months as well. It was frequently acknowledged that areas where they live, such as Wagga Wagga experience extremely cold conditions in winter as well as extremely hot days in summer so they would be paying a lot more in both these seasons.

> *"I'd like to see it stay the same across the whole time. When it's hot in summer you already use a lot more electricity and are paying more so you're just going to cop it a lot more now I feel. What if it's an extra hot spring, then Essential are winning in summer and in spring." – Wagga Wagga participant*

> *"No to seasonal pricing. When I heard that it sounded like when you get hot, we're going to charge you more and when you get cold, we're going to charge you more" – Broken Hill participant*

> *"I think they should stay the same all the year through. It makes sense to use prices to discourage people from using too much during extreme weather, but I still don't like the idea of having a blanket price increase in place over winter and summer." - Ballina participant*

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Many also commented that they preferred bill certainty and that it would be hard to budget if they had significantly different expenses during different seasons. It was also suggested that this approach would be particularly difficult for the older and more vulnerable members of the community who may feel reluctant to turn on their heater or air conditioner in the cold or hot months because of the extra expense.

There were also some comments suggesting that Essential Energy should be encouraging a change in behaviour rather than adjusting costs based on where people live or the season. Changing prices with seasons was just seen to increase the complexity and stress of managing your electricity costs.

> *"If it changes all the time you don't know what to expect in your bill. You want a stable bill." – Taree participant*

> *"We do have to be aware of those who can't afford it – the elderly. If the pricing goes up in summer, they may not run a fan because of the prices and then end up in hospital. It may be a great idea for people to be more aware, reduce usage but we need to consider the human aspect" – Broken Hill participant*

> *"I think it is complicating things unnecessarily. The focus should be on how the consumer can change their behaviour to help with the demand… the temperature is outside of the customer's control." participant*

Polling results also revealed that most attendees were against seasonal pricing with sixty-two per cent being against the option and less than a quarter (21%) supporting the option. Support for seasonal pricing was fairly consistent across regions, age ranges and solar ownership status.

Figure 19: Support for seasonal pricing
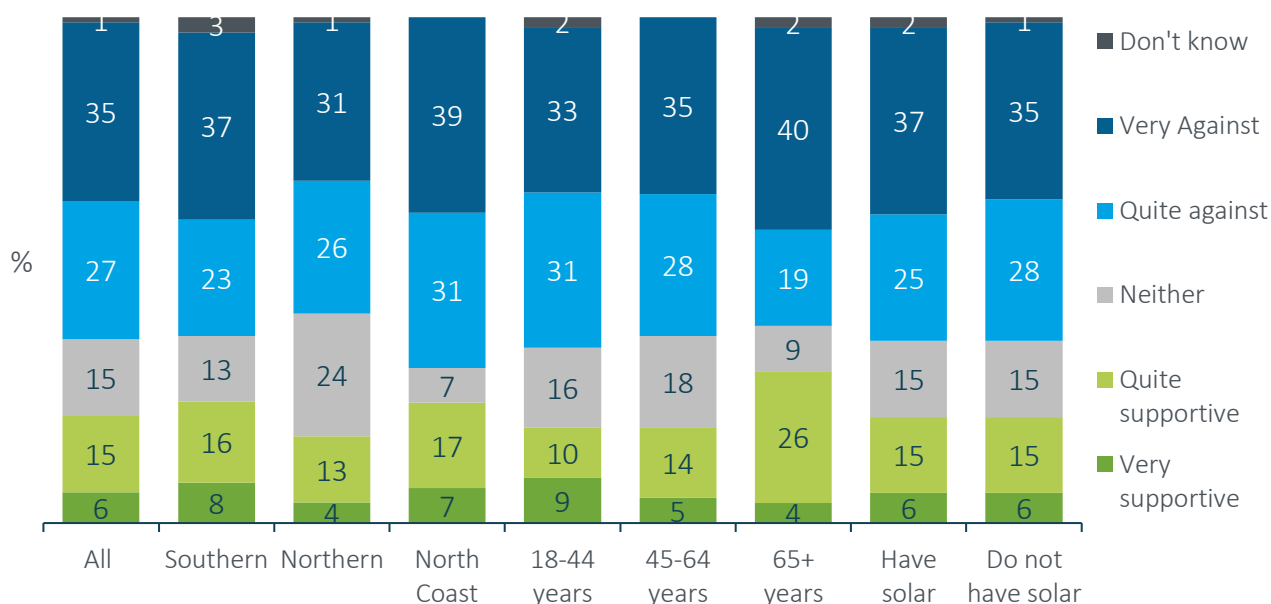
How supportive are you of Essential Energy moving to seasonal pricing - charging different rates in summer and winter than the rest of the year?
Base: All forum participants who answered this question (n=382); Southern (n=131), Northern (n=157), North Coast (n=94), 18-44 years (n=144), 45-64 years (n=170), 65+ years (n=68), Have solar panels (n=163), Do not have solar panels (n=219)

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Cost reflective tariffs

Changing pricing structures to better reflect the network costs when customers consume electricity was then discussed. Cost reflective tariffs such as a Time of Use tariff, a Sun Soaker tariff, Controlled Load and a Demand charge were presented, with participants discussing the pros and cons of these types of tariffs and whether Essential Energy should be encouraging people to move towards these types of tariffs.

Many participants commented that at a conceptual level they understood the need for these types of tariffs and agreed that they would potentially encourage a change in behaviour and provide customers with some level of control over the prices they would be charged. In this respect there was support for Essential Energy investigating options such as these.

"Yes, we have to change the way we use our electricity from how we did it 50 years ago, it's not feasible to do it in the same way anymore. It makes sense to try to get people to use electricity more outside peak times." – Inverell participant

"Some options like off peak or a user pays cost would be more helpful. Then it wouldn't be just for rural people. Maybe we've got to look at things like this to offset the extra cost." – Wagga Wagga participant

"I think it would encourage people to check their meter. Waiting till off-peak times to do their washing and make changes to their behaviour."- Dubbo participant

There were some participants who felt that they would be able to take advantage of off-peak tariffs and Sun Soaker tariffs and that they were willing to change certain behaviours and be rewarded for doing so. Having said that, there were frequent comments indicating that that many people would be unable to change their behaviour because for example, they work all day outside of the house and need to use electricity in the evening, or have families with children that are all home in the evening. There was even more concern for people in this position on low incomes.

"I think that's a very good thing. I've been thinking of using appliances during off peak times which is a good way to manage your power bill." – Bega participant

"I'm a single mum with a child and I work all day. When we get home at 5pm, I need to make dinner and run her a bath – it's not like I can wait a few hours before I do that until it's cheaper. It's not fair that I should be penalised for that when I'm already struggling to pay the bills." - Taree participant

"Being a nine to five household, I don't know that any of these would be to our advantage. Flat Rate pricing for me would probably still be the best for our household." – Ballina participant

In this regard there was a strong agreement that customers should be given a choice in the type of network tariff they were on. However, it was deemed crucial that customers understand the options and are informed enough to make the decision as to which tariff option is best for them according to their lifestyle and ability to shift energy usage.

"If you're a shift worker working early evening shifts, it may work better for you to have that lower tariff during the day when you're at home, and higher rates at night when you're at work. Whereas for stay-at-home mums they may benefit more from having that lower rate during the day. So, you should be able to choose what fits best for you." – Dubbo participant

> *"I think they should have a choice but it should be an informed choice. Until I saw those options, I didn't know they had that variety. It's great to have a choice but it needs to be an informed choice." – Dubbo participant*

In terms of willingness to allow some appliances (e.g. air conditioner, pool pumps, electric vehicles) to be controlled in return for cheaper network prices, while many felt that this would potentially be a good idea for some appliances such as pool pumps, they were less accepting of the idea of Essential Energy controlling their air conditioner, and thereby affecting their personal comfort. Their willingness often depended on the degree to which it would impact their lifestyle and choices. Electric vehicles were mentioned by some as being one that some might consider Essential Energy controlling for the right price (e.g. charging overnight when most people didn't need the vehicle), however more detail was wanted about the level of control Essential Energy would have, the timing and the reward.

> *"I'd be open to that, if I got lower charges. Just depends on how much control they have." – Taree participant*

There were quite a number who dismissed the concept outright as they were generally a bit put off or sceptical about the idea of Essential Energy having control over some aspect of their lives.

> *"I'd be totally against it. I need to be in control of our usage. How does the network know what our needs are? If we used an electric vehicle and it was out all day, I would not want the network telling me that I can't charge it when I return home." – Ballina participant*

There was a polling question on this topic. Approximately one quarter (28%) were willing to allow Essential Energy to control some of their appliances in return for cheaper network charges, while over a half (58%) were quite or very unwilling. This varied somewhat across the regions, with over a third (36%) of those in the Southern region being willing (very or quite). Those with solar were also somewhat more willing to have their appliances controlled (34% total willingness).

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Figure 20: Willingness to allow some appliances to be controlled in return for cheaper network charges
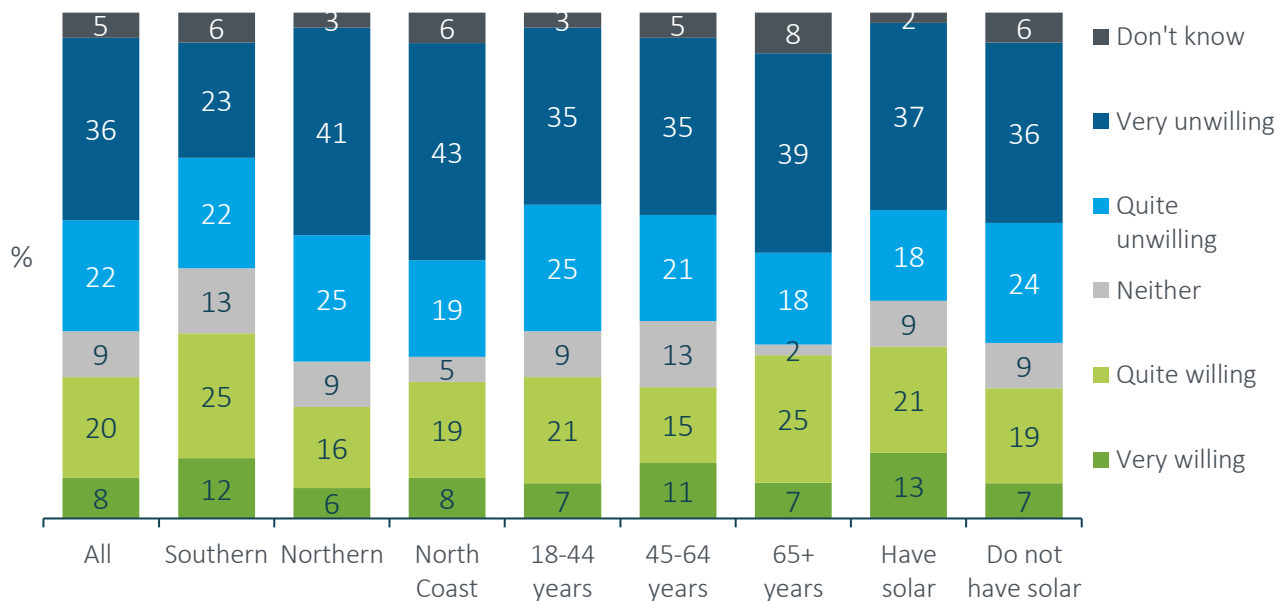
How willing would you be to allow some of your appliances (e.g. air conditioning or Electric Vehicle) to be controlled in return for cheaper network charges?
Base: All forum participants who answered this question (n=382); Southern (n=131), Northern (n=157), North Coast (n=94), 18-44 years (n=144), 45-64 years (n=170), 65+ years (n=68), Have solar panels (n=163), Do not have solar panels (n=219)

10.1.2 ATSI and CALD

ATSI and CALD depth participants were not asked these questions.

10.1.3 Youth Group findings

Youth group participants were not asked these questions.

10.1.4 C&I customers

C&I customers were asked these questions.

10.2 Business Partners and Stakeholders

10.2.1 Local Councils

Local Councils were not asked these questions.

10.2.2 Renewable Developers

Renewable developers were not asked these questions.

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10.2.3 New Technology Providers/Solar Installers

New technology providers were not asked these questions.

10.2.4 Retailers and Aggregators

There was agreement with the adoption of postage stamp pricing based on the experience aggregators and retailers had in other states. However, locational pricing was preferred if it generated a profitable balance sheet through risk arbitrage.

Others were against locational pricing, arguing that it could negatively impact customers in regional areas, who in many cases, were already struggling.

> *"It can negatively impact someone in a far regional place. People live there because it is cheaper so you are penalising people who can't afford it" – Retailer*

> *"The easiest way to explain postage stamp pricing is to use the tram in Melbourne analogy – they charge a flat fee rather than charge people who live further away a higher amount because those who live further out do so because they have less money. It is about giving everyone access to the network to help them move around Melbourne." - Retailer*

> *"Postage stamp pricing is the most controversial thing you can do but I love it." – Aggregator*

> *"The cross-subsidy of metro consumers in Brisbane and Perth is incredible, hundreds of millions of dollars. I've never been able to find the cross-subsidy number for NSW but one way to fix this is postage stamp pricing because there are areas of the Essential Energy network that are terrible." – Aggregator*

> *"As network planning nerds, the areas that require investment are the areas where there's no revenue to offset that investment so it's incredibly difficult to manage a system like that." – Aggregator*

Most retailers could see merit in seasonal pricing and mentioned that it was actually being trialled in other DNSP areas.

In an overall sense, retailers and aggregators agreed that some form of cost reflective pricing was needed to help change customer behavior, however tariffs needed to be easy to understand for customers and easy to administer for retailers.

> *"Cost reflective pricing is important but you need to give customers a lot of information to make decisions and change their behaviours. The average customer is not switched on" – Retailer*

Of the solutions, Demand pricing was seen as cost reflective however, too hard to explain. Controlled load on the other hand, was also easy to explain but unappealing for a lot of customers who did not like to relinquish control.

> *"People will look at this and say no way to demand pricing – it is too hard to explain" - Retailer*

> *"I'm a big advocate for control – we have had moderate success in transferring control to the retailer from the DNSPs. The willingness to relinquish control by Essential Energy is not there" - Retailer*

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10.2.5 Consumer and Industry Advocates and the Stakeholder Collaboration Collective

Stakeholders reiterated that residential customers support postage stamp pricing but that generally large customers do not. It was thought that postage stamp pricing results in social justice and fairness which should be supported even though it does inevitably result in some cross subsidisation.

Stakeholders believed that seasonality is an important but difficult issue. They asked what the negative impact would be of not bringing in a seasonal element. They wondered whether seasonality might be dealt with through the introduction of the Sun Soaker tariff, so suggested that this is introduced first before a decision is made about seasonality.

It was stressed that the role of retailers in price signalling needs to be considered when designing network tariffs.

