



# Investment Options Forums

Report prepared for CitiPower, Powercor and United Energy  
September 2018

## Contents

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<b>Table of Figures .....</b>	<b>3</b>
<b>Executive Summary .....</b>	<b>5</b>
<b>1.0 Introduction.....</b>	<b>16</b>
<b>2.0 Methodology .....</b>	<b>17</b>
2.1 Forum recruitment .....	18
<b>3.0 CitiPower Forum Findings.....</b>	<b>20</b>
3.1 Making it easier for customers to export solar and charge batteries .....	20
3.2 Making it easier for customers to use their energy data to make informed choices .....	25
3.3 Providing a safe environment for workers and customers .....	28
3.4 Providing a reliable supply of electricity.....	32
3.5 Maintaining affordability .....	35
3.6 Forum evaluation results .....	39
<b>4.0 Powercor Forum Findings.....</b>	<b>41</b>
4.1 Making it easier for customers to export solar and charge batteries .....	41
4.2 Making it easier for renewables to connect .....	45
4.3 Making it easier for customers to use their energy data to make informed choices .....	48
4.4 Maintaining affordability .....	51
4.5 Providing a safe environment for workers and customers .....	55
4.6 Providing a reliable supply of electricity.....	58
4.7 Forum evaluation results .....	61
<b>5.0 United Energy Forum findings .....</b>	<b>63</b>
5.1 Making it easier for customers to export solar and charge batteries .....	63
5.2 Maintaining affordability .....	67
5.3 Making it easier for customers to use their energy data to make informed choices .....	72
5.4 Providing a safe environment for workers and customers .....	77
5.5 Providing a reliable supply of electricity.....	79
5.5 Forum evaluation results .....	82
<b>Appendix 1: CitiPower Agenda and Materials .....</b>	<b>84</b>
<b>Appendix 2: Powercor Agenda and Materials.....</b>	<b>96</b>
<b>Appendix 3: United Energy Agenda and Materials.....</b>	<b>109</b>

## Table of Figures

---

Figure 1: Components of the research program.....	16
Figure 2: Forum Participation .....	18
Figure 3: Overall rating of CitiPower Forum .....	39
Figure 4: Expectations of the CitiPower Forum .....	39
Figure 5: CitiPower Forum Agreement Statements .....	40
Figure 6: Overall rating of Powercor Forum .....	61
Figure 7: Expectations of the Powercor Forum .....	62
Figure 8: Powercor Forum Agreement Statements .....	62
Figure 9: Overall rating of United Energy Forum .....	82
Figure 10: Expectations of the United Energy Forum .....	82
Figure 11: United Energy Forum Agreement Statements.....	83

## Table of Tables

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Table 1: Voting results for ‘making it easier for customers to export solar and charge batteries’ .....	6
Table 2: Voting results for ‘making it easier for renewables to connect’ .....	7
Table 3: Voting results for ‘making it easier for customers to use their energy data to make informed choices’ .....	8
Table 4: Voting results for ‘making a safe environment for workers and customers – dog bones’ ..	10
Table 5: Voting results for ‘providing a safe environment for workers and customers by testing and replacing neutrals’ .....	10
Table 6: Voting results for ‘providing a safe environment for workers and customers – inspecting and replacing underground pits’ .....	11
Table 7: Voting results for ‘providing a reliable supply of electricity’ – CitiPower .....	12
Table 8: Voting results for ‘providing a reliable supply of electricity’ – United Energy .....	13
Table 9: Voting results for ‘providing a reliable supply of electricity’ – Powercor .....	13
Table 10: Voting results for ‘maintaining affordability’ .....	15
Table 11: Voting results for ‘making it easier for customers to export solar and charge batteries’ - CitiPower .....	24
Table 12: Voting results for ‘making it easier for customers to use their energy data to make informed choices’ - CitiPower .....	28
Table 13: Voting results for ‘making a safe environment for workers and customers’ -- CitiPower	31
Table 14: Voting results for ‘providing a reliable supply of electricity’ – CitiPower .....	35
Table 15: Voting results for ‘maintaining affordability’ - CitiPower .....	39
Table 16: Voting results for ‘making it easier for customers to export solar and charge batteries’ - Powercor .....	44
Table 17: Voting results for ‘making it easier for renewables to connect’ - Powercor .....	47
Table 18: Voting results for ‘making it easier for customers to use their energy data to make informed choices’ - Powercor .....	51
Table 19: Voting results for ‘maintaining affordability’ - Powercor .....	55
Table 20: Voting results for ‘making a safe environment for workers and customers’ - Powercor..	57
Table 21: Voting results for ‘providing a reliable supply of electricity’ – Powercor .....	61
Table 22: Voting results for ‘making it easier for customers to export solar and charge batteries’ – United Energy .....	67
Table 23: Voting results for ‘maintaining affordability’ – United Energy .....	72
Table 24: Voting results for ‘making it easier for customers to use their energy data to make informed choices’ .....	76
Table 25: Voting results for ‘making a safe environment for workers and customers’ – United Energy .....	79
Table 26: Voting results for ‘providing a reliable supply of electricity’ – United Energy .....	81

## Executive Summary

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Across CitiPower, Powercor and United Energy (CPPCUE), there is a strong commitment to engaging with customers to help develop future priorities and directions for the three networks. Customers' opinions and feedback are currently being sought to develop Regulatory Proposals for each network for the next 2021-2025 period, known as 'Energised 2021-2025'. These proposals, submitted to the Australian Energy Regulator (AER) every five years, detail the networks' predicted expenditure and revenue requirements for the next regulatory period.

Energised 2021-2025 involves four key phases for engagement from January 2017 to July 2019. Phases 1 and 2, undertaken in 2017 identified and confirmed CPPCUE's key audiences and engagement framework and explored customers' initial views on regulatory issues. In Phase 3, community opinion leader forums, a customer survey with residents and small and medium businesses (SMEs), interviews with large customers and deliberative engagement forums with residential and SME customers were conducted, culminating in three Investment Options Forums (the focus of this report).

### Investment Options Forums

The Investment Options Forums were held in August 2018, where CPPCUE customers considered several investment options for delivering Customer Value Propositions – services and benefits that customers value the most. These value propositions are:

- Providing a reliable supply of electricity
- Providing a safe working environment for workers and customers
- Maintaining energy affordability
- Making it easier for customers to export solar and charge batteries
- Making it easier for renewables to connect
- Making it easier for customers to use their energy data to make informed choices

To enable customers to fully understand and explore investment options for delivering these value propositions, participants were recruited from forums held in May 2018 where the value propositions were developed. A total of n=107 residents, SMEs and Opinion Leaders returned to take part in the investment options forums held across CitiPower (Melbourne), United Energy (Glen Waverly) and Powercor (Ballarat). For each value proposition, participants were briefed on what the distributor had heard from customers previously, what it considered the key challenge in delivering the value proposition are and three to four options for investment going forward. The value propositions and investment options differed across the networks due to geographic characteristics and particularities issues across each network.

## Making it easier for customers to export solar and charge batteries

The first value proposition discussed at all three forums was ‘making it easier for customers to export solar and charge batteries’. The key challenge for the network is customers want to be able to export their spare electricity from solar, batteries or any other technologies without being constrained by network capacity, without sacrificing power quality and at a reasonable cost of connection.

The three investment options presented were:

- Option 1: Limit exports to manage the network (status quo)
- Option 2: Increase the network’s capacity to cope with more exporting
- Option 3: Introduce “Flexible Grid’ technology to provide real time data

Option 3 was preferred across all three networks for the following reasons:

- Option 1 was seen to prevent customers from participating in the market and could even encourage people to leave the grid. Customers saw negative impacts of this option on customer choice, future flexibility, reliability and the environment.
- Option 2 was not favoured as a long term strategy. In general, investing in the grid was supported but most felt that simply building capacity based on estimates of where there may be most customer desire to export was not an efficient way of managing the issue. Quite a number of participants wanted an amalgam of Options 2 and 3.
- Flexible Grid was chosen in light of further take-up of solar, a need to manage quality plus low costs. However, key questions related to: the 6 year lifespan, whether exports would still be constrained, and, whether both options were needed anyway?

Table 1: Voting results for ‘making it easier for customers to export solar and charge batteries’

Making it easier for customers to export solar and charge batteries	CitiPower N=32 #	Powercor N=37 #	United Energy N=38 #	Total N=107 #
Option 1: Limit exports to manage the network	0	0	1	1
Option 2: Build capacity to cope with more exporting	1	3	7	11
Option 3: Implement Flexible Grid Technology (no change to network capacity)	25	22	28	75
Both options 2 and 3 / somewhere in-between	3	11	2	16
None of these	3	1	0	4

## Making it easier for renewables to connect

The issue of large renewable connections is specific to Powercor as it covers the wind and solar resource of West Victoria. Powercor’s challenge is customers want them to contribute to the growth of large renewables but the current network capacity limits large renewable connections. Participants in the Powercor area were asked to consider three options to make it easier for large renewables to connect to the network:

- Option 1: Continue expanding network capacity for each new renewable generator that wishes to connect with the full cost paid by the generator (status quo)
- Option 2: Invest in a renewable energy hub whereby multiple generators are able to connect and the costs of the energy hub are recovered across all customers
- Option 3: Invest in renewable energy hub where all customers initially pay for the hub, however as each generator connects they pay a portion of the cost which is returned to customers

Most participants preferred the third option for the following reasons:

- Option 1 was seen to impede progress (waiting for the first generator to pay up), and some felt it could disincentivise large renewables from connecting.
- Option 2 (‘customer pays for everything’) was not viewed as fair, although it was acknowledged the average bill impact for customers was fairly low.
- Option 3 was preferred because it was seen to be fair to both generators and customers. It was believed that the generators won’t feel disadvantaged because they are just paying a portion and that customers will get something back.

Table 2: Voting results for ‘making it easier for renewables to connect’

Making it easier for renewables to connect	Powercor N=37 #
Option 1: Continue expanding network capacity for each new renewable generator that wishes to connect with the full cost paid by the generator	5
Option 2: Invest in a renewable energy hub whereby multiple generators are able to connect and the costs of the energy hub are recovered across all customers	9
Option 3: Invest in renewable energy hub where all customers initially pay for the hub, however as each generator connects they pay a portion of the cost which is returned to customers	23

## Making it easier for customers to use their energy data to make informed choices

This value proposition of ‘making it easier for customers to use their energy data to make informed choices’ was discussed at all three forums. The challenge for the network is that currently customer information is not easily accessible and customers are not able to view or use their energy data effectively. The three investment options presented were:

- Option 1: No changes to customer portals or services (status quo)
- Option 2: Invest in a ‘one-stop-shop’ for all customer energy information and enhance customer experience
- Option 3: Invest in ‘one-stop-shop’ portal (option 2) and real-time usage data access

Although there were mixed views about these options, option 3 was preferred overall. The mixed views resulted from some disagreement among customers about the importance of accessing their usage data, and whether real time access was required.

- Option 1 was not seen to make the best use of available technology, i.e. the status quo or no change in data availability is not going to assist customers with their bill.
- There was a mixed response to Option 2. While some saw the portal as useful, others said they would not use it in the long run and/or retailers can or should offer these insights.
- Option 3 was chosen, but whether customers would use their real time usage data to make informed choices was still questioned. The cost of the option was seen to be low but some saw data availability as business as usual (BAU) that should be paid for by the networks. Those who preferred option 3 generally did so because it was seen to be the ‘smart’ option, providing more advanced technology and more information that could be useful in the future.

Table 3: Voting results for ‘making it easier for customers to use their energy data to make informed choices’

Making it easier for customers to use their energy data to make informed choices	CitiPower N=32 #	Powercor N=37 #	United Energy N=38 #	Total N=107 #
Option 1: No changes to customer portals or services	3	13	6	22
Option 2: Invest in a ‘one-stop-shop’ for all customer energy information and enhance customer experience	13	16	9	38
Option 3: Option 2 as well as the ability to access real-time usage data	15	8	23	46

## Providing a safe environment for workers and customers

Providing a safe network is seen as one of the top value propositions for customers across the three networks. The challenge for the networks is that customers are largely unaware that safety comes at a cost and that networks balance the risk of safety incidents occurring and the cost of any investment in safety improvement.

Each network has specific safety challenges that are linked to asset age, condition, geographic and environmental factors. An example of a real-life current safety problem was demonstrated at the forums. At all three forums the replacement of 'dog bones' (metal rods coated in plastic that attach service lines to the street pole and the customer's property) was discussed in the context of trade-off between improving safety and the cost of investment.

CitiPower and Powercor customers heard about the testing and replacement of 'neutrals' (lines that return electricity from properties to the pole in the street) through the use of smart meters in the same context of trade-off.