Stakeholders stated that Essential Energy should design tariffs with the future in mind – for where we want to be rather than where we are now. They said that it is important to consider what outcomes we want when designing tariffs – are we aiming for behavioural change or aiming to reallocate costs for fairness?

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11. Two-way Pricing

11.1 Connected Customers

11.1.1 Main forum

Essential Energy recapped on the growing challenges facing the network in relation to two-way flows of electricity, and highlighted that currently, customers only pay for using the network when they consume electricity and that any bill impacts from initiatives to improve power quality issues (often as a result of two-way flows) would be allocated according to consumption. This would mean that the single customer without solar mentioned earlier would end up paying more for those improvements than the solar customer.

A two-way price that is currently being trialed by Essential Energy was presented and walked through, with an example provided for a solar customer with a 7kW system. It was suggested that retailers would probably deal with this two-way price, should it be introduced, by simply subtracting it from the feed-in-tariff that exporting solar customers currently receive. Examples of the worst case annual impact were provided for different sized systems e.g. $12 for a 3kW system, $47 for a 5kw system, $81 for a 7kW system and $134 for a 10kW system. The impacts of this two-way price on the single customer without solar and family of four with solar presented earlier were shown (a saving of $8 for the single customer and a cost of $38 for the family of four).

During this breakout discussion the initial knee jerk reaction to the prospect of two-way pricing was often negative, particularly from solar customers. There was a perception that a two-way price is a 'penalty' against solar customers and disincentivises others from contributing to a globally greener future by getting solar panels. Participants expressed concern that this proposal was counter-intuitive to the shift to becoming a more eco-conscious and pro-renewable society. They saw it as a sign that renewable generation is not 'valued' by the network and believed this proposal was contradictory to the previous initiatives that have been implemented by government and the wider society.

> *"I'm finding it hard to reconcile the fact that we don't want renewable energy generation. Why would we not be wanting all that energy?" – Dubbo participant*

> *"As a business owner, I'll be penalised because I'm exporting to the grid, it goes against the idea that we should be generating solar electricity rather than burning coal." – Ballina SMB*

> *"It seems like the government is attacking people after years of encouraging people to get solar." – Dubbo participant with solar*

> *"We could be independent of the grid if we chose to, just by getting a battery. So we would like to think that Essential Energy would see more value for what we can put back into the grid. We would like to be treated more like suppliers than consumers." – Taree participant with solar*

Some solar participants expressed financial concerns that if this concept was introduced, their investment in solar would have been in vain. There was a perception of the solar "goalposts" once again being moved with some participants angry at the prospect of reduced feed-in-tariffs. There was also a sense of disbelief that this issue hadn't been raised and solved earlier on the pathway to increased household solar generation.

> *"It seems like green energy literally costs you an arm and a leg." – Dubbo participant*

"For 10-15 years people have been putting solar back into the system and there's been no expenditure on the system to fix those issues." – Taree participant with solar

"I understand but the single older lady isn't going to spend $15,000 on solar ever, so why should I have to compensate her?" – Wagga participant with solar

"I would not have fitted solar if I had known this was in the planning. If I'm working during the day and I can't export then the benefit is gone for me." – Dubbo participant with solar

Once the two-way pricing concept was explained in more detail in group discussions, sometimes with the help of Essential Energy staff, some solar participants softened to the idea, and perceptions were slightly less negative. There was some understanding that this would help solve the issues and would improve "fairness" across the customer base.

"When they started talking about charging me for my exports that turned me off but looking at the big picture, I'm supportive of it." – Taree participant with solar

"That's good for our budget but you have to think of the whole network and pricing, to be fair. I'd support that up to a point." – Wagga participant with solar

"I think it's equitable as it lowers the bill for the person who doesn't have solar and evens out the charge for those with solar." – Broken Hill participant

Non-solar customers often voiced the same opinions as solar, however some did support two-way pricing due to the perceived shift in it being fairer for those without. Having said that, most didn't think an annual saving of $8 was significant, even for those on lower incomes, so didn't know if it was really worth the trouble of introducing it.

"I like the idea of it saving me a bit of money, and if it only brings up their [solar customers] bill a little bit then that's OK." – Wagga participant

"$8 a year isn't going to benefit us. It is a joke." – Taree participant

"I would be quite prepared to pay the fee because that money doesn't stay with Essential Energy but goes to help the person who doesn't have the solar system and energy saving devices." – Broken Hill participant

Other discussions from participants prioritised the benefits to the environment of transitioning to greener energy as soon as possible, irrespective of the tariffs imposed on both solar and non-solar customers. There were some responses from participants that reflected an understanding of the bigger picture and the value of Essential Energy's investment back into the grid.

"It's a reasonable idea in preventing energy going to waste." – Wagga participant

"I understand the need to do this. I think we're not grasping that it costs Essential Energy a lot of money to take the electricity back." – Taree participant

"I'm happy to lose a bit of money if it makes it more equitable and it helps Essential Energy with the network." – Taree participant with solar

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While some participants stated that parity between solar and non-solar customers was not being achieved and therefore it was impossible to make a comparison on how two-way pricing would affect the two different groups. They suggested that initiatives need to be implemented that enable others in society to get solar, not just homeowners and the well off.

> *"I struggle with the concept, there should be incentives for people to invest in solar so that everyone is on a level playing field. It's unfair." – Broken Hill participant*

Results from the business participants across the board were mixed with some in favour of two-way pricing, such as those who embraced the financial return of solar on their business rooftops if they opted to feed back to the grid after 5pm. Other more environmentally conscious SMBs were less convinced. Typically, the SMB findings mirrored those of the residential participants, in that opinions on the benefits of two-way pricing were mixed.

> *"It does have merits as we could have big solar units and storage on our business roof and then sell it back." – Dubbo SMB*

> *"I'm totally against two-way pricing. It just goes against everything that renewables is about." – Wagga SMB*

> *"I don't think we should ever be penalised for trying to do the right thing. We tried to do the right thing and got solar panels and I don't think any kind of penalty under any circumstance is OK." – Wagga SMB*

Encouraging a move to storage solutions

There was an acknowledgement that this two-way pricing model promotes the adoption of household batteries. Solar customers often felt slightly aggrieved about this due to the additional layer of complexity and expense. This prompted suggestions for government battery subsidies.

> *"They [EE} should subsidise storage solutions if they do this." – Wagga participant*

> *"My personal thought is to incentivise people to put batteries on. I would put on more solar with a battery incentive and then use my own generation." – Inverell SMB*

For many customers, conversations reflected a feeling of a lack of empowerment and choice, almost a forced, or at least a hastier, migration to batteries. There were cautious responses about investing in Electric Vehicles and batteries given their cost and the speed at which these technologies become outdated. Concerns about the lifespan of batteries and their disposal were raised.

> *"There is a concern that if you buy a battery now, you have lost out in the long run as it becomes outdated." – Taree participant*

> *"Batteries cost a lot of money and the batteries are getting better all the time. I'm guessing people are like me and they are going to hold off until there are better battery solutions." – Dubbo participant*

> *"I feel like I need a battery now or it isn't worth it and batteries are very expensive to buy. I got a quote for $10K-$15K and then I stopped looking." – Dubbo participant with solar*

Impact on those considering solar

Participants considering purchasing solar were disincentivised by the proposition of two-way pricing and felt it was counter-intuitive to uptake. In this scenario a smaller solar system was discussed as more appropriate and cost-effective if this two-way pricing structure was introduced.

"We wanted to get a big 5KW system fitted to our home to counteract our carbon footprint, but now I'm thinking we'll probably downsize that to a smaller one." – Broken Hill participant

"Maybe people will get a slightly smaller system though, it would be hard to work out." – Ballina participant

"I think it's going to be a really hard sell for people to continue to invest in solar, then considering having to buy batteries as well." – Bega participant

The idea of west facing panels had not occurred to many participants and was typically not an option mentioned by solar retailers in pre-purchase solar discussions. Participants questioned the advantage of changing or introducing west facing panels.

"I think we already position the panels to take advantage of the late sun, so I'm not sure that people would change the orientation because of this." – Ballina participant

"Putting panels on the west might be good for now with this rebate but as community batteries and big commercial batteries take place that may not be an advantage." – Dubbo participant

"If we had to move the panels again because another position generates more power for community batteries, who pays for it?" – Dubbo participant

Active management of exports

There was genuine interest from many participants in active management of the network.

"I don't know a lot about solar but that sounds like a very good idea, when it's needed rather than when it's not." – Taree participant

"It's a great idea turning up and down exports." – Broken Hill participant

The idea of an incentive was popular, with discussions on the appropriate reimbursement softening the introduction of a two-way pricing tariff.

"Can they introduce it as a credit system? So, if we generate and export a certain amount of power, can we have that as a credit so that we can draw down on that amount later on?" – Ballina participant

"I think there needs to be a gentle benefit to both the network and the customer. It can't all be in the favour of the network." – Dubbo participant

"I think they need to dangle the carrot and have an incentive and I think they need to make the incentive good enough for people with businesses and people in their own homes to come on board with it." – Dubbo participant

There was no definitive costing offered by participants, simply suggestions of off-sets.

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"You would want a benefit that offsets the money they're about to take off you for this two-way pricing idea." – Ballina participant

"If you [EE] could turn it off, I'd prefer that rather than being charged for it." – Dubbo participant

At the end of the forum participants were asked to what extent they agreed that a two-way price would help solve some of the issues associated with integrating new technologies and renewables. Just over half (56%) agreed that it would, however this was lower amongst solar participants (43%).

Figure 21: Agreement that two-way pricing will help solve some issues associated with the network
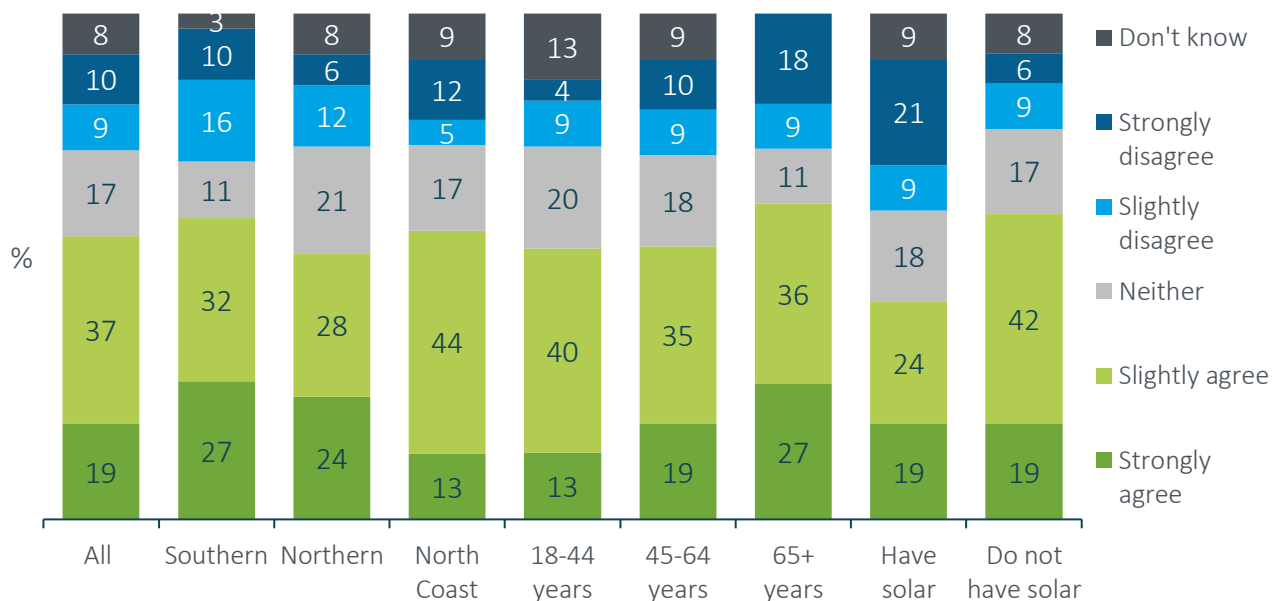
To what extent do you agree that a two-way price would help solve some of the issues associated with integrating new technologies and renewables?
Base: All forum participants who answered this question (n=382); Southern (n=131), Northern (n=157), North Coast (n=94), 18-44 years (n=144), 45-64 years (n=170), 65+ years (n=68), Have solar panels (n=163), Do not have solar panels (n=219)

They were also asked whether they thought a two-way price would improve fairness. Almost two thirds agreed (62%), however again solar customers were less likely to agree (53%).

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Figure 22: Agreement that two-way pricing will improve fairness
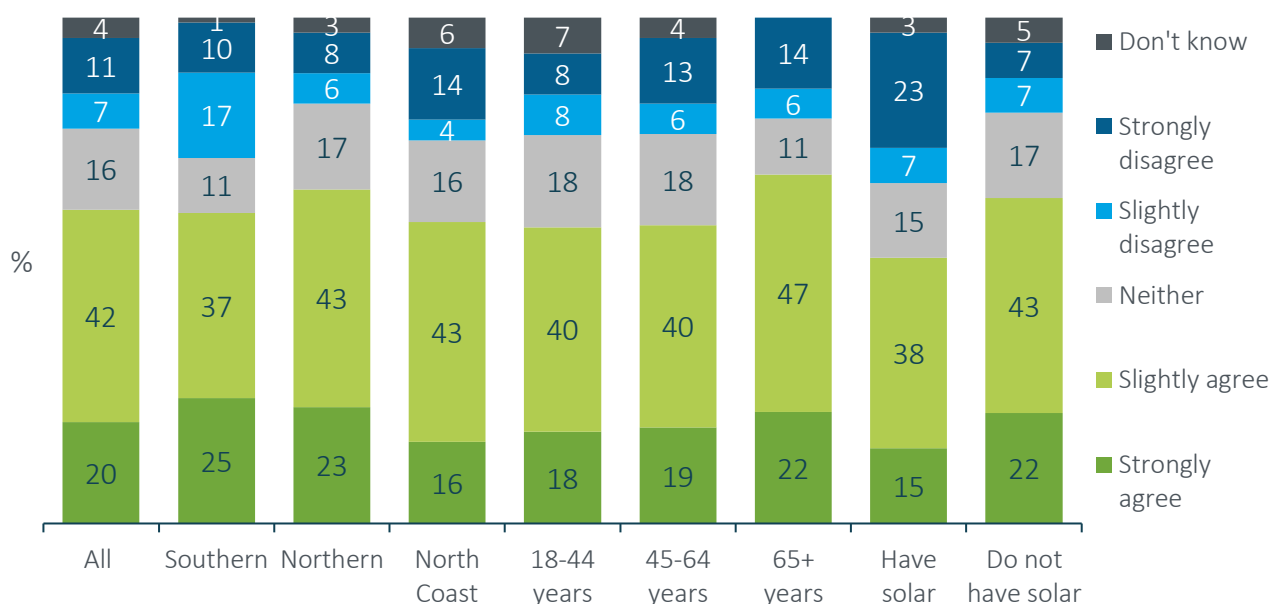
To what extent do you agree that a two-way price would improve fairness?
Base: All forum participants who answered this question (n=382); Southern (n=131), Northern (n=157), North Coast (n=94), 18-44 years (n=144), 45-64 years (n=170), 65+ years (n=68), Have solar panels (n=163), Do not have solar panels (n=219)

11.1.2 ATSI and CALD findings

In terms of whether a two-way pricing structure is fair, participants supplied mixed responses.