At the CitiPower forum, there was also discussion about the trade-off between improving safety through inspecting and replacing potentially faulty underground pits (used to access underground cables) versus the cost of this investment.

### Replacing dog bones

Personnel within each network outlined the current safety concerns with regard to a fleet of older 'dog bones' on their network that have started to exhibit increasing fault rates. Customers were given insights on three risk-cost trade off options related to dog bone replacements, which were:

- Option 1: Replace high priority dog bones only (status quo)
- Option 2: Replace high priority and replace moderate priority dog bones within 5 years
- Option 3: Replace high priority, and replace moderate priority dog bones within 10 years.

Of these options, option 2 was favoured across all three forums for the following reasons:

- Option 1 was not chosen due to customer uncertainty about the potential risks and the low costs associated with choosing one of the other safer options.
- Option 2 was chosen because both Option 1 and 3 assume that 'moderate priorities' don't need immediate attention, and participants did not feel comfortable with this level of potential risk, given that the cost for this option was minimal.
- Option 3 was dismissed given that the longer timeframe only served to heighten the safety risk to customers.

Table 4: Voting results for ‘making a safe environment for workers and customers – dog bones’

Providing a safe environment for workers and customers – replacing dog bones	CitiPower N=32 #	Powercor N=37 #	United Energy N=38 #	Total N=107 #
Option 1: Replace high priority only	1	3	5	9
Option 2: Replace high priority and replace moderate priority within 5 years	26	30	31	87
Option 3: Replace high priority and replace moderate priority within 10 years	4	5	2	11

### Testing and replacing neutrals

Due to the new smart meter technology, networks are now able to test neutrals remotely and replace them early if they detect a potential fault (not possible in the past). United Energy is already undergoing this testing, and participants at the CitiPower and Powercor forums were presented with the question of whether CitiPower and Powercor should be doing the same:

- Option 1: Do not test and replace any neutrals
- Option 2: Test and replace faulty neutrals.

Option 2 was seen to be an obvious choice for most customers. Almost everyone attending these two forums chose option 2 as option 1 was not seen to be addressing the safety risk at all. Option 2 was seen as the only choice given the perceived risks of faulty neutrals and minimal costs to replace them. Various customers (or people they knew) had experienced ‘tingles’ or some form of electric shock linked to faulty neutrals.

Table 5: Voting results for ‘providing a safe environment for workers and customers by testing and replacing neutrals’

Providing a safe environment for workers and customers – testing and replacing neutrals	CitiPower N=32 #	Powercor N=37 #	Total N=69 #
Option 1: Do not test and replace any neutrals	0	1	1
Option 2: Test and replace the faulty neutrals	32	36	68

### Inspecting and replacing underground pits

The safety risks associated with insecure underground pits was outlined by network personnel, including potential for sink holes in the central business district resulting from water-damaged pits.

CitiPower participants considered the same three investment options outlined to resolve the ‘dog bones’ issue. These were:

- Option 1: Replace high priority underground pits only
- Option 2: Replace high priority and replace moderate priority pits within 5 years
- Option 3: Replace high priority, and replace moderate priority pits within 10 years

Option 1 was dismissed by customers as too risky. Option 2 was selected by the majority because the cost difference between the second and third option was viewed as minimal for the increased safety it would bring.

*Table 6: Voting results for ‘providing a safe environment for workers and customers – inspecting and replacing underground pits’*

Providing a safe environment for workers and customers Inspecting and replacing underground pits	CitiPower N=32 #
Option 1: Replace high priority only	1
Option 2: Replace high priority and replace moderate priority within 5 years	23
Option 3: Replace high priority and replace moderate priority within 10 years	8

### Providing a reliable supply of electricity

Although customers experience acceptable levels of reliability overall, the challenges related to proving a reliable supply of electricity varied across the networks as did the investment options.

For CitiPower, the challenge was to retire an aging Port Melbourne zone substation while ensuring electricity supply remains reliable. Participants were presented with three options:

- Option 1: Continue to maintain and monitor asset condition
- Option 2: Replace existing assets at Port Melbourne (like for like)
- Option 3: Retire the assets in Port Melbourne, move its customers to Westgate zone substation and upgrade the Westgate substation.

Option 3 was almost unanimously chosen by customers for the reasons outlined below:

- Option 1 was not seen to be viable given that reliability was seen to be pivotal to the future of industrial areas such as Port Melbourne. Customers expect strong population growth to occur in the area.
- Option 2 was thought to deliver little or no flexibility or capacity for future population growth meaning that there was no sense in replacing ‘like for like’.

- Option 3 was thought to provide a better outcome in terms of future flexibility, safety, power quality and reliability for a slightly lower cost than option 2. Some customers wanted reassurance that the old facility/land would become parklands (if it's likely to become derelict, some preferred Option 2).

Table 7: Voting results for 'providing a reliable supply of electricity' – CitiPower

Providing a reliable supply of electricity - CitiPower	CitiPower N=32 #
Option 1: Continue to maintain and monitor asset condition	0
Option 2: Replace existing assets at Port Melbourne	1
Option 3: Retire the assets in Port Melbourne, move customers to Westgate zone and upgrade Westgate substation	31

For United Energy, the challenge was delivering a reliable supply of electricity in the Doncaster area with growing demand and aging assets at the Doncaster zone substation. Participants were presented with three options:

- Option 1: Continue to maintain and monitor asset condition
- Option 2: Replace transformer at Doncaster zone substation in 2021
- Option 3: Invest in a 4th transformer at Doncaster zone substation in 2025
- Option 4: Employ demand management to defer capital investment

Option 3 was selected as the preferred option by the majority of participants for the reasons shown below:

- Although Option 1 would save money in the short term, it was believed that it would be a more costly option in the long term. Also, any failure of the asset as a result of choosing this option would affect a lot of people and it doesn't allow for future population growth.
- Option 2 was thought to be a Band-Aid fix – similar to Option 1, as it wouldn't give any capacity for customer growth.
- Option 3 was preferred along with keeping the old asset as a back-up (providing a redundancy plan and further flexibility for network managers). This option would provide excess capacity in the short term, but would fulfil needs in the longer term. It was also believed that this solution had been adopted in another area of the network and it had worked well.
- Option 4 was viewed as an adjunct to Option 3 (some felt Option 2, 3 and 4 were complementary). With Option 4 in the mix, there would be additional choice and environmental benefits but it was not viewed as a 'stand-alone' option.

Table 8: Voting results for ‘providing a reliable supply of electricity’ – United Energy

Providing a reliable supply of electricity - United Energy	United Energy N=38 #
Option 1: Continue to maintain and monitor asset condition	0
Option 2: Replace transformer at Doncaster zone substation in 2021	0
Option 3: Invest in a 4th transformer at Doncaster zone substation in 2025	33
Option 4: Employ demand management to defer capital investment	5

For Powercor, the largest challenge is its geographic dispersity and as such, customers in remote areas have worse electricity supply than the average. For prolonged or frequent outages, these customers are compensated through regulated guaranteed service level (GSL) payments. Three options presented to participants were on improving electricity supply to ‘worst served areas’:

- Option 1: Maintain current levels of reliability and compensation payments (status quo)
- Option 2: Improve areas of poor reliability to the average level of reliability
- Option 3: Increase compensation payments.

Option 2 was the preferred option for people at the forum for the following reasons:

- Option 1 was only acceptable to those who felt that the current level of reliability was good and that people who live remotely normally have back-ups or expect some outages.
- Option 2 was thought to deliver both energy reliability and equity. Many participants believed that all customers, regardless of where they live, should receive good and equal reliability and experience fewer and shorter outages. The increased cost for this option was also seen to be negligible.
- Option 3 was only selected by a handful of participants. Although compensation payments were viewed positively, they were not seen as fixing the problem. In addition, increased rebates would bring additional costs i.e. creating more expense Powercor.

Table 9: Voting results for ‘providing a reliable supply of electricity’ – Powercor

Providing a reliable supply of electricity - Powercor	Powercor N=37 #
Option 1: Maintain current levels of reliability and compensation payments	7
Option 2: Improve areas of poor reliability to the average level of reliability	25
Option 3: Increase compensation payments	5

## Maintaining energy affordability

Maintaining affordability is one of the top values for customers, and networks have the challenge to deliver services at affordable prices but also to provide simple and fair pricing structures. To tackle these challenges, four pricing structures were proposed, presented as trading-off simplicity for fairness. Option 1 is the most simple but least fair, while option 4 is the most complicated but most likely to deliver fairness in the long term:

- Option 1: Flat rate
- Option 2: Time of use
- Option 3: Peak usage bands
- Option 4: Demand pricing

Perceptions were quite different across the three networks. Within this section some customers struggled to understand the concepts and so it should be noted that some participants may have voted without fully grasping the differences between the pricing structures. Those in the CitiPower network were more likely to prefer a flat rate, in Powercor they were most positive about time of use tariffs, while participants in the United Energy area preferred demand pricing.

Across the forums, a flat rate was favoured by those who saw value in simplicity and certainty, and among those who saw difficulties in changing their pattern of use. Some disliked this option because changing the pattern of demand would only benefit the network. A flat rate gives customers no incentive to change their behaviour at all. However, some noted that this tariff option should always be available to customers as an option.

Time of use tariffs were viewed as complementary to real time data usage and the development of a more flexible grid, but totally reliant on customers' abilities to change their behaviour (with disadvantages for vulnerable customers). Some didn't see time of use tariffs solving the issue of high demand periods and some saw negative outcomes of adopting this tariff.

Peak usage bands were the least favoured tariff option. They were seen to be too difficult and complex for the average energy customer. Customers felt that keeping power usage within the specified bands could be a challenge for some or many customers. No incentive was evident for customers to change their energy usage behaviour once the tariff structure is in place.

Demand pricing appealed to those who want control and flexibility but it was also viewed as complex. Here, most felt that education will be needed to make demand tariffs work (encourage behaviour change) and ensure that people fully understand the benefits of this option.

Table 10: Voting results for ‘maintaining affordability’

Maintaining Affordability	CitiPower N=32 #	Powercor N=37 #	United Energy N=38 #	Total N=107 #
Option 1: Flat rate	16	12	4	32
Option 2: Time of use	6	21	9	36
Option 3: Peak usage benefits	5	0	4	9
Option 4: Demand pricing	4	4	21	29

### Feedback about the forums

At the end of the forums participants in all three networks were asked to evaluate the forums and almost all gave positive feedback. Overall, 98% rated the forums as excellent or good. The vast majority felt they were able to express themselves and that they had a voice in the discussions. They welcomed the opportunity to hear about and consider alternative investment options put forward by the distributors.