> *"No, the family has put in the effort, installed solar so good on them I reckon. They deserve to benefit from it." – ATSI participant*

> *"It tends to be the lower economic people here that don't have solar, so it adds a little fairness." – ATSI participant*

> *"I think it's making it fair." – CALD participant*

Support for two-way pricing from ATSI and CALD participants reflected the findings from the forums.

> *"If I was going to be charged to export then I would consider looking at a battery." – ATSI participant with solar*

> *"Some people would think they might not even feed back into the grid, they'd buy a battery and have a closed system." – ATSI participant*

In terms of active management, some participants were in favour of this idea as it meant that Essential Energy could turn down the amount being exported.

> *"It gives them more control and makes them more transparent." – ATSI participant*

In response to investing in solar technology and batteries/EVs there was concern expressed for the end of life of this technology. There was also a need expressed for more education about the use of these technologies as it was felt that there is a lack of knowledge currently.

> *"To convince people to buy batteries, they will need a lot of explaining." – CALD participant*

> *"We need education and easier accessibility [to renewables] for our community." – ATSI participant*

> *"I've never found anything in regard to how we recycle our solar panels." – ATSI participant with solar*

11.1.3 Youth Group findings

Without the direct experience of paying for solar panels or electricity bills, Youth Group participants had a slightly different view to the main forum participants. Their key focus was on supporting the uptake and integration of renewables and they didn't feel that two-way pricing negated the financial benefit of installing solar, especially when reviewing the graph of expected changes to feed-in tariffs. As such, they didn't feel that two-way pricing would disincentivise people from installing solar systems.

> *"Is it pretty much that they're making less money than they usually would, but that pays for other people?" – Youth Group participant*

> *"Your bill goes up, but it's still a lot less than if you didn't have solar." – Youth Group participant*

With this said, some participants indicated that a $8 saving on the single person household was not substantive.

> *"It's only $8 less… it doesn't make that much of a difference" – Youth Group participant*

Installing batteries was seen to be beneficial in the two-way pricing scenario as customers could feed electricity back into the network when it was most needed, however there was recognition that batteries are expensive.

> *"It'd be good to get in the long run, but the price of installing batteries could be a bit high." – Youth Group participant*

11.1.4 C&I customers

C&I customers were largely in favour of two-way pricing as they saw it as being necessary to address the network challenges.

> *"It's the right thing to do. The network is like a road and they need to charge a toll for usage." – C&I customer*

There was recognition that many customers would probably not like it, however for C&I customers, they currently consumed all they produced and suggested that they would not be exporting during the day. Many did agree that bringing in an export charge would encourage the adoption in batteries.

> *"It sounds like they are encouraging us to invest in batteries." – C&I customer*

> *"The business does not have solar and if it did we would be using the power during the day so probably not exporting during the day." – C&I customer*

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"I understand why they need to do it – solar is causing the problems and increasing maintenance costs, but they'll have issues with communicating it to the public." – C&I customer

"AEMO has already approved export charging - It will keep network pricing down" – C&I customer

11.2 Business Partners and Stakeholders

11.2.1 Local Councils

The council participants were receptive to the idea of two-way pricing from a fairness perspective.

"It seems fair to me, to charge customers causing issues on the network. Council has tried to match the system to our load so we don't have excess to export."

There was support for dynamic management of the system and for rewards to be offered. Participants felt that this proposal encouraged the transition to renewables.

"I think it is a good balance – it is still an incentive for people to put PV on their roofs. It may drive people to put batteries on."

11.2.2 Renewable Developers

Renewable developers were not asked these questions.

11.2.3 New Technology Providers/Solar Installers

New technology and solar providers were relatively supportive of the concept of two-way pricing subject to a couple of clauses. Firstly, they wanted removal of export limiting so customers can export as much as they want. Secondly, they suggested that bills should be transparent with the network charge component clearly shown by retailers and third ensuring private investment in renewables and carbon reduction.

It was suggested that Peer-to-Peer transactions should be launched, as well as an integrated discounted LUOS charge to help facilitate local transactions, at the same time as two-way pricing is introduced. This way there would be 'a carrot and a stick' for consumers.

"Unlocking Peer-to-Peer in a real way is the pathway for a positive story."

11.2.4 Retailers and Aggregators

There was no support among the aggregator participants for the two-way pricing structure and hence the recommendation for the KW/hour feed in charge was deemed to be zero.

"The answer is no." – Aggregator

"We're in a world of pain if we go down this pathway." – Aggregator

"I understand why we're trying to manage the cross-subsidy usage but it's hard to answer this question from a consumer perspective. The best answer for them is zero." - Aggregator

And a simple explanation for how this cost could be factored into the pricing tariff if it were hypothetically implemented.

Our pricing model is a fully arbitraged where we offer a lifestyle subscription price, so we'd take the risk on the battery beating the tariff." - Aggregator

When asked if they supported seasonal and cost reflective tariffs, respondents stated that this was easy to facilitate with smart technology and financial modelling.

"A retailer is doing a really poor job in managing risk if all they're doing is taking the signal and adding on their cost to serve." – Aggregator

"I think retailers should arbitrage the risk between their customers and their network." – Aggregator

"Controlled load is very simple and very cost reflective as it's all set up for when the existing energy (coal fire) is cheaper." - Aggregator

Demand pricing was considered a favourable tariff although when it was applied to the two scenarios, it was acknowledged that the family of four would be difficult to educate and the greatest change in behaviour would come from the single person living alone.

"Someone in a household with 4-5 people with teenage boys, will find it hard to change their behaviour and educating them about a demand charge won't work. Whereas the lady on the left will turn everything off for two hours." – Aggregator

"I love that demand charges are on the table in NSW." - Aggregator

Similarly, there was support for implementing a choice of tariffs, and a theory that this may benefit financial decision making.

"Let's say Essential Energy ran seasonal and regional pricing. For a computer, it's simple. Then I've got a business decision about how I treat my clients." – Aggregator

Amongst retailers the idea of two-way pricing was seen as a necessary evil in that they could see how this would solve the challenge of load on the network however, there was a feeling that it would not be well accepted by customers and that retailers would need to put systems in place to handle it.

"I think two-way pricing is completely fair. It is about explaining consumption patterns." – Retailer

"Good idea – as long as it all comes through as a network bill and we can handle it - we can charge the customer. We will need to clearly put in what we are charging and crediting for." – Retailer

"I don't want to sell this, I understand what they are trying to do, but it would be hard to sell. Customers would have to be forced onto this option – Oh my God I don't want to answer the phone!" - Retailer

"Customers wouldn't like it – they are not happy until they understand the benefits for them" - Retailer

"Solar feed in tariffs are not lucrative for us – however I see how this may help shift the load" – Retailer

Most felt that they would simply pass through the pricing to customers in their retail tariff structure.

"Pass-through is natural to do" – Retailer

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"We would need to do it as a pass-through as it is such a new way of pricing and we would all need to build new systems to accommodate it. - Retailer

For many the conversation then switched to batteries, with many suggesting this as a possible solution to avoid the feed in charges.

"They could do a virtual battery. We are looking at community batteries and talking to Essential Energy about that. We would need a tariff for the NOUS charge – this would provide an incentive for both parties" - Retailer

"Good if it was stored in a network owned battery but operated by us" – Retailer

"It is encouraging people to install batteries – they should look at community batteries." - Retailer

11.2.5 Consumer and Industry Advocates and the Stakeholder Collaboration Collective

Stakeholders, industry and consumer advocates were quite positive about the proposal for two-way pricing. They understood the need for it in terms of improving cost-reflectivity and to enable more technologies to connect to the network.

The notion of two-way pricing was thought to be particularly positive for vulnerable customers, to make the distribution of network costs fairer. It was even questioned by some as to whether the two-way pricing mechanism presented could go further to redistribute costs and avoid cross subsidisation.

However, it was stressed that empowerment is important for solar customers – they need to have choices and shouldn't feel that they are losing out, so the transition will be important as well as the introduction of battery incentives.

Energy literacy will be a key element; ensuring that consumers understand the detail of any two-way tariff or that technology manages it for them instead.

"Lots of solar customers aren't literate. People are not as interested in electricity as we think they are, so automation is important. For that they need to be able to trust Essential Energy." – Consumer Advocate

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12. Transitioning to Two-Way Pricing

12.1 Connected Customers

12.1.1 Main forum

Level of free export

Within the forums, customers were asked if two-way pricing was to be introduced with a free export component, what the level of free export should be.

Some participants found it difficult to respond as they were unclear how the concept worked and those who were not solar customers did not really mind as they could not clearly see how the pricing thresholds would affect them.

There was confusion regarding the way in which it would be charged – daily, weekly, monthly, and how it would impact bills.

For some customers the whole concept of two-way pricing seemed unpalatable, with many commenting it was unfair, and was seen as a 'money grab'.

> *"I think it's a bit of a joke to be honest. I think it is double dipping" – Dubbo participant*

> *"I think it is ridiculous that we're discussing this in the middle of a big climate event. It is so far away from those beautiful diagrams we had with all the microgrids" – Ballina participant*

> *"I think if you're already paying for your solar panels, you shouldn't be charged for feeding back in. I think this cost is discouraging. Essential Energy need to help out and provide storage themselves, not rely on us." - Taree participant*

Two-way pricing was also seen to be encouraging the uptake of batteries and discouraging solar panel installation. It also was seen to increase the divide between the haves and have nots, as those more affluent customers would be able to afford batteries and circumvent charges, whilst others would be left to pay the price.

> *"…renewable energy should be rewarded rather than penalised otherwise you are saying that coal power is what you want people to use" Bega SMB participant*

> *"I imagine this is going to get more people to invest in batteries" – Dubbo participant*

Amongst those who were more understanding of the nature of two-way pricing, the opinion amongst solar customers was that the threshold should be the highest at 5k, whilst non-solar customers felt that 3kW or 1.5kW was better. This was reflected in the polling whereby 26% chose 1.5kW, 35% chose 3kW and 27% chose 5kW, with a difference in preference between those with solar and those without.

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Figure 23: Free level of export
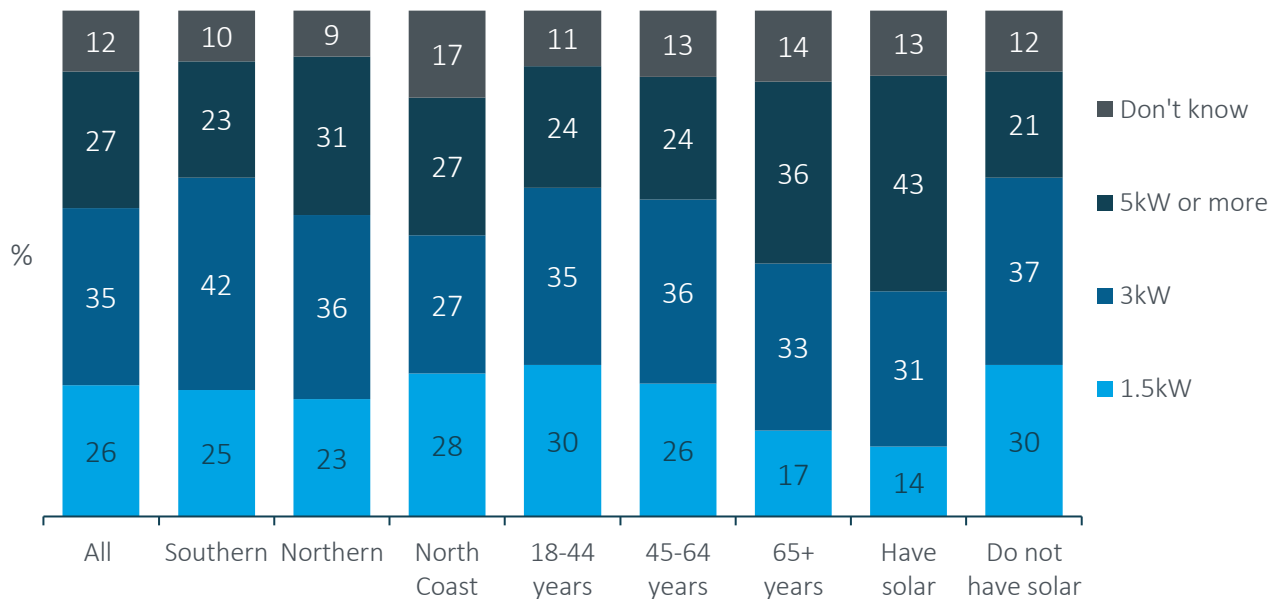
If it is introduced, what should the free two way pricing level be?
Base: All forum participants who answered this question (n=382); Southern (n=131), Northern (n=157), North Coast (n=94), 18-44 years (n=144), 45-64 years (n=170), 65+ years (n=68), Have solar panels (n=163), Do not have solar panels (n=219)

Postage stamp vs locational two-way pricing

For two-way pricing, postage stamp pricing was again preferred over locational pricing for the same reasons noted earlier – it was seen as fairer that everyone is treated the same regardless of where they live. Furthermore, overlaying another variation on top of two-way pricing was felt to add further complexity to an already complicated structure and some felt it was best if changes were introduced one at a time.

"I think we just stay with the postage stamp option to start with so that people can deal with one change at a time." - Dubbo participant

"I think democratically it's best to share the cost and have the same pricing for everyone." – Ballina participant

"The postage stamp seems the fairer one but I am not sure what fairness means in this context to be honest. I was very much into the postage stamp previously now I'm not sure." - Dubbo participant

Another comment was that customers who invested in solar didn't know at the time that they were putting more strain on the network (i.e. a high or low rate area) and therefore it wouldn't be fair to now get penalised for it.

"We live in an area where there is a lot of solar going back into the grid, so it's not fair that we would be penalised for the investment we've made" - Ballina participant

"I don't think people should be penalised by postcode" - Wagga Wagga SMB participant

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This question was also asked in the polling. Firstly, participants were asked whether the level of free exports should be the same everywhere or should be higher in areas experiencing more network stress from exports and lower in areas where the network has no export constraints. Most (69%) participants felt that the free export level should be consistent across locations. This perception was consistent across regions and solar ownership, however those aged over 64 years old were slightly more likely (81%) to prefer consistent free export levels.