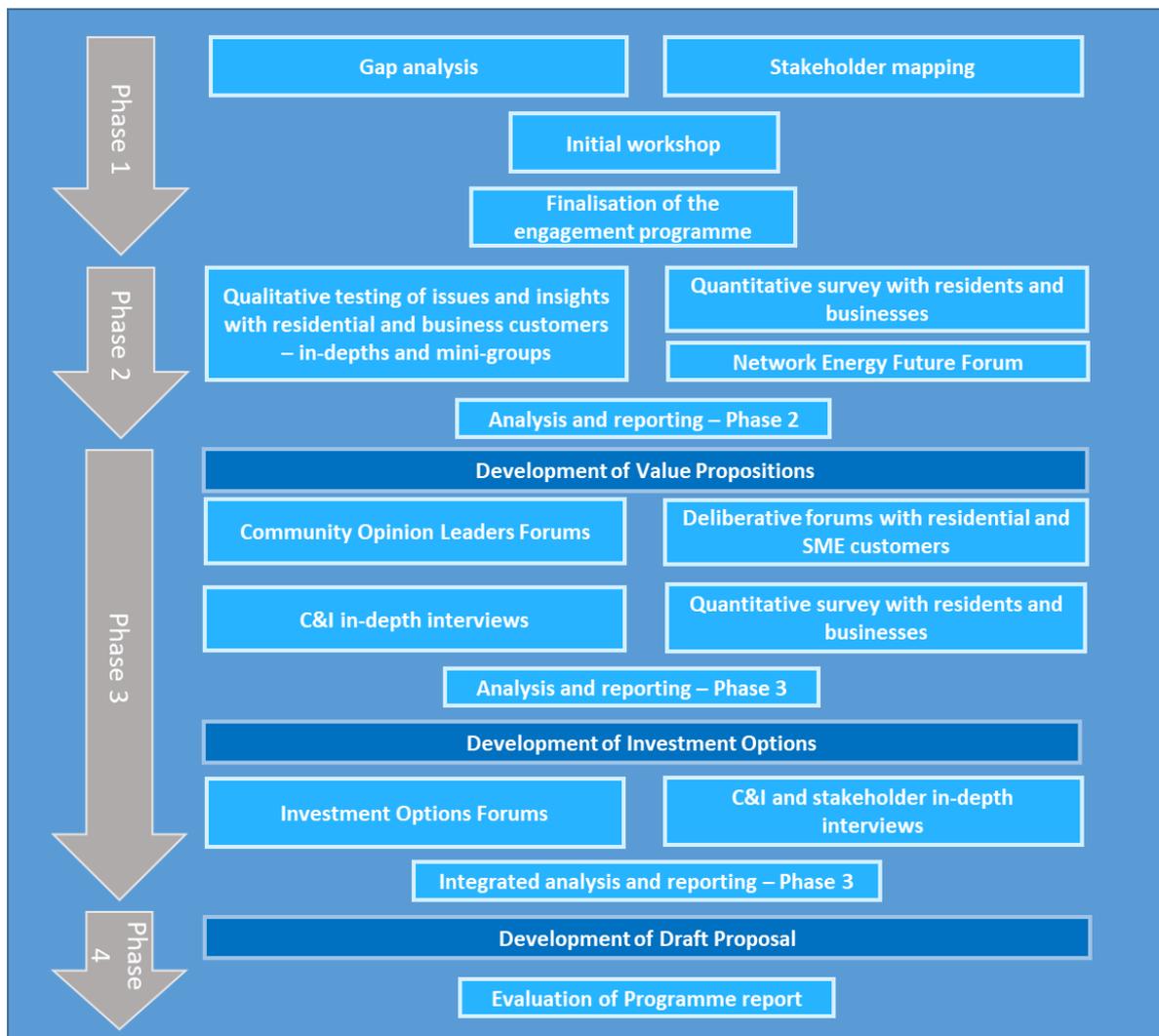
## 1.0 Introduction

CitiPower, Powercor and United Energy are required to provide regulatory proposals to the Australian Energy Regulator (AER) every five years, detailing their predicted expenditure and revenue requirements over the regulatory period. The businesses are currently developing their proposals for the 2021-2025 regulatory period.

Woolcott Research and Engagement is contracted to conduct customer research to support the preparation of the regulatory proposals as part of the Energised 2021-2025 program. This program involves four key Phases for engagement from January 2017 to October 2018 and beyond.

Figure 2 presents the overview of the research program that supports engagement as part of Energised 2021-2025. We are currently in Phase 3 of the program.

Figure 1: Components of the research program



## 2.0 Methodology

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Residential and SME Forums using deliberative engagement techniques have become an important inclusion in energy distributors' customer and stakeholder engagement programs. In line with 'best practice' across the energy sector and the need for customers to fully deliberate the networks' future investment options, CPPCUE chose this technique to inform its Energised 2021-2025 Draft and Regulatory Proposals. For distributors, a key advantage is the ability to share information and educate energy consumers about pivotal issues and questions before they engage in facilitated discussions, summarise feedback from tables and outcomes of deliberative polls.

Deliberative forums were conducted in May 2018 with Residential and Small Business customers across the three networks to engage them in topics ranging from their energy values and experiences, preferred energy future and approaches to network management and planning for 2021-2025. Also in May, three Community Opinion Leader forums were conducted which focused on the needs and interests of urban and regional stakeholders and these were hosted by CPPCUE in Melbourne CBD, Geelong and Mildura.

Participants from both the Residential and Small Business forums and the Community Opinion Leader forums were subsequently asked if they would like to attend the Investment Options forums held in August 2018. Three forums were hosted by CitiPower, United Energy and Powercor at the locations and times shown below:

- Melbourne CBD (CitiPower) – Wednesday 22<sup>nd</sup> August 5.30-9.00pm.
- Powercor (Ballarat) – Wednesday 29<sup>th</sup> August 5.30-9.00pm.
- United Energy (Glen Waverly) –Thursday 30<sup>th</sup> August 5.30-9.00pm.

This report discusses key findings from the forums that involved customers (residents, small to medium businesses and opinion leaders) in a meaningful and wide ranging deliberation on their opinions and preference with regard to investment options for the 2021-25 regulatory reset period.

As shown overleaf, a total of n=107 participants attended these investment options forums. Small business representatives and opinion leaders were few in number with some unable to attend, despite their interest and stated commitment to do so. One of the reasons for this was that there was just one forum conducted in the Powercor area, in Ballarat, so it was quite a long way for attendees to come from Mildura and Geelong (which was where the previous forums were). However, some new Opinion Leader participants were recruited from around the Ballarat area.

There was also no Opinion Leader forum conducted in the United Energy area so both of the Opinion Leader participants were new, rather than repeat attendees in this network area.

Figure 2: Forum Participation

Distributor	Residents	SMEs*	Opinion Leaders	Total
CitiPower	26	4	2	32
Powercor	26	6	5	37
United Energy	31	5	2	38
<b>Total</b>	<b>83</b>	<b>15</b>	<b>9</b>	<b>107</b>

\*This included both business owners and decision makers in small businesses

Customer forums using deliberative methods go considerably further than traditional consultation methods to elicit the depth of insight needed to develop regulatory proposals. The forums consisted of a mix of table discussions, presentations/films/speakers to set the scene for a productive dialogue plus participant response and feedback sessions to summarise viewpoints across the tables.

Woolcott Research provided a Lead Facilitator who chaired the forums and participants spent most of the time working on tables in small groups with table facilitators from Woolcott guiding the discussion and recording the main points raised at each table. Each facilitator was equipped with a laptop to record time-coded storage of the qualitative data - available for download into grids for subsequent detailed analysis.

## 2.1 Forum recruitment

Recruitment for the forums took place up to three weeks before each event. Participants were invited back from those who attended the Residential and SME forums and Opinion Leader forums conducted in May this year. There were also new Opinion Leader sample lists developed for the Powercor and United Energy network areas because the previous forums took place in Mildura and Geelong in the Powercor area (so a long distance from Ballarat), and there was no previous Opinion Leader forum in the United Energy area.

Around forty participants were recruited for each forum. Confirmation telephone calls were made as a reminder in the days leading up to each event.

## Detailed forum findings

## 3.0 CitiPower Forum Findings

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Participants were welcomed by a member of CitiPower's senior executive at the beginning of the forum, who briefly recapped the role of the distributor in the supply chain and how the organisation had engaged with customers and stakeholders so far.

Also in focus in this introductory session was the past performance of CitiPower in terms of energy costs and reliability, how the network sets its prices and the future aim of the organisation to deliver a safe, dependable and flexible network and affordable electricity. CitiPower executives noted that CitiPower was amongst the lowest cost distributors in Australia and that network prices have not changed over the last ten years. The fact that CitiPower is a highly reliable network and that reliability has improved further over the last four years was also outlined.

CitiPower explained that it is constantly seeking operational cost savings in order to reduce price pressures and that it expected the annual residential network tariff charge will decrease by 6.5% between 2018 and 2021.

### 3.1 Making it easier for customers to export solar and charge batteries

The first value proposition to be discussed within the forum related to making it easier for customers to export solar and charge batteries. A presentation was given that covered the feedback from customers so far regarding this issue and then CitiPower presented their current challenges and proposed options for the future.

The key issue or challenge that was presented was that 'customers want to be able to export their spare electricity from solar, batteries or any other technologies: without being constrained by network capacity; without sacrificing power and quality; and, at a reasonable cost of connection'.

The three possible options for the future presented were:

- Option 1: Limit exports to manage the network
- Option 2: Increase the network's capacity to cope with more exporting
- Option 3: Introduce "Flexible Grid" technology to provide real time data that would help CitiPower identify problem areas and digitally manage constraints on the network

To assist in the discussion, participants were given a list of some of the key considerations in assessing each option (see list in the agenda in Appendix 1). This list included:

- Customer choice (e.g. energy sources, usage, tariffs, export or other)
- Power quality (i.e. quality variation impacting lighting, appliances)
- Cost (i.e. dollar outcomes for customers)

- Future flexibility (i.e. capacity to adapt to future needs, investing in assets for future generations)
- Safety (i.e. safety outcomes for people and/or buildings, roadways and vegetation)
- Reliability (risk of power failure/outage)
- Environment (e.g. outcomes with CO2 emissions and environmental health)

Participants agreed that the key issue presented by CitiPower was a legitimate one that needed to be addressed by the network. However, there was some discussion about whether small scale solar and batteries at the individual household level should really be the main focus or whether CitiPower should in addition be looking at making it easier for large scale renewable generation and battery storage to provide power to the grid.

*“Where is the debate going? Is individual solar the best way forward or is a battery farm on a large scale best, or is it a combination of both small scale and larger scale renewables?”*

Enabling neighbours to share power through peer to peer trading was also thought to be a challenge for the future in this area, as was making it easier to export from other renewable energy sources not just rooftop solar.

When reviewing the investment options presented, participants were offered a handout (see Appendix 1) that listed the key considerations and they were asked to discuss the impact each option would have on these considerations i.e. exports, power quality, capital management, network management and their electricity bill.

### **Option 1: Limiting exports to manage the network**

The first option presented was limiting exports to manage the network, which is the current or business as usual approach. This option was not positively received. Although there was no impact on cost, it was seen to provide little customer choice since customers would continue to be constrained and it would prevent people from participating in the energy export market.

*“You can’t do it – politically you can’t do it! If the government says everyone should use solar and they can’t export then that is a problem!”*

This option was also expected to have a negative impact on power quality and reliability since customers would still experience power quality issues and even outages if there are more exports than expected. It was deemed to be an inefficient to manage the network and was not perceived to be a ‘future focussed’ option, since it is not enabling more solar power (which is expected to be the future of energy generation).

Option 1 was also not thought to be beneficial to the environment as it would dissuade customers from installing renewables if there is a possibility that they may be constrained from exporting.

*“It will propel people towards coal as an option which would increase emissions.”*

It could also encourage more people to leave the grid, which would be a disaster for CitiPower in that they could progressively lose customers.

*“It will force people off the grid – it is a recipe for accelerating people off the grid and this will be a disaster for the company.”*

### **Option 2: Build capacity to cope with more exporting**

The second option presented was that the network would invest in building capacity to cope with more exporting. In CitiPower, this option involves upgrading local distribution transformers in areas where it is estimated that the strongest growth in customers wanting to export electricity will occur.

This option was better received than option 1. Customers saw the key benefit of this option as greater customer choice i.e. being able to export energy if they wanted to so, enhancing the future flexibility of the grid, and, providing the capacity to adapt to the future needs of the population. However, some saw this option as an intermediate phase whereas it was hoped that CitiPower would take a longer term approach.

*“You’d hope that CitiPower is not just interested in tomorrow’s capacity (but is thinking further ahead).”*

*“Seems a bit like an intermediate phase, a band aid, a way to appease everyone.”*

This option was also seen to be beneficial for the environment in that it could create more interest in renewables with customers able to export any excess power back to the grid.

However, it was thought that there could still be power quality issues because this option relies on accurate estimates of where there will be most customer demand for exporting, and these estimates could potentially fall below or above actual demand.

The costs seemed very reasonable to participants and in fact some thought that the estimated investment seemed far too low for this option.

*“The costs seem very low. It would cost an extraordinary amount to do option 2. I would think more than \$10M.”*

### Option 3: Implement Flexible Grid Technology (no change to network capacity)

The third option presented was to implement flexible grid technology (a digital solution). This option would use real time information on the network to remotely manage assets and power quality issues and communicate with customers who want to export.

This option was preferred by most participants as it seemed to ‘tick more of the boxes’. The identified benefits of this option were that it would enable customers to export if they wanted to, it required less investment than option 2 and power quality would be maintained. There was also a preference for using IT to provide a ‘smarter’ way of managing the network, rather than simply building more infrastructure. A digital approach was viewed as “keeping up with the times”.

*“We have a dumb grid but we want a smart grid. We need to aim high and aim towards that (option 3).”*

This third option was also thought to be positive for the environment as it would enable exporting and hence encourage more renewable uptake. Participants also felt it would discourage customers from leaving the grid benefitting the network as a whole and individual customers.

*“People will go off grid if they are not getting the benefits they want. You need the grid.”*

It was also thought to have a positive impact on safety as it would not involve putting up more poles and wires with the potential of creating more safety risks.

There were questions around why option 2 was costed over a 50 year lifespan and option 3 was costed over a six year lifespan. Some found it hard to compare options 2 and 3 because of the different time horizons.

*“Cost is hard to judge. Not sure why option 3 is over a 6 year lifespan and option 2 is over a 50 year lifespan. We are comparing apples and oranges.”*

Again, some thought that the cost for option 3 seemed quite low overall.

*“7 million for option 3 is just a drop in the ocean. It seems very cheap.”*

There was some discussion about who should pay for the investment required for this option since not all customers will benefit, only those with solar. There were also concerns that customers who will be better off are those who can install solar, and that they are the primary beneficiaries of this option even though everyone would have to pay.

*“Option 3 should be worn by the customers who can benefit from this, i.e. solar customers. Those who least afford it end up bearing the brunt of the cost. So whatever comes in should be paid for by solar customers.”*

There was also a concern that this option was not a long term option and that CitiPower needs to look a bit further ahead. Some suggested that options 2 and 3 combined would be the strongest option, or, suggested that CitiPower looks into other options such as large scale batteries.

*“Why can’t there be another option where CitiPower is investing in technology and infrastructure? We need an option 4. It’s too cheap!”*

*“Option 3 looks shiny and good but it’s a shitty option in the long term.”*

*“Why doesn’t CitiPower just invest in batteries?”*

### Preferred Option

At the conclusion of the discussion, participants were asked to vote on their preferred option by placing a sticky dot under their option of choice. The results of the vote were as follows:

Table 11: Voting results for ‘making it easier for customers to export solar and charge batteries’ - CitiPower

Making it easier for customers to export solar and charge batteries	N=32 #
Option 1: Limiting exports to manage the network	0
Option 2: Build capacity to cope with more exporting	1
Option 3: Implement Flexible Grid Technology (no change to network capacity)	25
Both options 2 and 3 / something in-between	3
None of these	3

Overwhelmingly, the preferred option was to implement ‘Flexible Grid Technology’. However some participants wanted a mix of options 2 and 3 i.e. combining this with building the capacity of the network to cope with the expected increase in exporting in the future as more customers take up solar panels. It remains unclear how many customers would have voted for the combined option if it had been proposed as a discrete option from the outset. There were also a small number of participants who did not want any of the options presented.

### 3.2 Making it easier for customers to use their energy data to make informed choices

In this section of the forum, CitiPower outlined findings of previous research showing that customers would like better access to their energy usage data and to be educated to understand their energy consumption and save money.

The key issue outlined by CitiPower was that customers currently have little knowledge about their own energy use which is limiting their ability to:

- Manage their own demand
- Make informed choices about their retailer
- Decide on a preferred price structure

At present, customers must also access multiple portals to obtain their energy usage data, track electricity outages and make and manage their service requests.

There was agreement among forum participants that this was a challenge, but encouraging customers to be aware of and manage their demand was viewed as a challenge for CitiPower more than consumers. There were questions about whether people actually care about managing their energy usage and whether they would access their data to manage their overall demand.

*“This is the key challenge. But engaging people on it is the key challenge. Do people actually want to do it (i.e. use energy data to manage demand)?”*

CitiPower presented three possible options relating to this topic:

- Option 1: No changes to customer portals or services
- Option 2: Invest in a ‘one-stop-shop’ for all customer energy information and enhance customer experience
- Option 3: Invest in ‘one-stop-shop’ portal (option 2) and real-time usage data access

Reactions to the options were quite divided, with some participants being quite happy with the current situation, whilst others were keen to have access to real time data to assist them in reducing their bills. There was a tendency for viewpoints to be split by age with the older participants admitting they might not access all information provided while younger participants suggested the more real time/smart data available the better. Younger people likened the real time data access to a mobile phone plan where you are constantly aware of the data you are using.

### **Option 1: No changes to customer portals or services**

This first option was ‘business as usual’ but it was explained to customers that should this option be implemented in future, it would also provide access to 5-minute interval data on their data usage portal (required by new legislation). With this option, they would however still have to visit multiple portals to obtain information about their energy usage, supply outages and service requests.

In weighing up the likely impacts of this option, customers felt that it would generally have a neutral impact on key considerations such as customer choice, power quality, cost, safety, reliability and the environment. However, they felt it would have a negative impact on future flexibility as it would not provide the capacity for the grid to adapt to future needs.

*“Accessing data doesn’t affect much at the moment but maybe in the future.”*

Although this was the least preferred option of the three options presented, there were some who questioned why customers needed access to data at all (options 2 and 3), when they are generally on a flat rate tariff. They thought that most customers would not access the information even if it was available (although it would be more useful if it was showing the cost of energy consumed as well).

*“Why would I want to know this information? We’re getting charged the same rate.”*

*“I find options 2 and 3 a bit of a waste of money – I can’t see why we need this, it just shows what your usage is – it’s not showing cost.”*

Some questioned the need for it when they can access it through their retailer.

*“I’m with Origin and I can get that real time data the next day.”*

### **Option 2: Invest in a ‘one-stop-shop’ for all customer energy information and enhance customer experience**

The second option involved integrating all existing portals into one, including mySupply, myEnergy and myConnect. It was explained to participants that customers would have easy access to all information, including tracking the progress of outages and service requests and providing information on the performance of their PV system. There would also be enhanced customer services through interactive tools, web-chat and voice recognition.

This option was thought to provide some benefits over option 1. A one-stop-shop was seen to be an advantage over having to visit multiple portals for the same information. It was thought that this option would provide greater customer choice, future flexibility and an indirect benefit for the

environment as it would encourage customers to use less electricity and would enhance solar performance.

*“More data gives you a better foundation for knowledge.”*

Importantly, some customers were already aware that they received at least some of these insights from their retailer. As a result, some were unsure of what additional value the distributor might bring in providing the ‘one-stop shop’ portal.

### **Option 3: A ‘one-stop-shop’ (Option 2) as well as ability to access real-time usage data**

The third option was presented as being the same as option 2 but the usage data would be available in real-time, so participants basically had to decide whether the additional benefits were worth the extra cost associated with option 3 (\$4M as opposed to \$1.8M).

*“The key question is do we want real time energy usage data?”*

As with option 2 participants believed that this option provided a positive impact on customer choice and empowerment, future flexibility and the environment. However, those who preferred option 3 generally did so because it was also seen to be the ‘smart’ option, providing more advanced technology and more information, both of which could be useful in the future.

*“We need this option in order to aim for the future. The future will be all about this.... So we should implement option 3 now so we are prepared and using the most advanced technology. Technology changes so quickly.”*

However, others did not believe that people wanted or needed the usage data in real time, and that it may be difficult for people to understand and use.

*“There’s a literacy issue for older people or people who are not tech savvy.”*

*“There’s an assumption we’re going to use all the information we’re given.”*

*“It is not overly important to people this one. Most people would never use it. Most people don’t care.”*

Some thought that CitiPower should wait to invest in option 3 because the cost of the technology may come down over time and there is not a clear need for it currently. They also thought that there may be a greater need for this in the future when there are more ‘smart appliances’ that can provide automated specific usage data.

*“Over time the cost may come down for option 3 as technology gets cheaper.”*

## Preferred Option

Participants were asked to vote on their preferred option by placing a sticky dot under their option of choice. The results of the vote were as follows:

Table 12: Voting results for 'making it easier for customers to use their energy data to make informed choices' - CitiPower

Making it easier for customers to use their energy data to make informed choices	N=32 #
Option 1: No changes to customer portals or services	3
Option 2: Invest in a 'one-stop-shop' for all customer energy information and enhance customer experience	13
Option 3: Invest in a 'one-stop-shop' (option 2) as well as the ability to access real-time usage data	15

Across CitiPower participants, there was no clear preference between options 1 and 2 with only a very marginal difference in number of votes for each option.

### 3.3 Providing a safe environment for workers and customers

Providing a safe network is seen as one of the top value propositions for customers across the three networks. The key challenge for the networks is that customers are largely unaware that safety comes at a cost and that networks balance the risk of safety incidents occurring and the cost of any investment in safety improvement.

In this session, CitiPower personnel provided an overview of what the safety risks are, and then demonstrated real-life safety concerns on the network with options for investment. The difference between the options presented was in the level of the trade-off between safety risk improvements and the cost of the investment.

The real-life examples were replacing 'dog bones' (metal rods coated in plastic that attach service lines to the street pole and the customer's property), securing underground pits (used to access underground cables) and testing and replacing faulty 'neutrals' (which earth the conductor) through the use of smart meters.

CitiPower informed customers that they were considering three risk-cost trade off options with regard to managing safety through asset replacement, which were as follows:

- Option 1: Replace high priority assets only (status quo)
- Option 2: Replace high priority and replace moderate priority assets within 5 years

- Option 3: Replace high priority, and replace moderate priority assets within 10 years

For replacement of neutrals, only two options were provided – whether or not to use smart meters to test for faults in neutrals.

- Option 1: Do not test and replace neutrals
- Option 2: Test and replace faulty neutrals

In an overall sense, participants commented that safety should always be the top priority. It was acknowledged that even with high levels of investment you can't reduce the risk to nil because of human error though.

*"You want this [safety] before real time data. This is more important. It is a no brainer really if people are at risk of death."*

It was also mentioned that often being proactive in monitoring and fixing safety issues can save money in the long run.

*"If you don't maintain a good system then it's going to cost more later on e.g. "A stitch in time saves nine"*

However, customers emphasised that any investment should be justified and not linked to the 'gold plating' of Australian distribution networks talked about in previous years.

*"A lot of money has been spent on the wires and poles and a lot of money was wasted due to dodgy contractors (in 1998) – the consumer has been footing the bill ever since."*

### **Replacing dog bones**

The vast majority of participants believed that CitiPower should replace high priority dog bones and replace moderate priority dog bones within 5 years (option 2). This was seen as a low cost option with major benefits if it could potentially prevent fatalities. It was also believed to affect a sizable portion of the CitiPower customer base if 30% of all overhead services currently use dog bones and a quarter of those are rated as a moderate priority for replacement.

*"You can't risk not doing it for 40c a year."*

*"The cost difference is so small it is obvious."*

Customers were able to put themselves in the position of a customer with a faulty dog bone and believed that it was worth paying the extra cost.

*“If I had a faulty dog bone, I would rather pay the extra and get it done quickly than risk electrocution.”*

*“If it happens to you... you would have wanted them to fix it straight away!”*

### **Inspecting and replacing underground pits**

The security of underground pits was thought to be more important than dog bone replacements since there is potential for more people to be affected by a sink hole. However, one table picked up on the fact that there are only 1% of pits that have been identified as potentially failing, which was thought to be a very small proportion. Generally option 2 was preferred for this topic – replacing moderate priority within 5 years.

Some participants questioned why CitiPower wouldn't just maintain and fix any safety issues anyway since it should be part of their everyday activities.

*“Isn't it their job to provide a safe environment and infrastructure, why are we being asked to pay more for a service that we should be receiving automatically?”*

*“I don't think these are questions we should even ask – safety is the priority”*

One table wanted to know who actually prioritises the risk – whether this is CitiPower or a sub-contractor. This safety risk raised real concerns for some participants and they wanted reassurance that it was being done properly.

### **Testing and replacing neutrals**

The choice of the second investment option proposed in related to faulty neutrals was seen as an obvious one by all participants i.e. testing all neutrals and replacing all those that are deemed to be faulty.

*“This is a no brainer. Can't leave faulty neutrals.”*

*“Option number 2 given the catastrophic brain injury a girl in Perth suffered due to touching a garden tap (wayward neutral)”*

*“Nip it in the bud. Don't want to wait for an injury to happen.”*

Many people had experienced 'tingles' themselves due to poor wiring. There was praise for the fact that smart meters can now be used to identify where the faults are located.

There was some discussion about whether this problem was actually CitiPower's responsibility or the homeowner's role to monitor and arrange for faults to be resolved. Here, it was explained that

if the fault existed on the house side then it is the homeowner’s responsibility and if it is on the street side then it is CitiPower’s role to replace it.

### Preferred Option

Participants were asked to vote on their preferred option by placing a sticky dot under their option of choice. The results of the vote were as follows:

Table 13: Voting results for ‘making a safe environment for workers and customers’ -- CitiPower

<b>Replacing dog bones</b>	<b>N=32 #</b>
Option 1: Replace high priority only	1
Option 2: Replace high priority and replace moderate priority within 5 years	26
Option 3: Replace high priority and replace moderate priority within 10 years	4
<b>Inspecting and replacing underground pits</b>	<b>N=32 #</b>
Option 1: Replace high priority only	1
Option 2: Replace high priority and replace moderate priority within 5 years	23
Option 3: Replace high priority and replace moderate priority within 10 years	8
<b>Testing and replacing neutrals</b>	<b>N=32 #</b>
Option 1: Do not replace any neutrals	0
Option 2: Replace the faulty neutrals	32

A review of these voting results shows that Option 2 was the ‘stand out’ preferred investment option for all three safety risks discussed during the forum. Customers were clearly seeking a proactive response (which excluded Option 1), a shorter term replacement of dog bones and underground pits than a 10 year timespan for assets with moderate and high priority risks and they wanted all faulty neutrals to be replaced.