Figure 24: Export levels varying by area
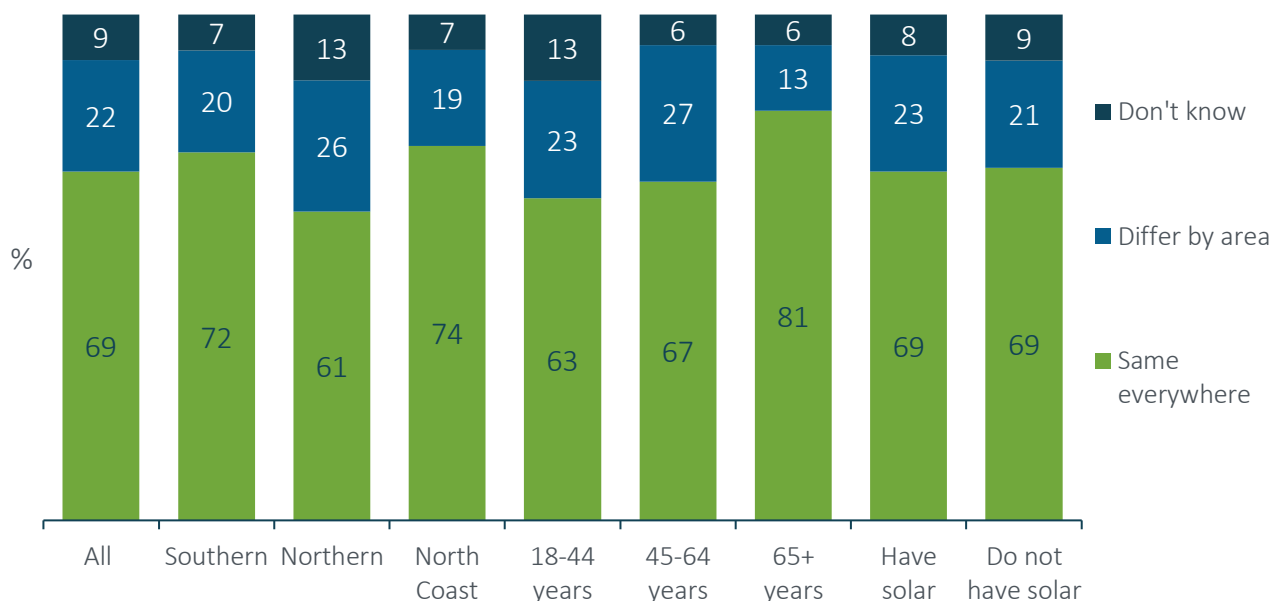
Should the level of free exports be the same everywhere or should it be higher (more free exports) in areas with less issues and lower (less free exports) in areas with more issues?
Base: All forum participants who answered this question (n=382); Southern (n=131), Northern (n=157), North Coast (n=94), 18-44 years (n=144), 45-64 years (n=170), 65+ years (n=68), Have solar panels (n=163), Do not have solar panels (n=219)

They were then asked whether charges and rebates for two-way pricing should be the same everywhere or should vary by location. Again most (69%) participants felt that charges and rebates should be consistent across locations. This perception was consistent across ages however those with solar were more likely to suggest they should be the same (75%) as well as those in the Southern region (79%).

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Figure 25: Charges and rebates varying by area
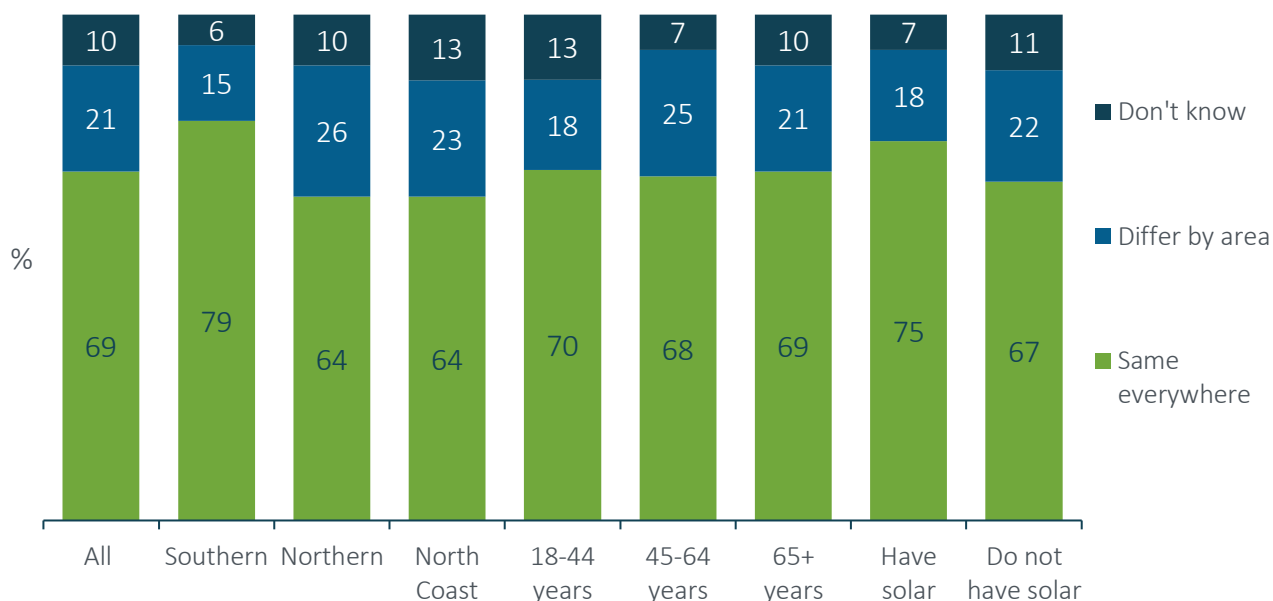
Should two-way prices (charges and rebates) be the same everywhere or should they differ between locations, depending on network limits?
Base: All forum participants who answered this question (n=382); Southern (n=131), Northern (n=157), North Coast (n=94), 18-44 years (n=144), 45-64 years (n=170), 65+ years (n=68), Have solar panels (n=163), Do not have solar panels (n=219)

Timing of the Transition

If two-way pricing was to be introduced, most felt that it should start with an opt-in mechanism first from 1 July 2024. There was a general feeling that there was no reason to wait and that it may be a good way to 'test the water' and see how it goes. In addition, it was seen as a way to encourage the uptake of batteries.

"I think the sooner the better – we want to encourage batteries. This is one way to do that." – Bega participant

"We should try it as soon as possible, try it now then try something different later on" – Dubbo participant

Others, however, were still against its introduction and preferred that it never be introduced.

*"I'd prefer never" – Wagga Wagga participant*

"I'm not a fan of any of this two-way pricing, so my preference would be that it doesn't come in" – Dubbo participant

"I don't like any of it. We're all going to be charged more. We are all in a situation where small businesses are struggling. We've been hit with Covid-19, floods, fires and drought. Give us a break on our energy at least" – Wagga Wagga SMB participant

The polling reflected the preference that "opting in" should be implemented first if two-way pricing is introduced with almost three quarters (74%) selecting this option. Those without solar were more likely to state this.

Figure 26: Opt-in from 1 July 2024
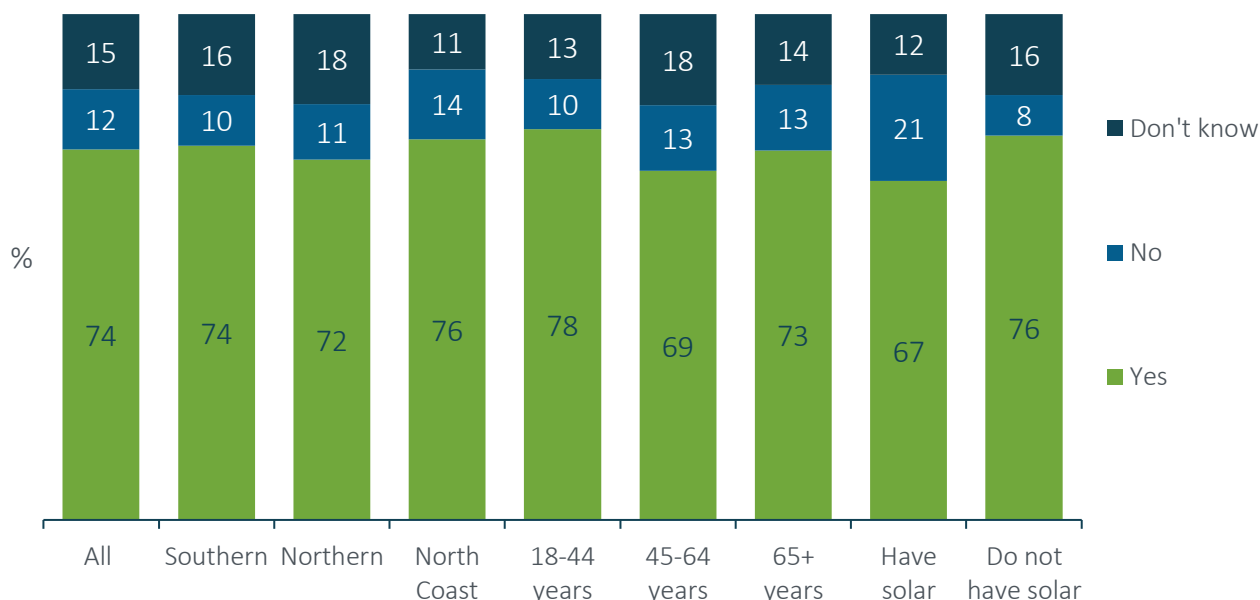
Should Essential Energy offer customers the ability to opt-in to two-way pricing from 1 July 2024?
Base: All forum participants who answered this question (n=382); Southern (n=131), Northern (n=157), North Coast (n=94), 18-44 years (n=144), 45-64 years (n=170), 65+ years (n=68), Have solar panels (n=163), Do not have solar panels (n=219)

In terms of the full roll out, there was stronger preference for 1 July 2025 over 1 July 2028. Again, many felt "the earlier the better" as it benefitted the non-solar customer and still gave customers who were considering investing in energy resources time to assess the appropriately sized system to install.

> *"Might as well do the whole lot in 2025 because to me, the sooner we get this done and sorted, the better off we'll be." – Broken Hill participant*

> *"We understand that it has to happen so you may as well just do it" – Dubbo participant*

This was reflected in the polling results with 60% stating that it should be introduced on 1 July 2025 and just 22% selecting 1 July 2028. However, a third of solar customers selected 1 July 2028.

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Figure 27: Two-way pricing for everyone
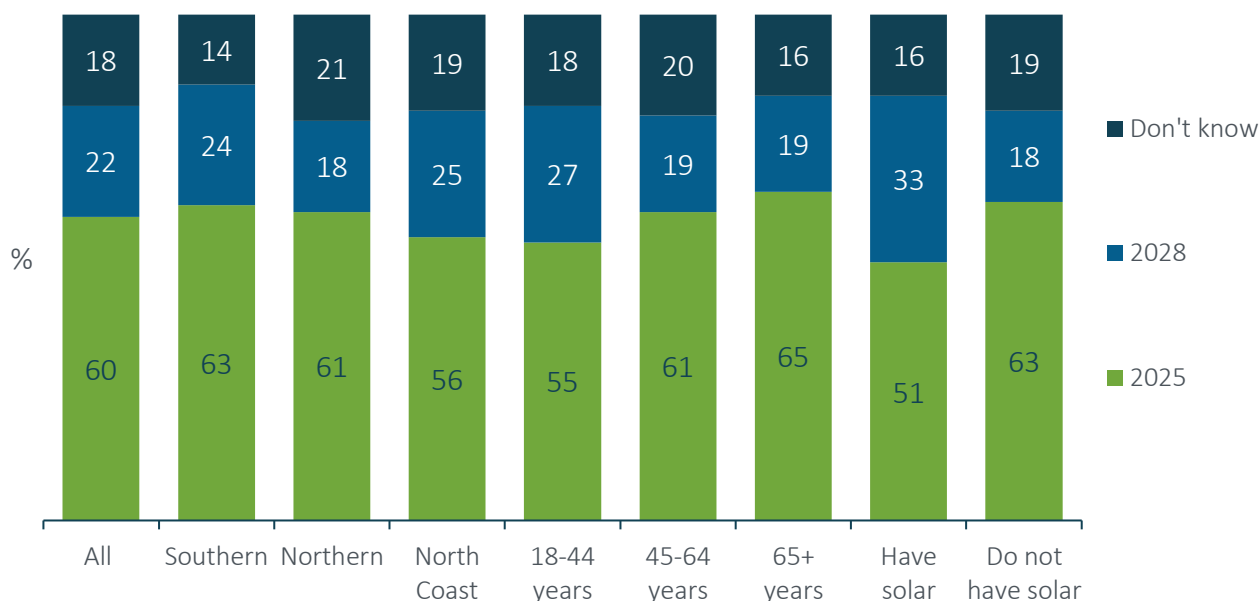
If introduced, when should two-way pricing be introduced for everyone?
Base: All forum participants who answered this question (n=382); Southern (n=131), Northern (n=157), North Coast (n=94), 18-44 years (n=144), 45-64 years (n=170), 65+ years (n=68), Have solar panels (n=163), Do not have solar panels (n=219)

Communication of two-way pricing

At the end of the discussions participants were asked how they thought these changes should be communicated to customers if they were introduced.

Communicating two-way pricing to customers was predicted to be a huge challenge for Essential Energy. On the one hand, it was felt that it would take a degree of education to explain the problem and then some level of convincing that the solution of introducing two-way pricing was a good one.

Suggestions for communication were:

- Keeping it as simple as possible

- Using lots of images and infographics

- Having a hotline for people to call to ask questions

- Written material on the Essential Energy website

- Flyers with the electricity bill

- YouTube videos with explanations on the issue

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"You need to be educated and it needs to be clear to people when they should and shouldn't be using appliances. There should be information which gives people advice on when to avoid use on off peak times"
– Bega participant

12.1.2 CALD and ATSI findings

In response to the timeline for two-way pricing potentially being introduced, participants focussed on the need for understanding and processing the changes.

"People need time." – ATSI participant

"My understanding is to provide two-way pricing, they'll have to send a lot of information to customers and ask for their feedback, but I think we should just do it for 2025." – CALD participant

There were indications that ATSI and CALD participants preferred the two-way price to be location based if it meant that those in disadvantaged areas were more likely to pay less.

"A sparsely populated area shouldn't be charged as much." – ATSI participant

12.1.2 C&I customers

C&I customers were in favour of two-way pricing and supportive of it being adopted, but in an opt in capacity at first.

"Bring it in 2024 – but opt in only." – C&I customer

Many also felt that the tiered system of charging would work well, however questioned if this would change for large customers who may be exporting larger amounts.

"I think 3kw free is better – it is better for businesses to be a bit higher than 1.5kw." – C&I customer

"I believe if you want to export – it is appropriate to have an annual charge – 3kw seems reasonable"
– C&I customer

It was also felt that having tiers would encourage customers to install the correct amount of panels for their needs and would put more onus on the solar installers to sell the right sized systems.

"All of our solar systems are self-consuming. We don't have enough roof space to generate all we need" – C&I customer

There was some confusion and questions over whether Essential Energy are going to charge differently for the different time slots (i.e. KW or KWh).