### 3.4 Providing a reliable supply of electricity

The next topic to be discussed within the forum related to network reliability and providing a reliable supply of electricity. Again, CitiPower outlined findings from its earlier customer research and the challenges and proposed business options for the future.

CitiPower's key issue or challenge was that overall customers are satisfied with the reliability of the network and want that level of reliability to be maintained, but they also want CitiPower to invest to improve reliability in areas where it may be below average.

It was explained that as assets age, CitiPower considers a variety of options to maintain reliability, including (but not limited to):

- when the asset should be retired
- if it should be replaced with like-for-like asset
- if it should be replaced by a different asset
- if assets around it should be augmented so there is no need to replace the retired asset
- any other solutions.

CitiPower outlined the specific issue at the Port Melbourne area of the network. The assets at the Port Melbourne zone substation (transformers, switchgear, etc.) are around 60 years old and operate on 6.6kV voltage while newer distribution assets operate on 11kV (majority of the network is 11kV).

There was agreement across forum participants that this is a key challenge for CitiPower. Port Melbourne was thought to be a highly industrial area within the network and reliability is critical to businesses and the economy of the area as a whole.

*"In residential areas it is just annoying but for businesses it is critical."*

Participants also reported that there has been strong population growth in that area.

Three possible options for the future were outlined by CitiPower as follows:

- Option 1: Continue to maintain and monitor asset condition
- Option 2: Replace existing assets at Port Melbourne (like for like)
- Option 3: Retire the assets in Port Melbourne, move its customers to Westgate zone substation and upgrade the Westgate substation

### **Option 1: Continue to maintain and monitor asset condition**

This option involved continuing to maintain the Port Melbourne asset and monitor its condition through inspections. It was explained by CitiPower that maintenance of the transformers typically includes oil refilling on a much more regular basis as transformers start leaking and lose insulation as they age.

Option 1 was dismissed by all participants because it was expected that customers would be likely to experience increased and longer outages as the asset ages. CitiPower also expected the cost of maintenance to increase over time which would increase prices and participants were not happy with this outcome.

This option was thought to have a negative impact on all considerations, except for cost.

*“There is more chance of things going wrong.”*

### **Option 2: Replace existing assets at Port Melbourne**

Under this option, CitiPower stated that they would replace the assets in poor condition at Port Melbourne with new assets. The new assets would be 6.6kV as the zone substation runs on 6.6kV, however they would be less efficient than 11kV which is the new standard. The new assets would reduce the likelihood of asset failure. However, if there was a failure, customers could not be linked to another zone substation that is at 11kV.

Again participants were not positive about this option as it was thought to be a ‘quick fix’ solution.

*“Option 2 is pointless. For example if the car is going to keep breaking down then don’t invest more money in it, it’s a band-aid fix and shouldn’t be an option at all.”*

Although power quality and reliability were expected to improve with this option, this option was not viewed as future focussed as it was not seen to be providing capacity for future population growth in the area.

*“If it’s ‘like for like’ then it’s negative because there’s no scope for expansion or improvement.”*

The cost of this option was seen to be quite similar to option 3 but it was not viewed as providing the same benefits.

*“You’re paying the same for a lower option and in future, you’ll be paying more.”*

### **Option 3: Retire the assets in Port Melbourne, move its customers to Westgate zone substation and upgrade the Westgate substation**

CitiPower described this third option as involving assets being retired in Port Melbourne, switching customers to Westgate (which is run on 11kV) and upgrading Westgate to account for the needs of all customers. If it decides to upgrade the Westgate substation, CitiPower would ensure there is enough capacity for customers from Port Melbourne and an ability to service potential new customers in line with population growth. CitiPower also mentioned that before upgrading Westgate, it would engage demand management options, such as rebates for using less power, to reduce the urgency of the investment.

Almost all participants preferred this option over the other two options put forward. Participants expected that there would be fewer outages under option 3 as the assets at Westgate would be more reliable than those at Port Melbourne. Option 3 also seemed to be the safer option and able to accommodate the expected future growth in population.

*“It is a long range view and that is better.”*

There were some concerns that if the site is retired at Port Melbourne then it could become derelict and customers wanted an assurance from CitiPower that it would be well maintained and eventually be developed into a park (which was mentioned as a possibility by personnel at the forum).

*“Option 3 is the safest, most reliable and positive for the environment because they can turn it into a park. It is also positive on power quality.”*

Option 3 was also thought to offer more consistent power levels to customers across the network since everyone would be connected to an 11kV substation rather than some being connected to 6kV and some to 11kV.

*“It’s positive on future flexibility because it is making power more uniform – everybody is going up to 11kV so it brings it all up to that level.”*

*“It gives a more consistent flow of electricity especially when you get more and more users.”*

Retiring one of the substations seemed to make sense to some participants as they believed that it would be more efficient in terms of time and cost to only have to manage and maintain one rather than two substations.

Option 3 was also presented as being cheaper than option 2 which was seen as an advantage.

## Preferred Option

Participants were asked to vote on their preferred option by placing a sticky dot under their option of choice. The results of the vote were as follows:

Table 14: Voting results for ‘providing a reliable supply of electricity’ – CitiPower

Providing a reliable supply of electricity Citipower	CitiPower N=32 #
Option 1: Continue to maintain and monitor asset condition	0
Option 2: Replace existing assets at Port Melbourne	1
Option 3: Retire the assets in Port Melbourne, move customers to Westgate zone and upgrade Westgate substation	31

Participants overwhelmingly voted for option 3 based on fewer outages, a safer network and more flexibility to accommodate future energy demand in this high growth, urban area.

### 3.5 Maintaining affordability

In this section of the forum, tariff structure options under consideration for 2021-2025 were discussed with participants. CitiPower personnel explained the average proportion of the overall electricity bill absorbed by the electricity distributor (28%) and the difference in pricing between small and large customer types. The presentation then moved to what had been heard so far from customers with regard to pricing and affordability. Here it was noted that customers believe electricity prices are too high but most are unaware of their current pricing structure.

The key issue or challenge outlined by CitiPower was the need to provide services at affordable prices while offering simple and fair pricing structures. To tackle these challenges, four pricing structures were proposed, each trading-off simplicity for ‘fairness’ (option 1 could be viewed as the most simple but least ‘fair’):

- Option 1: Flat rate
- Option 2: Time of use
- Option 3: Peak usage
- Option 4: Demand pricing

Across the forum participants, there was an umbrella view that a number of different options should be provided to customers rather than just one option, and that customers would want and need advice on which option would be best for their own circumstances i.e. their usage needs and desire to achieve savings.

When reviewing the pricing options, participants referred to a list of key pricing considerations (listed in the agenda in Appendix 1) and were asked to discuss the impact each pricing option would have on these considerations.

### **Option 1: Flat Rate**

A flat rate option was presented as the most common residential tariff in use at the present time. Participants were told that it involves the same pricing regardless of the time of day that electricity is used so there is no incentive for customers to change their energy usage behaviour to reduce demand at peak times of the day or year. Importantly, they were also advised that residents with solar (including those exporting), both fixed production and exports are assumed under a flat tariff and there is no difference to their bill regardless of what time they generate and export electricity.

The current flat rate structure was seen as simple and easy to understand by most participants and this was viewed as important, particularly for vulnerable customers e.g. the elderly. Participants thought that this tariff option would make bills easy to follow and more predictable for most customers.

*“Bills have to be understandable.”*

*“The flat rate is easier to budget for.”*

However, the flat rate option was not seen to encourage solar and battery use and was expected to create the need for higher investment in capacity in the future to accommodate peak demand periods.

Customers noted that there would be no need or use for real time energy data if a flat rate structure was maintained given that money cannot be saved under this option by changing consumption patterns.

There was some suggestion that this tariff option should always exist regardless of which other options were provided to customers.

### **Option 2: Time of Use**

The time of use tariff option was explained as a daily fixed charge with the usage charge varied depending on whether electricity is being used at ‘peak’, ‘shoulder’ or ‘off-peak’ times. CitiPower outlined that this option enabled customers to choose when to consume more or less electricity and to reduce their bill by moving their usage to the off-peak period. However, customers who cannot move their usage would receive higher energy bills. Under this option, residents with solar may not be able to benefit from solar generation during peak times.

Participants saw the key advantage of this option as choice, as it would give customers the ability to decide when they used more electricity. Assuming that customers did change their usage pattern, they would save money in the long run. Most also acknowledged that CitiPower would not need to upgrade network infrastructure as often if time of use tariffs were favoured.

However, many suggested that although some electricity usage could be moved off peak such as use of the dishwasher, the pool pump and in future, charging the battery of the electric car, other appliance usage could not be shifted into non-peak times (e.g. cooking dinner, watching TV and use of air conditioning).

*“Some things can be moved, but a lot can’t be moved – like cooking, tv.”*

*“You’d get a shock each month in summer.”*

Some suggested that this option actually provides customers with less choice and control because effectively they can’t use electricity when they want to, without paying more to do so.

*“People need to have the ability to use it when they want – you need heat when you need it.”*

It was thought that customers with batteries would benefit more than others as they could optimise their usage to avoid peak pricing periods.

Most participants felt that real time energy usage data was not really required for this option as it is really just the clock that provides the information customers need to manage their electricity costs.

In general, most wanted customers to be able to choose the option that best suits their usage pattern, rather than CitiPower just selecting one option that is applied to all residential customers.

*“Would be good if you could choose an option because everyone’s circumstances are different. But people shouldn’t be penalised for staying with the flat rate.”*

### **Option 3: Peak usage bands**

Under this option, CitiPower stated that customers would be banded into small, medium and large users based on consumption between 3-9pm. They would be charged a fixed fee depending on their band then a low volumetric charge. Customers could choose when to consume more or less electricity and could reduce their bill by moving their consumption to the off-peak period. However, customers who cannot move their usage would receive higher energy bills. Residents with solar who cannot move their usage to off-peak periods would likely receive higher bills.

Many found the peak usage band tariff option quite difficult to understand and they struggled to work out whether they would be better or worse off.

Many interpreted this option as an ‘allowance’ like a data allowance for a mobile phone plan so there were concerns that they might be charged large fees if they went over their allowance.

*“Option 3 sound awful, like a cap rate on your telco.”*

Others were intrigued about option 3 but wanted reassurance that they could move down a band rather than being fixed within a specific band for the long term. They wondered how often the bands would be assessed and whether the bands would change according to season.

#### **Option 4: Demand Pricing**

Demand pricing was explained as the tariff option where customers would receive a daily fixed charge, a demand charge (based on peak demand) and a volumetric charge. Similar to options 2 and 3, again customers would choose when to consume more or less electricity and could reduce their bill if they spread their usage out across the day. However, customers who cannot move their usage would receive higher energy bills. Residents with solar who cannot spread their load would likely receive higher bills. Vulnerable customers unable to make any marked changes in their usage patterns may also see adverse impacts.

Many found demand pricing to be confusing and some felt that if this option is chosen then CitiPower would need to ensure that customers fully understood the charges.

*“If they change they could make it more understandable – they’d have to break the bill by time /peak and out of peak.”*

Again, there was some concern that there could be large bill impacts under this option if customers don’t manage their demand. However, customers also acknowledged that they could make cost savings by changing their usage patterns and some were clearly prepared to do so in order to receive the benefits.

*“Option 4 would work for me – I can put washing on at 4.30am.”*

#### **Preferred Option**

Participants were asked to vote on their preferred option by placing a sticky dot under their option of choice.

The results of the vote are shown on the next page.

Table 15: Voting results for ‘maintaining affordability’ - CitiPower

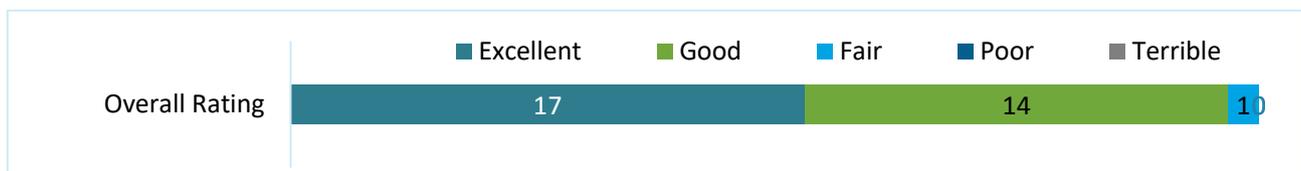
Maintaining affordability	N=32 #
Option 1: Flat rate	16
Option 2: Time of use	6
Option 3: Peak usage	5
Option 4: Demand pricing	4

The current flat rate structure was the most popular option amongst CitiPower participants. However, a similar number of participants chose either options 2, 3 or 4, i.e. some kind of cost-reflective pricing option that would aim to change usage patterns.