"The way they are talking about it seems wrong – they are talking KW in the 10-3pm time slot and the KWh in 5pm slot. One is a volume charge." – C&I customer

Postage stamp pricing was generally preferred over location based for export pricing as it was felt to be fairer and an easier system for large customers with multiple sites to manage when reviewing their network tariffs.

"Postage stamp pricing is easier for us to manage, especially when doing a review of the network tariff. It would be really hard if it overlaid locational pricing" – C&I customer

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"It is about equalisation of costs across the network, everybody should be getting electricity - it is about fairness" – C&I customer

Nonetheless, it was argued that if customers could afford to put in solar, then they could afford to help the network. It was suggested that solar needed to be looked upon as a method of reducing costs and helping the environment and not a money-making scheme.

They need to get priorities right!! It is not about making money it is about being self-sufficient and helping environment." – C&I customer

One customer already participated in peer-to-peer trading in some of their store locations where they had oversized systems generating more than they needed, allowing them to send it to other nearby stores.

12.2 Business Partners and Stakeholders

12.2.1 Local Councils

Council representatives tended to be in favour of locational two-way pricing and also supportive for opting into two-way pricing as well as it being adopted earlier rather than later.

"We are moving to a user pays system and this is the same. The family of 4 should be paying a little more – and locational pricing seems to make sense that the little old lady doesn't pay for others."

"2025 would be better. We need to understand their higher level priorities and the impact on power quality."

"I think 2025 is fair outcome."

12.2.2 Renewable Developers

Renewable developers were not asked these questions.

12.2.3 New Technology Providers/Solar Installers

Solar installers desired a higher level of free exports with some accompanying investment into the network to accommodate such export levels. The rationale was that a higher level of renewable generation benefits everyone, so the costs should be levied across all consumers.

"I would support a higher level of upgrade over time to maximise the degree of free export - say 5kW and above, even at slightly higher cost"

It was thought that any introduction of two-way pricing should be opt-in and supported by considerable targeted marketing and community education.

12.2.4 Retailers and Aggregators

The recommendation from aggregators was that customers should have the right to opt-out rather than opt into the pricing structure. Discussion revolved around testing a small sample, for instance the population of Orange, then applying a multiplying factor to approximate 800,000 customers.

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"I'm going to be contrarian, if you're going to trial you may as well deal with the blow-back. If you opt in, you won't get the representative response." – Aggregator

"If you make it opt out, you'll get a real-world response." - Aggregator

Aggregators were in favour of rewarding customers to turn their exports up and down.

"It's fantastic. Dynamic exports make a lot of sense although turning down is less than optimal." - Aggregator

There was no preference stated for either 2024 or either of the dates in the next regulatory period (2025 or 2028) for this transition as the concept was not supported.

When asked about the speed of change amongst retailers, many felt it was better to start as soon as possible, as they suggested that no one would opt-in.

"Industry is changing – they should do it now!" - Retailer

In terms of the tariff structure, the preference was for a tiered structure and postage stamp pricing, however some felt that communication would be key.

"I agree with the tiered system – you need to keep it low as you will encourage customers to think about their use of electricity and change their usage patterns." - Retailer

"They'd need to communicate the change and then we'd need a product to support it" - Retailer

12.2.5 Consumer and Industry Advocates and the Stakeholder Collaboration Collective

Advocates believed that the free export limit should be at the lower end of the scale - 1.5kW, and perhaps even lower, to ensure the benefits of two-way pricing are realised for all customers.

"If someone has a 10kW system then they can afford a battery."

Locational two-way pricing was thought to be better for the network but harder for customers and retailers in terms of complexity. It was also thought to be less 'fair' overall in terms of treating everyone the same. Therefore, postage stamp two-way pricing was preferred.

"Everyone should be in the same boat, treated the same."

A form of grandfathering was suggested in terms of the timing of implementation. Start in 2025 was the proposal for those installing a new system, then an opt-in isn't needed. It was thought that 1 July 2028 would be suitable for those with an existing system. Although there was a concern that grandfathering may create a rush on installation before the implementation date.

It was suggested that communications about two-way pricing should promote it as 'sharing with the community' i.e. sharing the benefits of renewable technologies with those who can't access them and also 'enabling more people to have solar'.

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13. Implications for Essential Energy and the Next Phase of Engagement

In the next Phase, options should be 'pulled apart' and built up for the regulatory proposal and evaluated in the context of the total bill impact.

Some conclusions can be drawn from this phase that are outlined below.

Reliability

- Customers are generally happy with their current level of reliability under normal conditions and so investment to improve reliability of power supply in most areas is not supported at this time.

- However, there is support to continue to pay 10c a quarter on average to help improve reliability for Essential Energy's worst-served customers so this program should be continued.

Power quality

- Having power quality decline and exports limited in the future was not felt to be an acceptable scenario. Therefore, there is a desire to invest to improve power quality for the future.

- In the next Phase options should be put to customers that are between 3 and 4 with increasing levels of real-time monitoring and dynamic management, to test support for a faster or slower pace of change in the next period.

Resilience

- Customers, business partners and stakeholders have given a clear indication that some investment is required into building a more resilient network.

- Resilience options should be created and tested between options 3-4 to ensure that the preferred balance between methods such as composite poles, undergrounding, SAPS and microgrids is adopted in the next regulatory period.

- Phase 3 should explore how quickly the pace of change should occur and in which areas.

- Deeper deliberation is required of the concept of de-energising the network in high-risk areas during extreme weather to prevent bushfires. This should be explored further with customers in areas that may be impacted by such actions, along with what support may be available to them during these times.

Pricing

- Similar to the last (2019-24) regulatory proposal, there is little support for changes to how consumption charges are applied (locational or seasonal).

- There is some support for encouraging customers to move to more cost-reflective tariffs although there is concern about the complexity of these. Education and communication will be key to ensuring customers understand any tariff options introduced.

- It will be important to ensure that there is a choice in tariff options and that they suit the diversity of customers – some will want more control whereas some will want to set and forget.

- Tariff structures should be designed with the future in mind so that they can be in place for a number of years (10-15 ideally) so people can get used to them.

- Some are open to having some of their appliances managed for a reward or rebate. If this is something that Essential Energy is interested in taking forward then more detail should be provided to customers so it can be explored further in future engagement.

- Due to its contentious nature, further engagement is required on two-way pricing – a 'Deep Dive' in Sydney is planned with a small group of customers.

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14. End of Session Feedback

After the forums, attendees were asked for their feedback by rating their level of agreement with several statements.

Almost all customer forum participants agreed that they had enjoyed the session, with over half agreeing strongly (51%).

"I enjoyed hearing other peoples' views and experiences." – Bega participant

"So much information and talking. I really enjoyed it." – Ballina participant

Figure 28: Enjoyment in taking part in the session
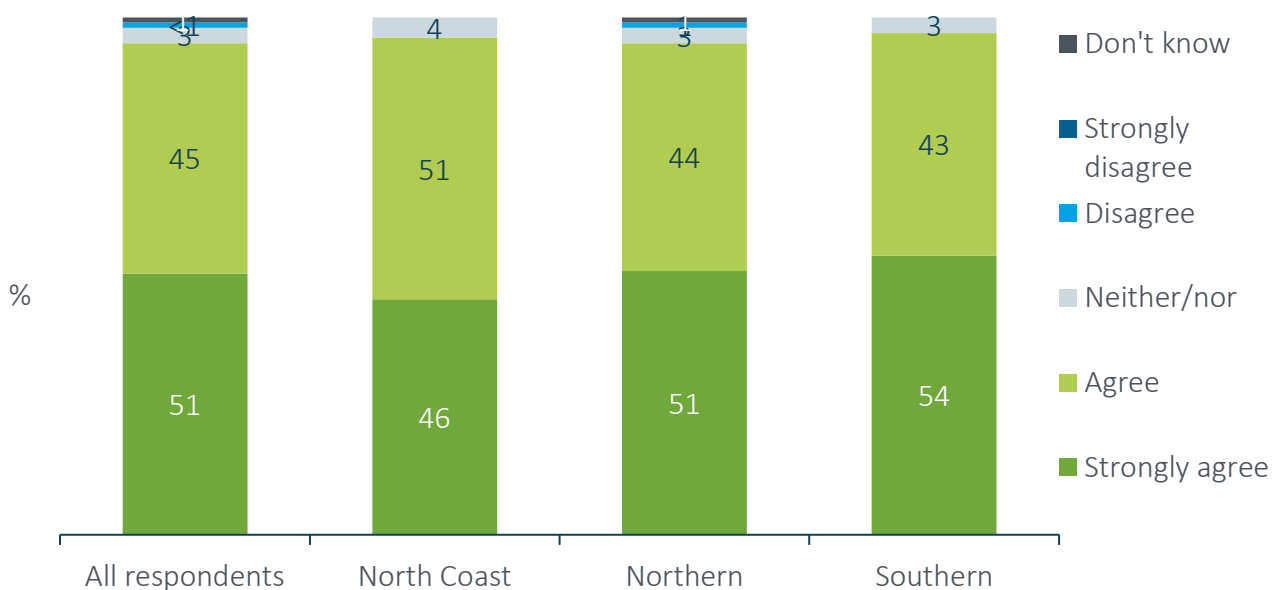
Based on your experience at the Zoom session, please indicate how strongly you agree or disagree with each of the following statements:
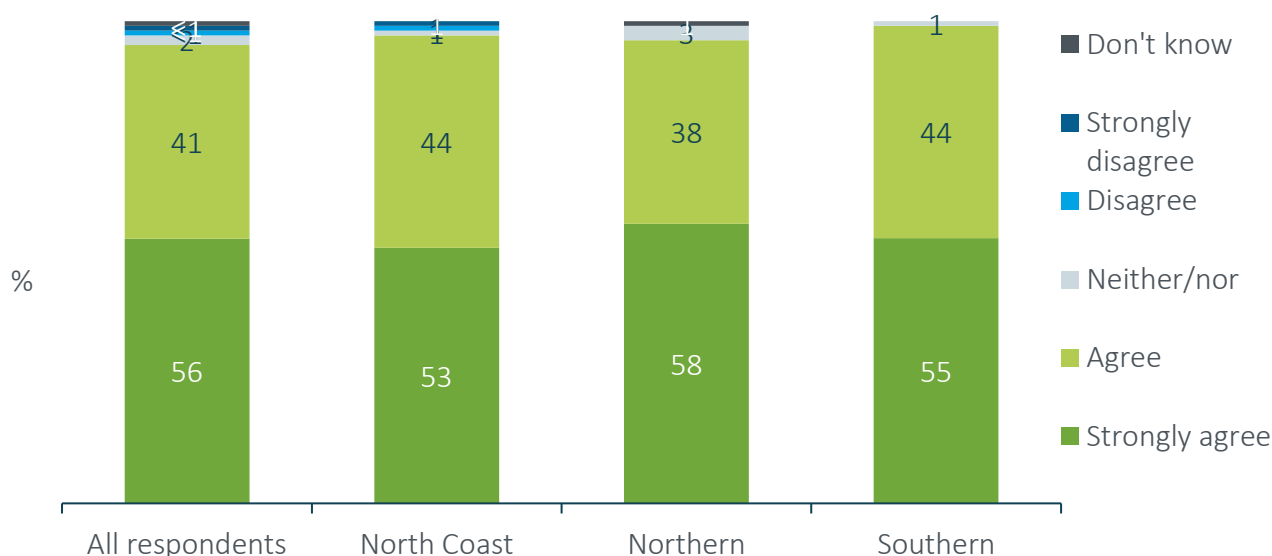**Statement: 'I enjoyed taking part'**
Base: All customer forum participants who answered this question (n=343); North Coast (n=85); Northern (n=144); Southern (n=107)

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Most customer forum attendees also agreed that the session was informative, and they learned a lot (50% strongly agree, 48% agree).

> *"It was informative and the presenters were patient and knowledgeable." – Ballina participant*

> *"I definitely learned a lot and I feel it was beneficial for the community to be informed." – Inverell participant*

Figure 29: Informative session
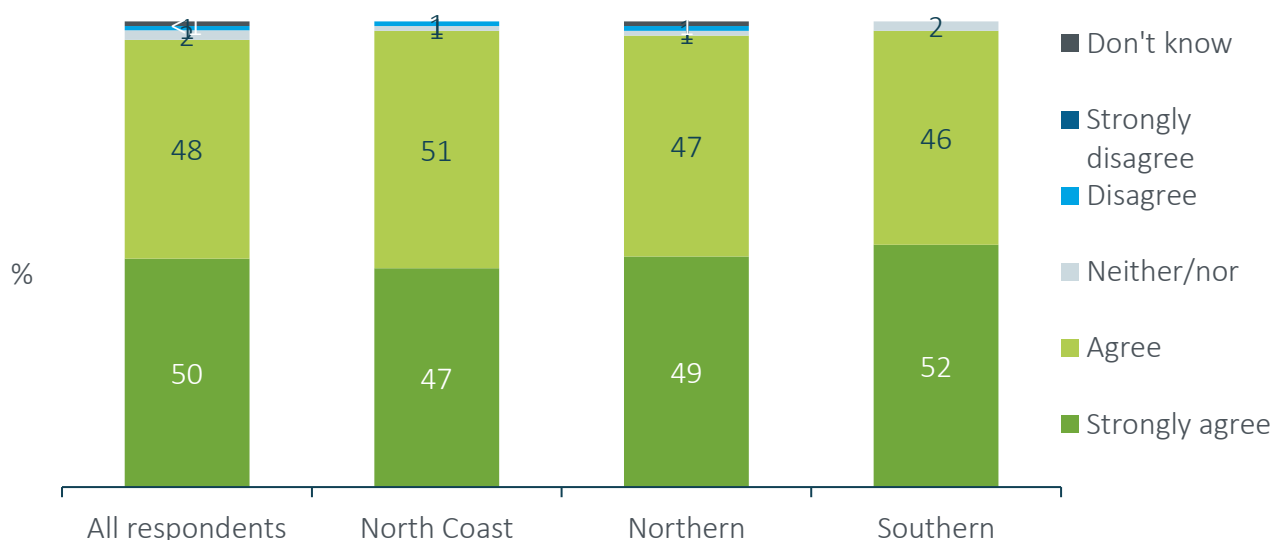
Based on your experience at the Zoom session, please indicate how strongly you agree or disagree with each of the following statements: **'It was informative and I feel I have learned a lot'**
Base: All customer forum participants who answered this question (n=343); North Coast (n=85); Northern (n=144); Southern (n=107)

Similarly, over half of the customer forum participants agreed strongly that the session was well structured and organised (56%), and most others agreed (41%).

> *"Well organised and structured and didn't matter what your opinion was you could voice it." – Taree participant*

> *"Perfectly organised, every time." – Bega participant*

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Figure 30: Organised and well-structured session

Based on your experience at the Zoom session, please indicate how strongly you agree or disagree with each of the following statements: 'The session was well organised and structured'
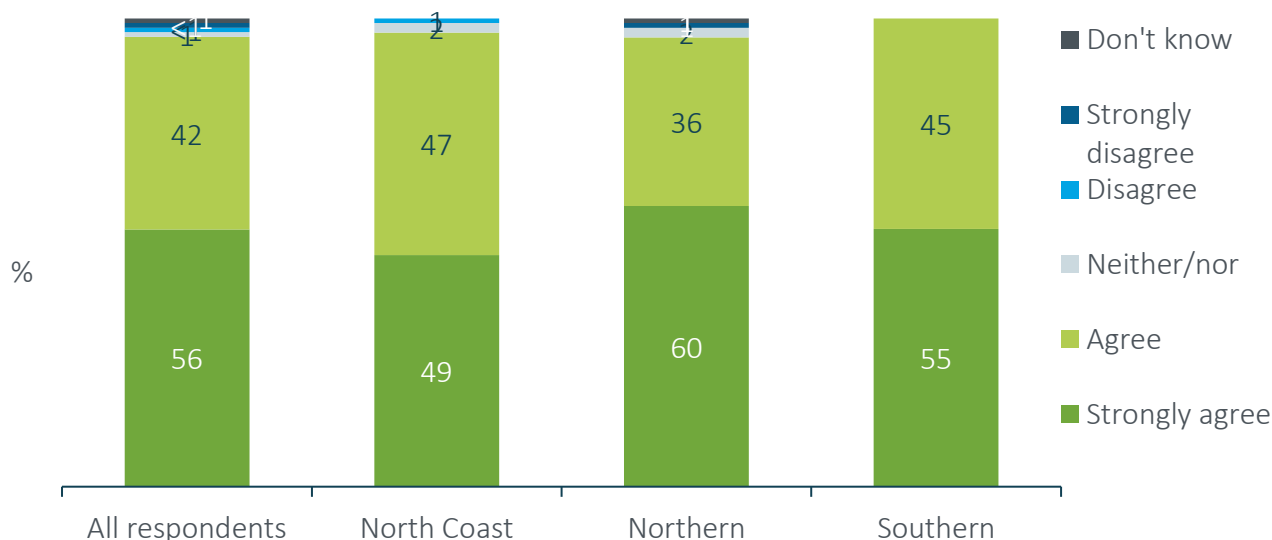*Base: All customer forum participants who answered this question (n=343); North Coast (n=85); Northern (n=144); Southern (n=107)*

The majority also agreed that the session allowed them to share their views and contribute to discussions (56% strongly agree, 42% agree).

> *"I liked the breakout spaces as it gave an opportunity to share my point of view in a smaller group." – Dubbo participant*

> *"Fast paced, with enough time for everyone to contribute their opinion." – Bega participant*

Figure 31: Able to provide views and contribute

Based on your experience at the Zoom session, please indicate how strongly you agree or disagree with each of the following statements: 'I was able to provide my views and contribute during the session'
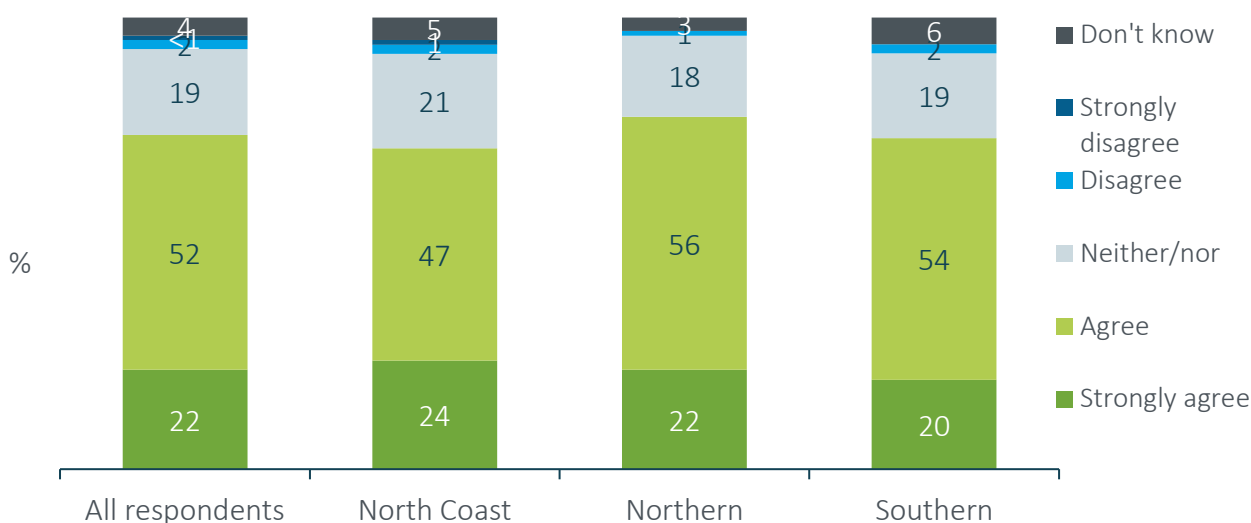
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Base: All customer forum participants who answered this question (n=343); North Coast (n=85); Northern (n=144); Southern (n=107)

Three quarters agreed that Essential Energy would act on the feedback provided in the session, however only 22% strongly agreed.

> *"Information and discussions were valued and taken into account." – Bega participant*

> *"I believe that Essential Energy will act based on these responses from the forums." – Dubbo participant*

Figure 32: Essential Energy will act on feedback

Based on your experience at the Zoom session, please indicate how strongly you agree or disagree with each of the following statements: **Statement: 'I think Essential Energy will act on the feedback given'**
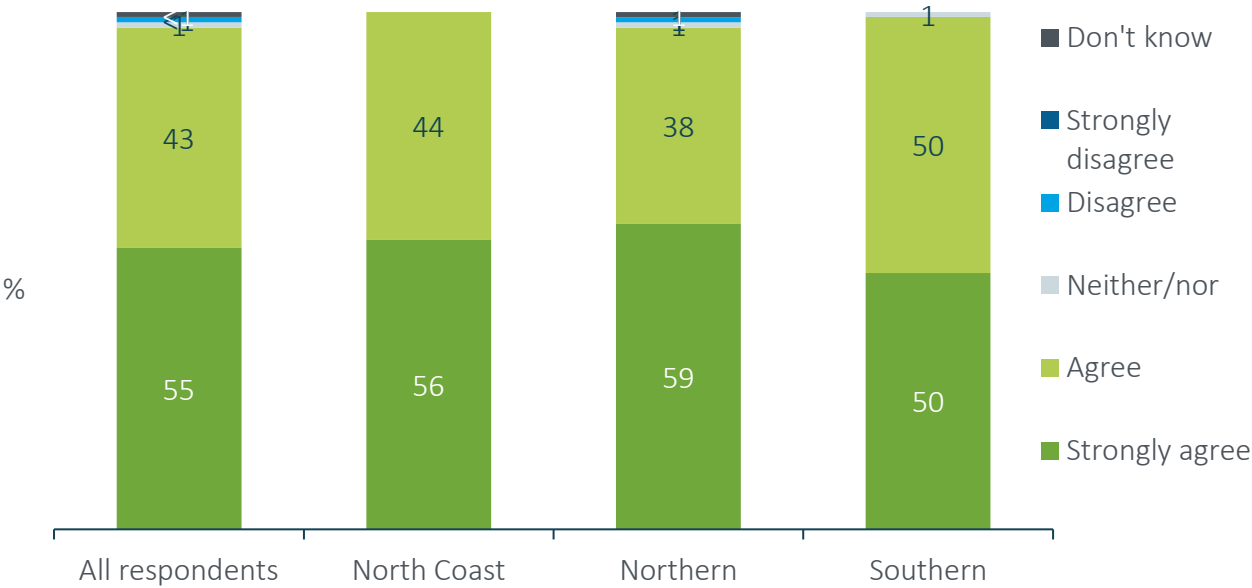*Base: All customer forum participants who answered this question (n=343); North Coast (n=85); Northern (n=144); Southern (n=107)*

Lastly, almost all agreed that events like the customer forums were 'a good way of consulting the public about issues' (55% strongly agree, 43% agree).

> *"They allowed the general public to put their honest opinions and past experiences into a subject that will affect all people across the country." – Dubbo participant*

> *"I felt like our opinions wouldn't go unheard." – Wagga Wagga participant*

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Figure 33: Customer workshops are a good way to consult the public

Based on your experience at the Zoom session, please indicate how strongly you agree or disagree with each of the following statements: **'I think events like this are a good way of consulting the public about issues'**
Base: All customer forum participants who answered this question (n=343); North Coast (n=85); Northern (n=144); Southern (n=107)

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Appendices

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Appendix A: Deliberative Forum Agendas

Essential Energy Reg Prop 24-29 Phase 2 Facilitators' Agenda PART 1

Project:	Essential Energy – Regulatory Proposal 24-29				
Event:	Phase 2 Deliberative Forum Part 1 (Zoom)				
Details:					
Dates and location:	Dubbo – Tues 15 Feb Wagga Wagga – Weds 16 Feb Broken Hill/Inverell – Mon 21 Feb Ballina/Taree - Tues 22 Feb Bega/overflow - Weds 23 Feb *(Please note that there may be some mixing of locations at each forum)*	Time:	6.00pm-8.00pm (5.30-7.30pm in Broken Hill)	Duration:	2 hours
Forum objectives:	• To present what we've learned from Phase 1 and build on it in Phase 2 - present back customer priorities and vision • Start to build collaborative proposals/programs to meet the priorities/vision • A clear understanding of customers' expectations and desires in relation to key service outcomes.				

Time	Session details	Responsibility	Materials
6.00-6.05pm (5 mins)	**Welcome and guidelines for the session** • Structure of the session • Guidelines	WR Lead Facilitator	PPT slides
SECTION 1: VISION FOR THE FUTURE AND CUSTOMER PRIORITIES			
6.05 – 6.10pm (5 mins)	**Presentation: What we heard in Phase 1** • Acknowledgement of Country • Vision for the future (explain main points and show drawing) • Outline revised customer priorities • We want to find out if you agree with what we think we heard	EE	PPT slides

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6.10-6.14pm
 	
(4 mins)
	Polling 1: Customer priorities
	
	1. Overall, to what extent do you agree with the priorities presented?
	   o Strongly agree
	   o Agree
	   o Neither agree nor disagree
	   o Disagree
	   o Strongly disagree
	   o Don't know
	
	2. What, if anything, would you suggest changing in these priorities? – ask participants to input into the chat function in Zoom
		WR Lead Fac	Poll Everywhere

SECTION 2: INTRO TO RELIABILITY AND RESILIENCE			
6.14-6.16pm (2 mins)	**Presentation: What reliability and resilience mean** • Difference between reliability and resilience	EE	PPT slides

6.16-6.19pm
 	
(3 mins)
	Polling 2: Reliability experience
	3. Remembering that reliability is based on planned and unplanned outages that occur under normal operating conditions, not when extreme weather events occur, on a scale from 1-10, how reliable would you say the electricity supply is where you live? ___
	4. Which would you prefer? I would prefer that Essential Energy:
	   o reduces its current level of reliability for a slightly lower cost
	   o maintains its current level of reliability
	   o increases its current level of reliability for a slightly higher cost
		WR Lead Fac	

SECTION 3: RELIABILITY			
6.19-6.24pm (5 mins)	**Presentation 3: Reliability** • Generally we have a reliable network (network average map and figures) • But some customers have low reliability	EE	

	• Communication is key for outages		
6.24 - 6.39pm (15 mins)	**Breakout group discussion: Reliability** **IMPORTANT: REMEMBER TO RECORD THE SESSION** *Welcome everyone, thank them for coming. Introduce yourself and say you will be the breakout facilitator for this evening.* *Introduce any EE or other observers and say that they are there just because they are very interested to hear their thoughts and ideas tonight. If there are any questions that we think might help the discussion then they might be able to answer them.* *Explain that the recording is just for our reporting purposes (to check we have presented their feedback accurately) and is not provided to Essential Energy.* **Quick introduction:** *Each participant to introduce themselves (first name, where they live and how many in household).* *The facilitator for the business group to ask them to say what kind of business they work for and how large it is. Remind the business group to answer the questions with their business 'hat' on rather than their resident 'hat' (although of course they can comment as residents too).* **Unplanned Outages** • We'd like to talk about unplanned outages first tonight. **At what point does an unplanned outage become a problem**, i.e. how long is it during an unexpected outage before you really get impacted by it (i.e. the duration – less than an hour, an hour, two, three, six, ten etc)? • We have heard that communication is very important to people during unplanned outages. Would you like Essential Energy to send text messages during **all unplanned outages or just longer unplanned outages**? 　○ If only longer outages, what length of outage? • What **information** would be most important? • Often it takes time for Essential Energy to understand the cause and therefore how long it	WR Facilitators	

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	will take to fix an unplanned outage. This can also change as they start the repairs. Should they: o Wait until they have started the repairs and have some confidence prior to giving an estimated time to restore (ETR) power **or** o Provide an ETR earlier which is less likely to be accurate and then update by text message when they have more information?		
6.39-6.42pm (3 mins)	**Polling 3: Reliability** 5. What sort of text message updates would you like from Essential Energy during unplanned outages? Select all that apply o Acknowledgement that Essential Energy knows I have no power o Communication of an estimated time to restore power o Any updates to the estimated time to restore, including an explanation for any delay o Confirmation that power is restored 6. Are you happy to continue to pay 10c a quarter for Essential Energy to improve reliability in areas with very poor reliability? o Yes o No o Not sure	WR Lead Fac	
SECTION 4: INTRODUCTION TO POWER QUALITY			
6.42-6.44pm (2 mins)	**Presentation: Introduction to power quality** • Power quality is a subset of reliability	EE	
6.44-6.47pm (3 mins)	**Polling 4: Power quality experience** 7. On a scale from 1-10, how would you rate the power quality where you live? 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 8. How have you been impacted by a power quality issue in the last 12 months? Select all that apply o Flickering lights	WR Lead Fac	

	o Brown outs (lights dimming) o Damage to appliances or equipment o Exports from solar panels being limited or 'turned off' o Been declined a request to have solar panels connected to the network o Not been impacted at all		
6.47-6.55pm (8mins)	**Presentation: Power quality methods and options** • Managing power quality is becoming more challenging • Increasing solar is exacerbating the issue • Methods that EE can use to manage power quality • How proactive should EE be in managing power quality?	EE	
6.55-7.00pm (5 mins)	**Quick break** Stretch break/toilet break for those who want it		

7.00-7.10pm
(10 mins)
	Discussion: Power quality
	
	Facilitator note: Aim for about half of the discussion on the options and half on the methods.
	