### 3.6 Forum evaluation results

At the end of the forum, all participants were given an evaluation sheet which enabled them to give feedback on the engagement session. Overall, the CitiPower forum was ranked highly (see Figure 3) with over half of the participants rating the forum as ‘excellent’.

Figure 3: Overall rating of CitiPower Forum

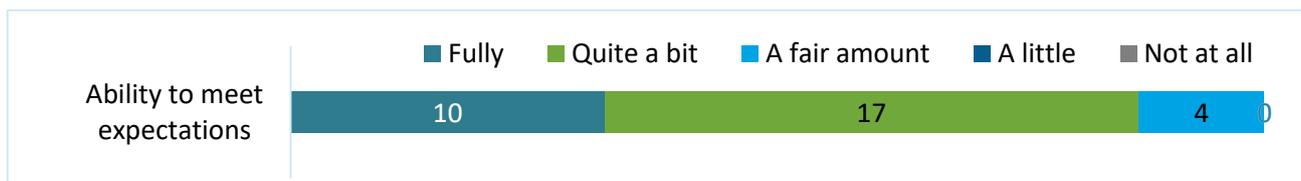


Overall, how would you rate the forum?

Base: CitiPower (n=32)

The feedback in Figure 4 shows that most had their expectations met ‘fully’ (10) or ‘quite a bit’ (17) during the forum.

Figure 4: Expectations of the CitiPower Forum

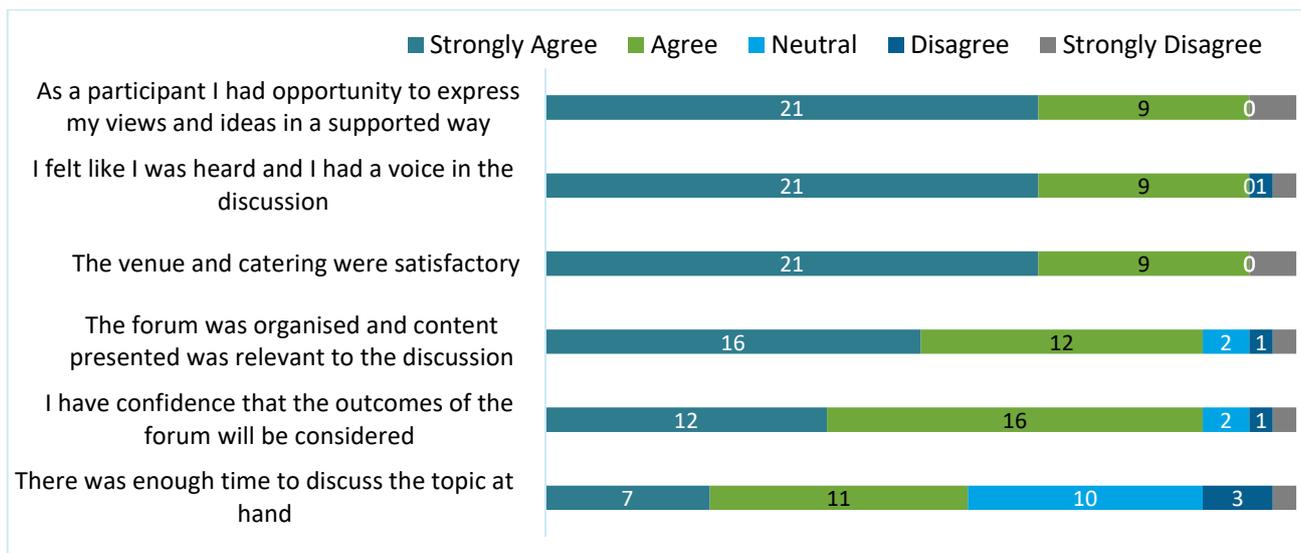


How much did the forum live up to your expectations?

Base: CitiPower (n=32)

Participants were also asked to indicate their level of agreement with a number of statements regarding the forum outcomes, the running of the forum and their overall participation. Figure 5 shows that nearly all participants (30) felt they were able to ‘express their views in a supported way’, and that they ‘felt heard and had a voice in the discussion’ (30). Most also thought that the forum was well organised and content presented that was relevant to the discussion (28) and the majority thought that the outcomes will be considered by CitiPower (28).

Figure 5: CitiPower Forum Agreement Statements



Please read the statements below about the forum and select the response with which you most agree, from 1 = strongly disagree to 5 = strongly agree

Base: CitiPower (n=32)

## 4.0 Powercor Forum Findings

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At the beginning of the forum, participants were welcomed by an executive of Powercor and provided with a brief explanation of the distributor's role in the energy supply chain. They were also informed of how the organisation had engaged with Powercor customers and stakeholders so far.

Also in focus in this introductory session was the past performance of Powercor in terms of energy costs and reliability, how the network sets its prices and the future aim of the organisation to deliver a safe, dependable and flexible network and more affordable electricity.

Powercor explained that it is constantly seeking cost savings in its operations in order to reduce price pressures and that it expected that the annual residential network tariff charge would decrease by 7.2% between 2020 and 2021.

### 4.1 Making it easier for customers to export solar and charge batteries

The first value proposition to be discussed within the forum related to making it easier for customers to export solar and charge batteries. A presentation was given that covered the feedback from customers so far on this issue and then Powercor presented current issues or challenges and the network's proposed options for the future.

The key issue outlined was that customers want to be able to export their spare electricity from solar, batteries or any other technologies:

- without being constrained by network capacity
- without sacrificing power quality, and
- at a reasonable cost of connection.

The three possible options for the future presented were:

- Option 1 : Continue to limit exports to manage the network
- Option 2: Increase the network's capacity to cope with more exporting
- Option 3: Introduce "Flexible Grid" technology to provide real time data that would help Powercor identify problem areas and digitally manage constraints on the network

To assist in the discussion, participants were given a handout to sum up the key considerations in each option (see Appendix 2). The list included:

- Customer choice - do customers have a choice in how they use, generate and export electricity within this option?
- Power quality – are there power quality issues that may impact electricity supply and the life of appliances within this option?

- Cost – how much will this option cost the average customer?
- Flexibility of the network – how does this option impact the network’s capacity to adapt to future needs (e.g. future needs could involve increased or decreased demand)?
- Safety – is there an impact on the safety of the network with this option?
- Reliability - is there an impact on the frequency and duration of outages within this option?
- Environment – does this option promote a greener future and lower CO2 emissions?

Participants agreed that the key issue presented by Powercor was a legitimate challenge that needed to be addressed by the network. .

The overarching feeling was that use of renewable energy, in particular solar power at the household level was on the rise and was going to be important for the future, both in terms of helping to reduce energy bills and reduce the impact on the environment.

*‘More and more people are going to want to use solar power’*

It was understood that more people connecting and wanting to export would place strain on the network and affect power quality and in that sense, there needed to be a solution.

*‘Power quality is a key consideration as it can have a huge impact on cost for businesses if the power keeps going out’*

*‘With more and more people generating solar and interest in renewables increasing there needs to be a solution soon’*

When reviewing the options for the future, participants were offered a handout (see Appendix 2) that listed the key considerations and they were asked to discuss the impact each option would have on these considerations i.e. exports, power quality, capital management, network management and their electricity bill.

### **Option 1: Limiting exports to manage the network**

The overall reaction to this option was not very positive, with many participants believing that limiting the export of energy to the network was unfair to those who had invested in solar panels and a disincentive to others considering installing solar panels. There was a sense that a lot of people were becoming disillusioned with solar and were unsure as to whether it was financially worth investing in renewable energy.

*‘It discourages people from putting solar on’*

Among the few attendees who had solar, the idea that they could not export was seen as taking away some of the advantages of having it installed.

*'People have outlaid for their solar panels – it is not fair that they can't export'*

Many were also unaware that Powercor currently constrained customers from exporting.

*'I assumed you could put it back in with no issues'*

This option was also regarded as running the risk of Powercor being seen to be lacking innovation, not looking to the future and having little regard for the environment. Due to the inevitable use of renewables, it was felt that the organisation needed to be looking forward and future proofing the network to support customers. In that regard, there was some appetite for Powercor to invest in a solution to this issue.

### **Option 2: Build capacity to cope with more exporting**

This option of increasing capacity by building more infrastructure at a capital investment of \$61 million seemed to make more sense to participants as it would offer customers the ability to export and encourage solar panel installation, and at the same time have a positive impact on the environment.

However many participants recognised that this option was not sustainable for the longer term. There was a sense that this was more of a short term solution that would enable two way flow and allow people to export for now. However longer term, as the use of solar increases there was a question about how long the capacity would last before further upgrades would be needed.

*'61 million could blow out further'*

Having said that, the amount (\$3.20) that would be charged per customer per annum for this option was considered to be very low. As a result, participants felt the option was worth considering alongside other solutions.

### **Option 3: Implement Flexible Grid Technology (no change to network capacity)**

This option of introducing flexible grid technology (a digital solution) was received positively by most participants, however there were questions about the need to re-invest every few years to keep up with changes in technology.

There was also a feeling that the Flexible Grid Technology was assisting Powercor in terms of managing the flow, but it was not really solving the capacity problem. Many participants suggested that this was only a part way solution that was primarily addressing power quality problems.

*'I can see this is of benefit to more households in that power quality will be maintained'*

The annual bill impact of \$5.10 was again considered reasonably small (and affordable), and in that regard participants were generally in favour of its adoption. However as suggested with Option 2, there was a feeling that incorporating both Options 2 and 3 together would be the better solution as it would increase capacity and enable Powercor to manage flow much better to ensure quality is maintained and solar export is not constrained.

Enabling the export of electricity was viewed favourably from a customer choice point of view, a cost perspective (exporting of solar power would help those with the technology to reduce their bills) and an environmental perspective (in that it would encourage the take-up of renewables into the future).

### Preferred Option

At the conclusion of the discussion, participants were asked to vote on their preferred option by placing a sticky dot under their option of choice. The results of the vote were as follows:

Table 16: Voting results for 'making it easier for customers to export solar and charge batteries' - Powercor

Making it easier for customers to export solar and charge batteries	N=37 #
Option 1: Limiting exports to manage the network	0
Option 2: Build capacity to cope with more exporting	3
Option 3: Implement Flexible Grid Technology (no change to network capacity)	22
Both options 2 and 3 / something in-between	11
None of these	1

The preferred option was to implement 'Flexible Grid Technology' however there was also a strong preference to combine this option with working to build the capacity of the network to cope with future exporting as most saw an increase in solar panels as both inevitable and desirable. Almost one third of participants placed their dot between the two options to indicate their preference for a combined solution (i.e. options 2 and 3). However, across all participants, it remains unclear how many customers may have voted for the combined option if it had been proposed as a discrete option from the outset.

## 4.2 Making it easier for renewables to connect

Within the previous forums, customers expressed a strong desire for Powercor to take an active interest in connecting small and large renewable energy customers to the grid. However, they were concerned about Powercor's future network capacity with regard to bringing increased renewable energy production onto the grid at the regional level.

The key issue or challenge is that while customers want to see continued growth of large renewables, the current network capacity limits the ability of large renewables to connect and augmentation is costly to enable this to occur.

Participants agreed that connecting large renewables to the grid was important for the future, and that it was essential for Powercor to enable them to connect for the benefit of the environment and to help reduce electricity prices.

There was a question however, as to what size or power requirement threshold a wind farm or a solar farm must exceed in order to not require payment for a connection to the network?

In order to address this issue, Powercor presented three options:

- Option 1: Continue expanding network capacity for each new renewable generator that wishes to connect with the full cost paid by the generator
- Option 2: Invest in a renewable energy hub whereby multiple generators are able to connect and the costs of the energy hub are recovered across all customers
- Option 3: Invest in renewable energy hub where all customers initially pay for the hub, however as each generator connects they pay a portion of the cost which is returned to customers

### **Option 1: Expand the network capacity for each new renewable generator that wishes to connect with the full cost paid by the generator**

This option seemed at the outset to be reasonable from a cost perspective for residential customers, but it was seen to be a disincentive or impediment for large renewable generators if they could not fund the connection fee. This raised the question amongst some participants as to what the size limitation or energy requirement was for a wind farm or a solar farm to not require payment for a connection to the network.

In the sense that this option had the potential to deter generators from connecting, participants were less in favour of this as a solution. There was a strong sentiment that large renewables should be incentivised, and there was even some suggestion that Government needed to step up and change policies to encourage investment in this renewable space.

A minority however, saw this option as a fairer system as the onus was on each generator connecting to absorb the cost. Some participants suggested that generators should pay as it was simply a cost of doing business.

*'If they are going to set up a wind farm to make money, then they should pay to connect – it is just a cost of running/setting up a business'*

*'Aren't they going to get a return on their investment?'*

### **Option 2: Invest in a renewable energy hub whereby multiple generators are able to connect and the costs of the energy hub are recovered across all customers**

Participant feedback on the network investing upfront in hubs with cost recovery across all customers was mixed – some saw the value of providing the facility and encouragement for generators to connect, but most struggled with this proposed funding model. Customers were not comfortable with the hubs being funded by customers (albeit only \$1 extra per annum which was regarded as little to nothing by most participants).

*"Why should the customer have to pay for everything?"*

There was also a concern that the hub could be built and then only one or two generators would make use of it, or it could be monopolized by one large generator and other smaller renewable generators would be unable to connect. This raised the question as to how many wind farms and solar farms could or would connect to the renewable hub and how many hubs would ultimately need to be built if lots of generators want to connect.

This option was seen to have the benefit of placing the network in a 'ready-to-go' state for grid connection which was also seen as likely to encourage large generators to start up, hence speeding up the overall use of renewable energy.

*'I want to see more and more green energy sources on the network as soon as possible'*

If there were more green energy sources entering the market, it was seen as also benefiting the environment.

### **Option 3: Invest in renewable energy hub where all customers initially pay for the hub, however as each generator connects they pay a portion of the cost which is returned to customers**

This option was well received by the majority of participants. It was seen to be fair for the customers and fair for the generators. Given the bill impact of \$1 or less, it was seen as a small price to pay for

customers to help to encourage the connection of renewable generators to the network. The increase in the use of renewable sources such as wind farms and solar farms was considered important for the environment, and for keeping energy costs down for customers into the future.

Some participants felt that generators would end up paying a lot less per connection with this option as more are likely to connect once the hub is available (lowering the cost that is borne by each generator). Some questioned however how many could be connected to the one hub and how the cost would be allocated.

Benefits to customers provided by this option were also acknowledged with a flow of money back to companies assured as the generators connect.

*“Each generator who connects won’t feel ripped off and the consumers feel like they’re getting something back from the system”*

*“I like Option 3 because it sounds like we’re getting back to a community approach”*

*“It sounds better because customers will get some reward for helping to fund the initial investment”*

### Preferred Option

Participants were again asked to vote on their preferred option by placing a sticky dot under their option of choice. The results of the vote were as follows:

Table 17: Voting results for ‘making it easier for renewables to connect’ - Powercor

Making it easier for renewables to connect	N=37 #
Option 1: Continue expanding network capacity for each new renewable generator that wishes to connect with the full cost paid by the generator	5
Option 2: Invest in a renewable energy hub whereby multiple generators are able to connect and the costs of the energy hub are recovered across all customers	9
Option 3: Invest in renewable energy hub where all customers initially pay for the hub, however as each generator connects they pay a portion of the cost which is returned to customers	23

The most popular option was option 3, as it was regarded as ‘a win for all parties’. It was felt that this option has the potential to encourage renewable generators to connect which would positively

impact the environment and ultimately, offer consumers reduced energy bills as well as money back on their initial outlay.

### 4.3 Making it easier for customers to use their energy data to make informed choices

In this section of the forum, Powercor outlined findings of previous research showing that customers would like better access to their energy usage data and more education on how to use that data to adjust their energy consumption and save money.

The key issue outlined was that customers do not currently have easily accessible information about their energy usage which is limiting their ability to:

- Manage their own energy use and price options
- Make informed responses to outages
- Decide on their best use of their solar and batteries

Whilst many customers agreed that this was an issue to be addressed, some already had data on their usage available to them through their retailer app. These customers declared that they found this data to be useful in understanding their usage and making decisions about whether to change their behaviour.

Others who were not able to access this information or didn't know they could receive this data felt that insights on their energy usage provided by the network would be useful.

Powercor presented three possible options for information sharing and data access:

- Option 1: No changes to customer portals or services
- Option 2: Invest in a 'one-stop-shop' for all customer energy information and enhance customer experience
- Option 3: Option 2 as well as ability to access real-time usage data

Reactions to the options were quite divided, with some participants being quite happy with the current situation, whilst others were keen to gain access to real time data.

#### **Option 1: No changes to customer portals or services**

Quite a number of participants were accepting of the current state, with some not being interested in accessing information at all, and others being quite happy to visit an appropriate website if needed.

*'I already know the types of appliances like dryers that use a lot of power and I try to reduce it. But I can't help it sometimes'*

Some participants saw limited value in having access to this data in the absence of a time of use tariff option. In this context, some said the only value of the data was to identify which of their appliances were using a lot of power.

As a result, there was a segment of customers who were not in favour of moving to option 2 or 3, and were quite happy with the status quo.

*"Yes, they should do nothing."*

*"It's adequate for my husband and I at present but I can understand the need for making accessibility easy for people who do need the information."*

Others however saw the benefit in having a portal to access information and were in favour of moving to the 'one stop shop' approach.

*"If it's a hot day and you're worried about your bill you can look (at a one-stop-shop) and make a change."*

## **Option 2: Invest in a 'one-stop-shop' for all customer energy information and enhance customer experience**

This option also tended to polarize the room, with some participants seeing a benefit to accessing the information through a portal, whilst others were not interested.

*"Some apps show usage already so it is just duplicating services"*

*"You'd only use it occasionally – you'd use it once or twice and then you'd forget it"*

Those who were in favour believed that this portal would provide them with the information they needed to easily speak with Powercor and look at ways of reducing their bills.

*"I like the live chat things when you are on the website"*

*"It makes it easier for customers to use their own data"*

For most customers, 80 cents extra on the annual bill was considered to be a small amount to pay. Hence, many felt this option was worthwhile, particularly for those with solar panels (who were informed that it would enable Powercor to remind them to clean their PV's).

Having access to data that provided usage from the previous day was sufficient for some participants and not detailed enough for others. Those who were happy with this level of information felt that they would not need to know their energy usage in real time as they could work out what they had been doing over the last day to understand where savings could be made.

*“You could look at appliances that are using a lot of power – and maybe identify an appliance that was faulty”*

Others however felt that providing their usage data the next day would be relatively useless in that they would not remember what they were doing the day before and would find it difficult to make an assessment of how to reduce their usage on that basis.

### **Option 3: A ‘one-stop’-shop” (Option 2) as well as ability to access real-time usage data**

As mentioned in Option 2, there were some participants who were not interested in the ‘one stop shop idea’ and others who were supportive of it.

The inclusion of real time data to the portal was felt to be possibly useful to some, however the majority felt that this was something they really didn’t need. It was a more expensive option (\$1.50 more on their annual bill) and few felt that they would want to monitor their usage to such a detailed level.

*“Cost wise, it’s a lot of money for a vast amount of information that may not be used at all”*

A few participants considered that it may be beneficial to businesses and to teach children about energy usage in the household, but most thought it would be a novelty at first that would never be looked at again.

*“You can buy gadgets that plug in that will do the same job as real time data collection meters”*

Others felt it would be good for those who really did need to monitor their usage, like lower socio-economic customers.

*“It would be good for people who are trying to make ends meet – they would become more engaged with their energy”*

### **Preferred Option**

Participants were asked to vote on their preferred option by placing a sticky dot under their option of choice. The results of the vote were as follows:

Table 18: Voting results for ‘making it easier for customers to use their energy data to make informed choices’ - Powercor

Making it easier for customers to use their energy data to make informed choices	N=37 #
Option 1: No changes to customer portals or services	13
Option 2: Invest in a ‘one-stop-shop’ for all customer energy information and enhance customer experience	16
Option 3: Option 2 as well as ability to access real-time usage data	8

As discussed, this was an area that did not have a clear preference. In an overall sense however there were slightly more participants in favour of moving to a one stop shop portal, with some wanting real time data to be also available.

#### 4.4 Maintaining affordability

In this section of the forum, tariff structure options under consideration for 2021-2025 were discussed with participants. As a preface to this discussion, Powercor explained the average proportion of the overall electricity bill absorbed by the electricity distributor (29%). The presentation then moved to what had been heard so far from customers with regard to pricing and affordability. In essence, customers felt their electricity bills were expensive and were calling for simplicity, fairness and affordability and, due consideration of the needs of struggling consumers.

The key issue or challenge outlined by Powercor was the need to provide services at affordable prices while offering simple and fair pricing structures. To tackle these challenges, four pricing structures were proposed, each trading-off simplicity for fairness (option 1 could be viewed as the most simple but least ‘fair’):

- Option 1: Flat rate
- Option 2: Time of use
- Option 3: Peak usage
- Option 4: Demand pricing

In an overarching sense, many participants agreed that a form of cost reflective pricing was a possible solution to help reduce the network load and in turn lower electricity prices for some people. However many questioned whether the savings would in turn be passed on to customers by the retailer.

### Option 1: Flat Rate

A flat rate option was presented as the most common residential tariff currently. Participants were informed that this rate involves the same pricing regardless of the time of day that electricity is used so there is no incentive for customers to change their energy usage behaviour to reduce demand at peak times of the day or year.

There was agreement amongst the majority of participants that reducing the load on the network and attempting to change customer behaviour was important. However, the current flat rate structure was seen as simple and easy to understand which was also important to customers.

*“Easy for people to understand. You know what you’re getting.”*

*“I think a flat rate is ok – it’s simpler.”*

Many recognised that maintaining a flat rate structure would possibly result in the need for further network upgrades as there would be no incentive for customers to change their behaviour to spread the load. As a result, most participants were in favour of moving away from a flat rate tariff.

*“Better the devil you know. But may cost us more in the long run as need to keep upgrading the network.”*

Others however, felt that introducing different pricing structures would create challenges for some customers, such as the elderly and those who would potentially find it hard to change their current behaviour.

### Option 2: Time of Use

The time of use tariff option was explained as a daily fixed charge with the usage charge varied depending on whether electricity is being used at ‘peak’, ‘shoulder’ or ‘off-peak’ times. Powercor outlined that this option enabled customers to choose when to consume more or less electricity and to reduce their bill by moving their usage to the off-peak period. However, customers who cannot move their usage would receive higher energy bills.

This tariff option was relatively simple for customers to understand, with some indicating that they were currently on a time of use structure with their retailer.

The concept of being charged a higher rate during peak times was seen as likely to generate behavioural change amongst those who could make changes, however there was some concern that it could disadvantage others (including busy working families, those with medical issues and some businesses).

*“My wife who has medical issues, would see this as a real concern”*

*“Sometimes you just HAVE to use the air con to cool the family down on those really hot days”*

*“Disadvantages poor people if they can’t change behaviour.”*

In an overall sense, time of use tariffs were seen to be beneficial in giving customers a greater sense of control over their bills, but problematic for those customers who are unable or unwilling to alter their usage behaviour.

*“I don’t mind the idea of having some control - but not being punished for it.”*

### **Option 3: Peak usage bands**

Under this option, Powercor stated that customers would be banded into small, medium and large users based on consumption between 3-9pm. They would be charged a fixed fee depending on their band then a low volumetric charge.

Many found peak usage bands quite difficult to understand. There was a fear that customers could end up somehow being ‘caught’ on the wrong type of plan for their level of usage and end up paying a lot more for their electricity.

*“Peak usage bands are too complicated and you could get caught out.”*

*“Could end up with a big shock come bill time.”*

There was also a feeling among customers that their consumption patterns were not the same throughout the year and a summer time, winter time band may be needed to account for higher usage during those hot and cold months.

For many people, this option was reminiscent of how some phone plans worked and they were often considered quite complex.

*“I just worry about how a family will cope, depending how much usage the large band offers, and I may go over that plan. There’s not enough information about penalties for exceeding your energy limit for any given period.”*

There was a minority however, who could see the benefit of moving to this type of tariff structure to encourage people to watch their usage, stick to their plan and not go over their cap.

*“If it encourages you to think more about how much you’re using then that’s a positive.”*

#### Option 4: Demand Pricing

Demand pricing was explained as the tariff option where customers would receive a daily fixed charge, a demand charge (based on peak demand) and a volumetric charge. Similar to options 2 and 3, again customers would choose when to consume more or less electricity and could reduce their bill if they spread their usage out across the day. However, customers who cannot move their usage would receive higher energy bills.

There was a strong reaction to demand pricing in that few understood how it would work, and those who were familiar with it, reported that some businesses currently on a demand charge were very unhappy about it.