	Options for managing electricity quality
	• Which of the 4 options presented do you prefer and why? (show table just presented)
	• Which of the outcomes do you think is most important?
	Methods
	• How supportive are you of each of the methods to manage electricity quality presented and why (show slide on methods pros and cons):
	    o Respond to power quality complaints and manually adjust assets
	    o Real time network monitoring – being able to 'see' what is happening at a local level on the network
	    o Invest in other assets, e.g. batteries and smart transformers, to help with the dynamic management of the network
		WR Facilitators	Show slides

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	(If time left then ask the following): • Have you experienced many power quality issues, or heard of others who have? E.*g. flicking, dimming,* • How much of a problem are they when you have experienced them? • Have you experienced solar export limits/being turned off, being refused solar connection?		
7.10-7.12pm (2 mins)	Polling 5: Power quality 9. Which is your preferred option as to how Essential Energy should manage power quality issues? ○ Option 1: Do nothing more – maintain the current reactive approach ○ Option 2: Mitigate existing problems over time ○ Option 3: Mitigate existing problems and pre-empt some from occurring ○ Option 4: Prevent the problems from occurring ○ Unsure	WR Lead Fac	
SECTION 5: RESILIENCE			
7.12-7.17pm (5 mins)	**Presentation: Introduction to Resilience** • Reliability figures don't include extreme weather days – that's called resilience • Why resilience is so important: ○ There will be more extreme weather days in the future ○ More and more essential services are relying on electricity (e.g petrol pumps, telecoms towers, water, sewerage) ○ More household reliance too e.g. internet, mobile phones, smart systems, EVs	EE	
7.17-7.30pm (13 mins)	**Breakout group discussion: Resilience scenario** *I'd like you to think about a scenario for a moment. Imagine there had been a big storm late yesterday afternoon and the power went out at 5pm. It affected half of the local government area, not just your street.*	WR Facilitators	

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So it's a big event. It is now the next day at 5pm and it isn't back on. You have been notified by Essential Energy that they are assessing the network and will provide an update in the next day or two.

At this point 24 hours after the power went out ……..
- What would be your **main concerns**? What is inconvenient about a long outage like this?
    - E.g. Charging a mobile phone, Food in Fridge/Freezer becomes spoilt, Hot water runs out, How to work from home, How to cook meals, Ability to pump water etc.
- What would you do about these things?

Imagine it is now 3 days after the power went out. Essential Energy have provided an estimated time to restore power of another 3 days (6 days in total)… At this point
- What would be your **main concerns for today and the coming days**?
- What would you do?

- As time goes on does having no power become **more inconvenient** or **stay the same** level of inconvenience?
- Is there any **added inconvenience** about a long outage that is also **widespread**? E.g. The entire local government area has lost supply (not just your street)
- (Try to spend 4-5 mins on this) During these long outages, in terms of support, who do you think should do what i.e. what do you think should be the responsibility of:
    - Essential Energy?
    - Emergency services?
    - The community?
    - Local Council/State government?
    - Insurance companies?
If they get stuck on this question of responsibilities then prompt for provision of back up generators (to whom?), emergency shelter/community hub with generator (would they go there?), household emergency plans etc.

7.30-7.38pm (8 mins)	**Presentation: Resilience methods and options** • Resilience methods • Possible levels of investment (4 options)	EE	

7.38-7.53pm (15 mins)	**Breakout group discussion: Resilience methods and options**
	
	Facilitator note: Aim for about half of the discussion on the options and half on getting feedback on the different methods.
	
	Options for improving resilience
	• Which is your preferred option of the 4 presented and why? (show table just presented)
	Methods
	• How supportive are you of EE **assisting communities** to prepare for and respond to extreme events e.g. training and education, planning, emergency back-up generators for critical infrastructure, setting up community facilities?
	• How supportive are you of Essential Energy **strengthening the network** by:
	   o investing to obtain 'real time network monitoring'?
	   o investing in SAPS and microgrids to improve network resilience?
	   o using alternative construction methods such as composite poles instead of timber poles? In which locations?
	   o undergrounding the network? Should it be everywhere or just in high-risk areas? Only for critical infrastructure or all customers?
	• Which do you think is more **important** – assisting communities or strengthening the network (assisting communities is cheaper but has less impact on resilience)?
	• How supportive are you of Essential Energy **turning off the network in high-risk locations on extreme weather days.** This would mean that customers downstream would have no power supply?
		WR Facilitators	Show slide

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	- o Are there particular situations/locations that you think this method should be used in? - Can you think of any **other things** that communities or EE could do that might assist with increasing resilience?		
7.53 - 7.58pm (5 mins)	**Polling 6: Resilience** 10. Which resilience option do you think Essential Energy should be aiming for over the longer term? o Option 1: No change o Option 2: Slightly more resilient o Option 3: More resilient o Option 4: Much more resilient o Unsure 11. When looking at ways to increase resilience, on the following scale of 1-7 please indicate where you think the focus should be between: 1: Assisting communities to increase resilience 2 3 4: Do both equally 5 6 7: Strengthening the network to increase resilience 9: Don't know 12. How supportive are you of Essential Energy turning off the network in high-risk locations on extreme weather days to help prevent bushfires, with the effect of downstream customers having no power supply? o Very supportive o Quite supportive o Neither supportive or against o Quite against o Very against o Don't know	WR Lead Fac	

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7.58-8.00pm (2 mins)	Thanks and close	EE	
	CLOSE		

Essential Energy Reg Prop 24-29 Phase 2 Facilitators' Agenda PART 2

Project:	Essential Energy – Regulatory Proposal 24-29				
Event:	Phase 2 Deliberative Forum Part 2 (Zoom)				
Details:					
Dates and location:	Dubbo – Tues 1 March Wagga Wagga – Weds 2 March Broken Hill/Inverell – Mon 7 March Ballina/Taree - Tues 8 March Bega/overflow - Thurs 10 March *(Please note that there may be some mixing of locations at each forum)*	Time:	6.00pm-8.00pm (5.30-7.30pm in Broken Hill)	Duration:	2 hours
Forum objectives:	• Inform customers about pricing mechanisms and options • Inform customers of the challenges/considerations facing Essential Energy and the ways that tariffs and pricing can help to overcome these • Start to build collaborative pricing proposals • Develop a clear understanding of customers' expectations and desires in relation to tariffs and pricing				

Time	Session details	Responsibility	Materials
SECTION 1: INTRODUCTION AND CUSTOMER PRIORITIES			
6.00-6.05pm (5 mins)	Welcome and guidelines for the session • Acknowledgement of Country • V brief overview of guidelines • Structure and purpose of the session • Introduce EE Exec • Acknowledgement of Country (EE EXEC)	WR Lead Facilitator	PPT slides

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6.05-6.08pm (3 mins)	**Presentation 1: Customer priorities** • Reintroduce priorities • Explain any changes made to priorities	EE Exec	PPT slides
6.08-6.13pm (5 mins)	**Polling 1: Customer priorities ranking** Introduce polling question – explain that this is an 'advanced' polling option. If they have one of the latest versions of Zoom they should be able to see it. We are going to ask them to put these priorities in order of importance. Explain that we know it may be difficult as they are all priorities but to give it a go as best they can. We have left out Safety as we understand that it is a given. • Please rank the priorities in order of importance – from 1st to 6th. Only choose one priority for each position! The results are shown as % of people who put priority in each position.	WR Lead Facilitator	
SECTION 2: CONSUMPTION PRICING			
6.13 – 6.27pm (14 mins)	**Presentation 2: Introduction to Pricing and Network Challenges**	EE	PPT slides
6.27-6.37pm (10 mins)	Breakout group discussion: Introduction to pricing issues IMPORTANT: REMEMBER TO RECORD *Welcome everyone, thank them for coming. Introduce yourself and say you will be the breakout facilitator for this evening.* *Introduce any EE or other observers and say that they are there just because they are very interested to hear their thoughts and ideas tonight. If there are any questions that we think might help the discussion then they might be able to answer them.* *Explain that the recording is just for our reporting purposes (to check we have presented their feedback accurately) and is not provided to Essential Energy.*	WR Facilitators	Show slides

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	Quick introduction: *Each participant to introduce themselves (first name, where they live and whether they have solar/battery or not).*
	
	The facilitator for the business group to ask them to say what kind of business they work for and how large it is. Remind the business group to answer the questions with their business 'hat' on rather than their resident 'hat' (although of course they can comment as residents too).
	
	• EE think that the scenario presented is inequitable as the single person is actually subsidising the solar family, as their use of the network costs more than the single person's.
	• What do you think about this? It may be inequitable but do you think it is unfair? Why/why not?
	• As part of the solution we could move towards pricing that reflects how much it actually costs to supply electricity and accommodate how customers use the network. What do you think of this?
	    • What do you like about this?
	    • What do you dislike about this? Concerns?		

6.37-6.45pm (8 mins)	**Presentation: Consumption pricing**		
6.45-6.57pm (12 mins)	Breakout group discussion: Consumption pricing • Do you prefer the concept of postage stamp pricing (everyone paying the same regardless of where they live) or locational pricing (people paying different amounts based on where they live)? Why? • Do you think prices should change according to the seasons or stay the same? Why? • Should we be encouraging people to move to more cost-reflective tariffs like time of use and demand charging? • What do you like about these?	WR Facilitators	Show slides

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	• What do you dislike about these? Concerns? • Should customers have a choice in network tariff (bearing in mind this would be accessed through the retailer)? • How willing would you be to allow some of your appliances (e.g. air conditioning or Electric Vehicle) to be controlled in return for cheaper network charges?		

6.57-7.00pm
 	
(3 mins)
	Polling 2: Tariffs
	
	• How supportive are you of Essential Energy moving to locational pricing – charging different prices according to where people live?
	    o Very supportive
	    o Quite supportive
	    o Neither supportive or against
	    o Quite against
	    o Very against
	    o Don't know
	• How supportive are you of Essential Energy moving to seasonal pricing - charging different rates in summer and winter than the rest of the year?
	    o Very supportive
	    o Quite supportive
	    o Neither supportive or against
	    o Quite against
	    o Very against
	    o Don't know
	• How willing would you be to allow some of your appliances (e.g. air conditioning or Electric Vehicle) to be controlled in return for cheaper network charges?
	    o Very willing
	    o Quite willing
	    o Neither willing or unwilling
	    o Quite unwilling
	    o Very unwilling
	    o Don't know
		WR Lead Facilitator	

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7.00-7.05pm (5 mins)	**Quick break** • Stretch break for those who want to join in!?	WR Lead Facilitator	

SESSION 3: TWO WAY PRICING

7.05 – 7.18pm (13 mins)	**Presentation 3: Introduction to two-way pricing**	EE	PPT Slides

7.18-7.30pm
 	
(12 mins)
	Breakout group discussion: Two-way pricing
	
	• How would two-way pricing impact you? What do you see as the benefits for you? For others on the network?
	• What will it mean for those who are considering installing solar panels? E.g. do you think people would consider a smaller system, install some west facing panels?
	• Do you think two-way pricing would encourage people to invest in batteries or electric vehicles as a form of battery?
	• What do you think of the idea of EE rewarding customers for being able to turn their exports down or up (active management)?
	   o Would this be something you would be interested in for the right incentive?
	   o How much would the incentive need to be?
		WR Facilitators	

SESSION 4: TRANSITION TO TWO WAY PRICING

7.30-7.38pm (8 mins)	Presentation 4: Transition to two way pricing	EE	PPT Slides

7.38-7.53pm
 	
(15 mins)
	Breakout group discussion: Transition to two way pricing
	
	How much export should be free?
	• If it is introduced, what should the **free two way pricing amount** be?
	   • Option 1: 1.5kW?
	   • Option 2: 3kW?
	   • Option 3: 5kW or more?
		WR Facilitators	Show slides

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How should they apply?
- Should two-way pricing only apply on a postage stamp or locational basis:
  - Should the **free level of exports** vary by location or be postage stamped?
  - Should the export **charges and rebate** vary by location or be postage stamped?

When should they apply?
- Should Essential Energy offer a two-way price from 1 July 2024 **for exporting customers to opt into**?
- When do you think **exporting customers should be moved to two-way pricing**? 2025 or 2028?

Communication (only if time)
- How should Essential Energy advise customers of this impending change?

7.53-7.57pm
 	
(4 mins)
	Polling 3: Transition to two-way pricing
	
	1. If it is introduced, what should the free two way pricing level be?
	   ○ 1.5kW
	   ○ 3kW
	   ○ 5kW or more
	   ○ Don't know
	
	2. Should the **level of free exports** be the same everywhere or should it be higher (more free exports) in areas with less issues and lower (less free exports) in areas with more issues?
	
	   ○ The same everywhere
	   ○ Differ by location based on the technical limits of the network
	   ○ Don't know
	
	3. Should two-way prices (**charges and rebates**) be the same everywhere or should they differ
		WR Lead Facilitator	

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	between locations, depending on network limits? o The same everywhere o Differ by location based on the technical limits of the network o Don't know 4. Should Essential Energy offer customers the ability to opt-in to two-way pricing from 1 July 2024? o Yes o No o Don't know 5. If introduced, when should two-way pricing be introduced for everyone? o 1 July 2025 o 1 July 2028 o Don't know		

7.57-7.59pm
 	
(2 mins)
	Polling 4: Final questions
	
	1. To what extent do you agree that a two-way price would help solve some of the issues associated with the network [integrating new technologies and renewables]?
	  – Strongly agree
	  – Slightly agree
	  – Neither agree or disagree
	  – Slightly disagree
	  – Strongly disagree
	  – Don't know
	2. To what extent do you agree that a two-way price would improve fairness?
	  – Strongly agree
	  – Slightly agree
	  – Neither agree or disagree
	  – Slightly disagree
	  – Strongly disagree
	  – Don't know		

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7.59-8.00pm (1 min)	Summing up, next steps and close	EE	
CLOSE			

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Appendix B: Recruitment Screener

HAVE YOUR SAY ABOUT
FUTURE ELECTRICITY PROVISION

Thank you for your interest in this important research project.

Woolcott Research & Engagement is an independent market research company. Essential Energy has asked us to speak with local residents and businesses to find out preferences for the electricity network in the future. What we find out will be used to decide on programs and prices for services in the future.

The project will run over the next 18 months and involve 3 phases. Each phase will involve seven community forums across NSW in the locations below. The first phase will be online (due to the current COVID-19 restrictions on face-to-face events) on the following dates:

Location	Date 2021	Time
Ballina	Tuesday 19 October	6pm-8.00pm
Broken Hill	Thursday 21 October	6pm-8.00pm
Dubbo	Monday 25 October	6pm-8.00pm
Inverell	Wednesday 27 October	6pm-8.00pm
Taree	Thursday 28 October	6pm-8.00pm
Wagga Wagga	Monday 1 November	6pm-8.00pm
Bega	Wednesday 3 November	6pm-8.00pm

Between 50-80 community members will take part in each forum but will discuss issues in small groups of 8-10. **You do not need to know anything about electricity services at all as information to aid discussions will be provided before and during the sessions.** We generally find that people really enjoy taking part in our forums.

We are hoping that the forums in phases 2-3 will be face-to-face in a community centre in the locations above, so **please make sure you can travel to your chosen location for an evening forum** if you agree to take part.

In line with the research industry's common practice, participants will be paid $400 to take part in all three phases as a token of appreciation for their time (Phase 1=$120, Phase 2=$130, Phase 3=$150). This ensures we attract a diverse range of people representing the cross section of our community.

Participation requirements:
- You must reside in NSW in the Essential Energy network area

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- You must be 18 years or over
- You must be available to participate on the allocated date for your location (see above)

If you are interested in taking part in the forums please register your information by clicking on the button below.
After registering we will be in contact with you to let you know if you are successful and provide further details. We are seeking a broad and representative group of residents and therefore cannot guarantee participation.

Please be advised that only one person from each household may participate.

<REGISTER HERE>

The Forum Experience

Our community forums are the perfect setting for you to learn about and consider issues regarding future water management.
They are informative, interactive and fun experiences that enable you to have your say.
You will collaborate with other participants to help shape Essential Energy's plans for the future.

Please click on the video to view an example of a forum we conducted previously for Sydney Water.

<INSERT VIDEO: CLICK HERE>

ONCE CLICKED ON THE REGISTER BUTTON:

Thank you for your interest in being involved in a community forum. The purpose of the forums is for Essential Energy to understand your views about what the priorities should be for the electricity network in the future.

Below is a short questionnaire with a few demographic questions to ensure we have a representative group of residents and businesses.

We will contact you let you know if you are successful and if so, we will confirm details with you.

1. Are you an employee of Essential Energy?

Yes	1	THANK AND TERMINATE
No	2	CONTINUE

2. Do you, or any immediate members of your family, work for an electricity distributer, retailer, generator or Australian Energy Regulator (AER)?

Yes	1	THANK AND TERMINATE
No	2	CONTINUE

TERMINATE MESSAGE FOR Q1 and Q2. Unfortunately, we are unable to include anyone with a close connection to Essential Energy and/or electricity regulation. Thanks again for your interest.

3. What is your postcode: _____ (Terminate if not in EE network area)

TERMINATE MESSAGE FOR Q3. Unfortunately, you do not live within the area we are looking for. Thanks again for your interest.

4. Which forum would you like to attend? SR

Location	Date 2021	Check box
Ballina	Tuesday 19 October	
Broken Hill	Thursday 21 October	
Dubbo	Monday 25 October	
Inverell	Wednesday 27 October	
Taree	Thursday 28 October	
Wagga Wagga	Monday 1 November	
Bega	Wednesday 3 November	

5. Do you identify as being…? CHECK QUOTAS

Male	1
Female	2
Gender neutral	3
Prefer not to say	4

6. What is your date of birth? _____   CHECK QUOTAS
TERMINATE IF UNDER 18
If you don't want to give this information:
Which of the following age groups you fall into? CHECK QUOTAS

Under 18	1	TERMINATE
18-24	2	
25-34	3	
35-44	4	
45-54	5	
55-64	6	
65+	7	

7. Do you speak a language other than English at home or with family?   CHECK QUOTAS

No, English only	1	SKIP NEXT Q
Yes	2	

8. What is the main language other than English spoken at home or with family? DNRO

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Arabic	1	Lebanese	14
Australian Indigenous Languages	2	Macedonian	15
Cantonese	3	Mandarin	16
Croatian	4	Polish	17
Dutch	5	Punjabi	18
French	6	Serbian	19
German	7	Spanish	20
Greek	8	Tagalog (Filipino)	21
Hindi	9	Turkish	22
Indonesian	10	Vietnamese	23
Italian	11	Other (please specify)	24
Japanese	12	Prefer not to say	25
Korean	13		

9. Are you of Aboriginal or Torres Strait Islander origin? CHECK QUOTAS
   No   1
   Yes   2
   Prefer not to say   3   DO NOT OFFER

10. Are you the owner or a decision maker for a small or medium business (less than 200 employees)?
    Yes   1 (recruit as small business)
    No   2 SKIP NEXT QUESTION
    Don't know   3 SKIP NEXT QUESTION

11. What industry does the business operate within?

    _____

12. What is your approximate annual household income?   CHECK QUOTAS
    Less than $41,600 per year (less than $800 per week)   1
    $41,600 - $78,000 per year ($800 - $1,500 per week)   2
    $78,000 - $104,000 per year ($1,500 - $2,000 per week)   3
    $104,000 - $156,000 per year ($2,000 - $3,000 per week)   4
    More than $156,000 per year (more than $3,000 per week)   5
    Do not wish to answer   6

13. Does the property you are living in have any of the following? SR per row

	Yes	No
Solar panels for electricity	1	2
Battery storage	1	2
Electric vehicle(s)	1	2

14. Which of the following best describes your household makeup? SR
    Single household   1
    Couple living together with no children   2
    Shared household   3
    Family household with children still at home   4
    Other (please specify)   5
    Do not wish to answer

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15. Do you live in a: SR

Stand-alone house or dwelling	with acreage or farm	1 RURAL
Stand-alone house or dwelling	without acreage or farm	2
A townhouse or semi		3
An apartment or unit complex		4
Other (please specify)		5

16. In the last 12 months, have you had any difficulty paying your electricity bills such as:

	Yes
Had to borrow money to pay a bill	1
Had to ask for an extension or paid late	2
Been on a special payment plan	3
Been disconnected due to inability to pay	4
Had to cut back on buying food or other groceries to avoid disconnection	5
Delayed other payments to avoid disconnection	6
None of the above	7
Do not wish to answer	8

IF YES TO ANY CODE AS A VULNERABLE CUSTOMER

17. Do you, or a member of your household, rely on life support equipment such as a positive airway pressure machine (PAP/CPAP), powered wheel chair, home dialysis? SR

Yes	1
No	2
Don't know	3

IF YES CODE AS LIFE SUPPORT CUSTOMER

18. Are you a member of any special interest groups or associations related to energy, farming or irrigation?

Yes (please specify)	1
No	2

Thank you for providing that information. Lastly, could you please provide your contact details:

TITLE:	
FIRST NAME:	
SURNAME:	
Preferred ph. number to be contacted on:	
ADDRESS:	
SUBURB/POSTCODE:	
EMAIL ADDRESS:	

Thank you for your time and willingness to participate. We will be in touch to confirm whether you have been selected to participate and with further instructions.

Should you require further information in the meantime please contact Melissa Homann or Liz Sparham of Woolcott Research on 02 9261 5221.

Thank you

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Appendix C: ATSI and CALD Topic Guide

Name of participant:

Date:

Note that timings are to be used as a guide only

INTRODUCTION (2 MINS)

Thank you for agreeing to take part in this next phase of research for Essential Energy's future planning.

- We work for an independent research company WR
- The purpose of the project is to involve customers in developing Essential Energy's future plans and pricing.
- Essential Energy are regulated by the Australian Energy Regulator and have to put in a proposal every 5 years that shows what their plans are and how much it will cost. They need customer input into those plans.
- (FOR CALD ONLY) We are talking to people who speak a language other than English to find out if there are certain things that Essential Energy needs to consider specifically for those groups. So I'd like you to answer the questions from your own perspective, but also the perspective of people who speak a language other than English.
- (FOR ATSI ONLY) We are talking specifically to people from an Aboriginal and Torres Strait Islander background to find out if there are certain things that Essential Energy needs to consider specifically. So I'd like you to answer the questions from your own perspective, but also the perspective of Aboriginal and Torres Strait Islander people generally if possible.
- Our role is to report back to them on your feedback however your responses are confidential and anonymous. We report on an overall basis only and do not mention specific names, etc.
- Check ok to record the discussion (if relevant)

CUSTOMER PRIORITIES (8 MINS)

SHOW SLIDES 2-10: Vision and Priorities and read out speaking notes

Questions:
- What do you think of these revised priorities?
- Which of these are most important/least important and why?
- From a CALD or ATSI* perspective, is there anything specific that is more of a priority?

POWER QUALITY (15 MINS)

SHOW SLIDES 12-14: Power quality

Questions (don't spend much time on this at all):

- Have you experienced any power quality issues like flickering lights, brown outs, damage to appliances etc? How much of a problem are they?
- Do you have solar panels for electricity? Battery? EV? Have you experienced solar export limits/being turned off, being refused solar connection? Or heard of others who have?

SHOW SLIDES 16-17: Power quality methods and options

Questions:

- Which of the 4 options presented do you prefer and why? (show table just presented)
- What do you think of the different methods that could be used:
    - Reacting to customer complaints and manually adjusting
    - Real time network monitoring – being able to 'see' what is happening at a local level on the network
    - Invest in assets such as batteries and smart transformers to help with dynamic management of the network

RESILIENCE (15 MINS)

SHOW SLIDES 19-23

Questions:

- Which is your preferred option of the 4 presented and why? (show table just presented)
- How supportive are you of EE assisting communities to prepare for and respond to extreme events e.g. training and education, planning, emergency back-up generators for critical infrastructure, setting up community facilities?
- How supportive are you of Essential Energy strengthening the network by:
    - investing to obtain 'real time network monitoring'?
    - investing in SAPS and microgrids to improve network resilience?
    - using alternative construction methods such as non-timber poles? In which locations?
    - undergrounding the network? Should it be everywhere or just in high risk areas? Only for critical infrastructure or all customers?

PRICING FOR THE FUTURE (10 MINS)

SHOW SLIDES 25-28

Questions:

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- EE think that the scenario presented is inequitable as the single person is actually subsidising the solar family, as their use of the network costs more than the single person's.
- What do you think about this? It may be inequitable but do you think it is unfair? Why/why not?

TWO-WAY PRICING (10 MINS)

SHOW SLIDES 30-32

Questions:
- How would two-way pricing impact you? What do you see as any benefits/disadvantages for you?
- Do you think two way pricing would help solve some of the issues associated with integrating new technologies and renewables?
- Do you think it would improve fairness?
- What will it mean for those who are considering installing solar panels? E.g. do you think people would consider a smaller system, install some west facing panels?
- Do you think two-way pricing would encourage people to invest in batteries or electric vehicles as a form of battery?
- What do you think of the idea of EE rewarding customers for being able to turn their exports down or up (active management)?
- Should the free level of exports, charges and rebates vary by location or be the same everywhere?
- Should customers be able to opt into a two-way price earlier (e.g. 2024) or should all exporting customers be moved onto it a bit later (e.g. 2025-2028)?

CLOSE

Any final comments?

Thank and close
* Delete as appropriate

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Appendix D: Example Agenda for Group Sessions

Project:	Essential Energy – Regulatory Proposal 24-29 – NEW TECHNOLOGY PROVIDERS				
Event:	Phase 2 Deliberative Forum (Zoom)				
Details:					
Dates and location:	Tuesday 15th March	**Time:**	4.00-6.00pm	**Duration:**	2 hours
Forum objectives:	• To present what we've learned from Phase 1 and build on it in Phase 2 - present back customer priorities and vision • Start to build collaborative proposals/programs to meet the priorities/vision • A clear understanding of customers' expectations and desires in relation to key service outcomes.				

Time	Session details	Responsibility	Materials
SECTION 1: INTRODUCTION			
4.00-4.05pm (5 mins)	**Welcome and guidelines for the session** • Acknowledgement of Country • Structure of the session • Introductions	WR Facilitator	PPT slides
SECTION 1: VISION FOR THE FUTURE AND CUSTOMER PRIORITIES			
4.05 – 4.10pm (5 mins)	**Presentation: What we heard in Phase 1** • Vision for the future (explain main points and show drawing) • Outline revised customer priorities	EE	PPT slides
4.10-4.15pm (5 mins)	**Discussion: Customer priorities and vision** • Any comments or response to these priorities? • Which are more important?		
SECTION 2: INTRODUCTION TO POWER QUALITY			
4.15-4.25pm (10mins)	**Presentation: Power quality methods and options** • Managing power quality is becoming more challenging • Increasing solar is exacerbating the issue • Methods that EE can use to manage power quality • How proactive should EE be in managing power quality?	EE	

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4.25-4.40pm (15 mins)	**Discussion: Power quality**
	
	Facilitator note: Aim for about half of the discussion on the options and half on the methods.
	
	Options for managing electricity quality
	• Which of the 4 options presented do you prefer and why? (show table just presented)
	• Which of the outcomes do you think is most important?
	Methods
	• How supportive are you of each of the methods to manage electricity quality presented and why (show slide on methods pros and cons):
	    o Respond to power quality complaints and manually adjust assets
	    o Real time network monitoring – being able to 'see' what is happening at a local level on the network
	    o Invest in other assets, e.g. batteries and smart transformers, to help with the dynamic management of the network
		WR Facilitator	Show slides

SECTION 3: RESILIENCE			

4.40-4.53pm (13 mins)	**Presentation: Introduction to Resilience**
	
	• Definition of resilience
	• Why resilience is so important:
	    o There will be more extreme weather days in the future
	    o More and more essential services are relying on electricity (e.g petrol pumps, telecoms towers, water, sewerage)
	    o More household reliance too e.g. internet, mobile phones, smart systems, EVs
	• Resilience methods
	• Possible levels of investment (4 options)
		EE	

4.53-5.05pm (12 mins)	**Discussion: Resilience methods and options** **Options for improving resilience** • Which is your preferred option of the 4 presented and why? (show table just presented) **Methods** • How supportive are you of EE **assisting communities** to prepare for and respond to extreme events e.g. training and education, planning, emergency back-up	WR Facilitators	Show slide

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	generators for critical infrastructure, setting up community facilities? • How supportive are you of Essential Energy **strengthening the network** by: o investing to obtain 'real time network monitoring'? o investing in SAPS and microgrids to improve network resilience? o using alternative construction methods such as composite poles instead of timber poles? In which locations? o undergrounding the network? Should it be everywhere or just in high-risk areas? Only for critical infrastructure or all customers?		
SECTION 5: TWO-WAY PRICING			
5.05 – 5.20pm (15 mins)	**Presentation 3: Introduction to two-way pricing**	EE	PPT Slides
5.20-5.35pm (17 mins)	**Discussion: Two-way pricing** • How would the introduction of two-way pricing impact customers? Your business? • What will it mean for those who are considering installing solar panels? E.g. do you think people would consider a smaller system, install some west facing panels? • Do you think two-way pricing would encourage people to invest in batteries or electric vehicles as a form of battery? • What do you think of the idea of EE rewarding customers for being able to turn their exports down or up (active management)?	WR Facilitator	
5.35-5.43pm (8 mins)	**Presentation 4: Transition to two way pricing**	EE	PPT Slides
5.43-5.58pm (15 mins)	**Discussion: Transition to two way pricing** • If it is introduced, what should the **free two way pricing amount** be? • Option 1: 1.5kW? • Option 2: 3kW? • Option 3: 5kW or more?	WR Facilitator	Show slides

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147	• Should two-way pricing only apply on **a postage stamp or locational basis**? 　• Should the **free level of exports** vary by location or be postage stamped? 　• Should the export **charges and rebate** vary by location or be postage stamped? • Should Essential Energy offer a two-way price from 1 July 2024 **for exporting customers to opt into** • When do you think **exporting customers should be moved to two-way pricing**? 2025 or 2028?		
5.58-6.00pm (2 min)	**Summing up, next steps and close**	EE	
	CLOSE		

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