For many, this option was far too complex to properly assess whether they would be better or worse off, and for a number of customers it tended to raise more questions:

- How do they work out the charge?
- How often do they take the peak measurement?
- How long are you penalised for that peak?

*“There’s not enough information about this – I want some pre-reading next time.”*

Demand pricing was seen to be unfair in many cases i.e. a penalty for using too much electricity during a peak time (which could have occurred as a one-off event).

*“What if I happened to have a one-off family gathering and then I have to be charged more from then on”*

However, the upside of this tariff option for customers was an expected reduction in ‘brown outs’ as a result of spreading demand beyond the peak periods. This would in turn increase the longevity of household appliances. Overall, most recognised that this tariff option would give a more accurate reflection of customers’ electricity usage and their impact on the network.

In summary, this option needed more explanation for participants to fully appreciate how it would work in practice and the potential bill impact for their household or business.

#### Preferred Option

Participants were asked to vote on their preferred option by placing a sticky dot under their option of choice. The results of the vote were as follows:

Table 19: Voting results for ‘maintaining affordability’ - Powercor

Maintaining affordability	N=37 #
Option 1: Flat rate	12
Option 2: Time of use	21
Option 3: Peak usage	0
Option 4: Demand pricing	4

Time of use gained the most popularity amongst Powercor participants, with a continuation of the current the flat rate tariff being the next most preferred option.

#### 4.5 Providing a safe environment for workers and customers

Providing a safe network is seen as one of the top value propositions for customers across the three networks. The key challenge for the networks is that customers are largely unaware that safety comes at a cost and that networks balance the risk of safety incidents occurring and the cost of any investment in safety improvement.

In this session, Powercor personnel provided an overview of what the safety risks are, and then demonstrated real-life safety concerns on the network with options for investment. The difference between the options presented was in the level of the trade-off between safety risk improvements and the cost of the investment.

The real-life examples were replacing ‘dog bones’ (metal rods coated in plastic that attach service lines to the street pole and the customer’s property) and testing and replacing faulty ‘neutrals’ (which earth the conductor) through the use of smart meters.

To replace dog bones on customer’s properties that have started to exhibit increasing fault rates three risk-cost trade off options were presented and discussed:

- Option 1: Replace high priority dog bones only (status quo)
- Option 2: Replace high priority dog bones and replace moderate priority ones within 5 years
- Option 3: Replace high priority, and replace moderate priority dog bones within 10 years

For replacement of neutrals, only two options were provided – whether or not to use smart meters to test for faults in neutrals.

- Option 1: Do not test and replace any neutrals

- Option 2: Test and replace faulty neutrals

From the outset of the safety discussion, it was clear that the majority of participants believed that safety should always be a priority above anything else. Customers did not want Powercor to take risks that would adversely affect the safety of customers or employees.

*“Safety is critical. Cost shouldn’t get in the way of safety”*

### Replacing dog bones

In discussing the replacement of dog bones, participants were initially curious about the extent to which faulty or damaged dog bones could be easily identified by customers and the current methods used to replace the asset. There were many who questioned why an issue like this was not a component of Powercor’s general maintenance of the network and covered by their business-as-usual maintenance costs.

*“How do I identify a dodgy dog bone? How do I know if it’s high priority or not”*

*“I would have thought that keeping the network working should be covered by Powercor’s costs”*

Very few participants indicated that they wanted to see Powercor continue to replace only the high priority dog bones, because they felt that there was an unacceptable level of risk involved in this option. As a result, the majority indicated that they preferred Option 2 with the lowest level of risk and a perceived small additional cost of \$1.70 to their bill.

*“I see option 2 as a cheaper option because of the time period involved, and it’s also the safest option”*

However there were some participants who felt that they did not know enough information nor did they have the expertise to assess the safety risks involved with dog bones.

*“It’s impossible to know without knowing the risk – how can we make that decision without knowing the fail rate”*

A few participants were more trusting of Powercor and the regulation process and assumed that Option 1 would involve a risk assessment by a trained employee who deems it sufficient or acceptable to replace only the high priority dog bones.

*“Option 1 is fine because they must have to it (replace them) if it is unsafe, they would get sued if they left it”*

A minority preferred Option 3 but again customers were unsure about the level of risk involved in ‘moderate priority’ dog bones and whether extending the period from 5 years to 10 years would have a significant impact on safety.

*“Option 3 sounds ok, but how dangerous is it? How often does it happen?”*

### Testing and replacing neutrals

In considering whether to remotely test neutrals with smart meters and to replace those that exhibit faults, the participants again agreed that public safety was critical, but it was difficult for them to evaluate the amount of risk that was acceptable when people’s lives were at stake. There was general agreement that having the ability to detect faulty connections via smart meters was a great benefit of this new technology and it was worth taking advantage of it.

*“Safety should come first – we don’t want anyone suffering for 90 cents”*

*“If they can pick them up with a smart meter, that’s a better option”*

The vast majority of participants preferred the option of testing and replacing all faulty neutrals, for an extra cost of 90 cents on their bill annually, as they simply did not want to take any risk of accidents happening and people being electrocuted.

*“Safety is paramount, so it’s Option 2”*

*“...because safety is a must”*

### Preferred Option

Participants were asked to vote on their preferred option by placing a sticky dot under their option of choice.

The results of the vote were as follows:

*Table 20: Voting results for ‘making a safe environment for workers and customers’ - Powercor*

Replacing dog bones	N=37 #
Option 1: Replace high priority only	3
Option 2: Replace high priority and replace moderate priority within 5 years	29
Option 3: Replace high priority and replace moderate priority within 10 years	5

Testing and replacing neutrals		N=37 #
Option 1: Do not test and replace any neutrals		1
Option 2: Test and replace the faulty neutrals		36

For the majority of participants, a five year timespan for the replacement of moderate and high priority dog bones gave the greatest level of comfort (although most acknowledged that this decision was based on assumptions versus real insights to the risks over a longer timeframe). The replacement of all faulty neutrals was the only feasible choice for most customers.

#### 4.6 Providing a reliable supply of electricity

The value proposition in focus in the last forum session was the provision of a reliable supply of electricity. Again, Powercor outlined findings from its earlier customer research and the challenges and proposed business options for the future.

Powercor’s key issue or challenge is that customers want the network to invest in improving reliability in areas where it may be below average. Three possible options for the future were outlined as follows:

- Option 1: Maintain current levels of reliability
- Option 2: Improve areas of poor reliability to the average level of reliability
- Option 3: Increase compensation payments

Participants agreed that the challenge presented by Powercor was important because even though many participants experienced high levels of reliability, most knew of places or people living in smaller towns who had experienced lower levels of reliability and more frequent outages.

##### Option 1: Maintaining current levels of reliability

Option 1 (a business-as-usual approach) was welcomed by some participants, in particular those whose current levels of reliability were good. Most customers were happy to maintain the status quo. However many participants were sympathetic to the needs of other customers who have experienced more frequent outages. They agreed that people living in more remote rural communities should also have a reliable electricity supply. Reliability of supply was viewed as critical to encourage more people to live safely and work or invest in regional and remote locations.

*“I think everybody should be brought up to the same reliability – it’s a safety issue too in the bush”*

However, many customers could also see the other side to this argument, where people have chosen to live in these locations and therefore have backup generators and understand that it is expensive to service and maintain electricity supply in locations where only a few people are impacted. In this regard, some participants wanted to know how many people are impacted by poor reliability while others were only concerned about their own electricity, or thought that the reliability levels cited in the presentation (even in the worst served areas), were acceptable.

*“You have to expect that when you live that faraway”*

*“But it’s too costly for only one person? How many are impacted”*

*“It’s cheaper and if mine is ok then why would I care about other people?”*

*“It’s pretty reliable anyway – wasn’t it 99.6%?”*

One or two customers suggested that rather than upgrading or improving the network for these remote locations Powercor should be encouraging people in these locations to use solar and go ‘off grid’.

*“We should encourage people to go off grid, - go solar....not connecting to the grid is becoming a real option”*

## **Option 2: Improve areas of poor reliability to the average level of reliability**

Option 2 gained the greatest level of support across forum participants, with most choosing this option because they felt that all customers, regardless of where they live, should receive adequate and equal levels of reliability (with fewer and shorter outages).

*“Everyone has the right to good reliability”*

*“Option 2 ensures a greater reliability for more people which is what the service is supposed to be about”*

*“People out there shouldn’t be disadvantaged – we want to encourage people to live in places more remote”*

*“It should be the same standard for everyone”*

The annual bill impact of \$2.60 to invest in improved reliability in worst served areas was again considered to be a relatively small amount to pay. Another key reason why customers favoured

Option 2 was that some could also see that with this option Powercor might be paying less in rebates in the long term.

*“I presume they would pay less in rebates if they increased the reliability, so that’s a good thing”*

In summary, while some customers felt that people living in remote areas had made that choice and should be prepared for outages, others felt that Powercor should be investing more in network reliability and/or solar panels and batteries for customers experiencing a less than reliable power supply.

### **Option 3: Increase compensation payments**

Few participants chose Option 3 to increase compensation payments. A common reason for rejecting this option was that rebates were not seen as fixing the problem and increasing rebates was potentially more expensive for Powercor. In this respect, an increase in compensation was seen as simply moving the money around within the organisation.

*“Powercor is paying the customers more money to pay customers rebates? – it’s robbing Peter to pay Paul”*

*“It’s not good enough, I think those people would prefer to have their electricity”*

While the overall idea of compensation payments was favourably received to help cover some of the costs incurred, some were hesitant about increasing payments to compensate for poor reliability.

There were also frequent suggestions for Powercor to help customers with less reliable power in other ways e.g. helping them to buy a battery for customers rather than paying rebates.

*“Option 2 is the most reasonable because if they keep increasing rebates then Powercor is never going to pay the compensation”*

*“Save up all the compensation payments and buy a battery? That’s a better suggestion”*

*“If they are in an unreliable areas they should be encouraged to put in solar”*

A minority believed that increasing compensation payments was a good idea because it impacted relatively few customers. In addition, it was felt that at least some of these ‘worst served’ customers may still be quite satisfied with reliability and/or willing to accept their current level of reliability and use their own generators as needed.

*“Definitely increase their compensation because it replaces their lost freezer load of food, and what is the use of compensation if I doesn’t cover damages. Those with really bad reliability would have a generator with back up?”*

### Preferred Option

Participants were asked to vote on their preferred option by placing a sticky dot under their option of choice. The results of the vote were as follows:

Table 21: Voting results for ‘providing a reliable supply of electricity’ – Powercor

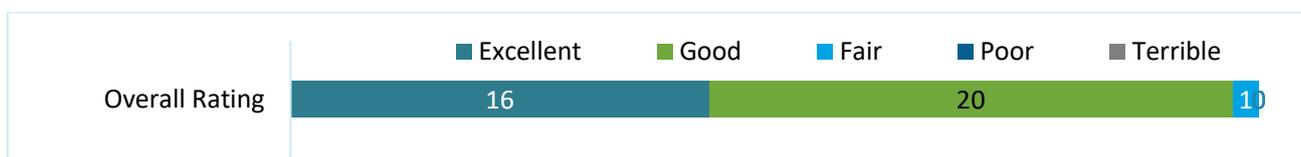
Providing a reliable supply of electricity	N=37 #
Option 1: Maintain current levels of reliability and compensation payments	7
Option 2: Improve areas of poor reliability to the average level of reliability	25
Option 3: Increase compensation payments	5

Outcomes of the vote showed that Option 2 was favoured by the vast majority of forum participants with much smaller numbers who wanted to either maintain the status quo or increase compensation payments.

### 4.7 Forum evaluation results

At the end of the Powercor forum, participants were given an evaluation sheet which enabled them to give feedback on the engagement session. Overall, the forum was well rated (see Figure 6) with almost half (16 participants) rating the forum as ‘excellent’.

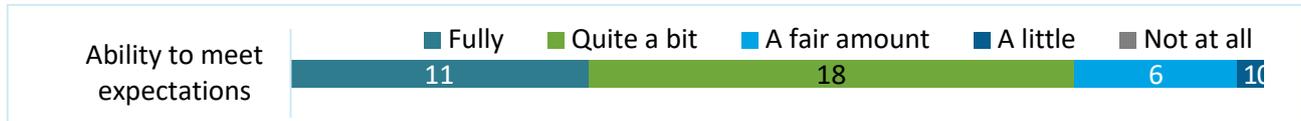
Figure 6: Overall rating of Powercor Forum



Overall, how would you rate the forum?  
Base: Powercor (n=37)

Feedback from the forum shows that the majority of Powercor participants had their expectations met ‘fully’ (11) or ‘quite a bit’ (18).

Figure 7: Expectations of the Powercor Forum



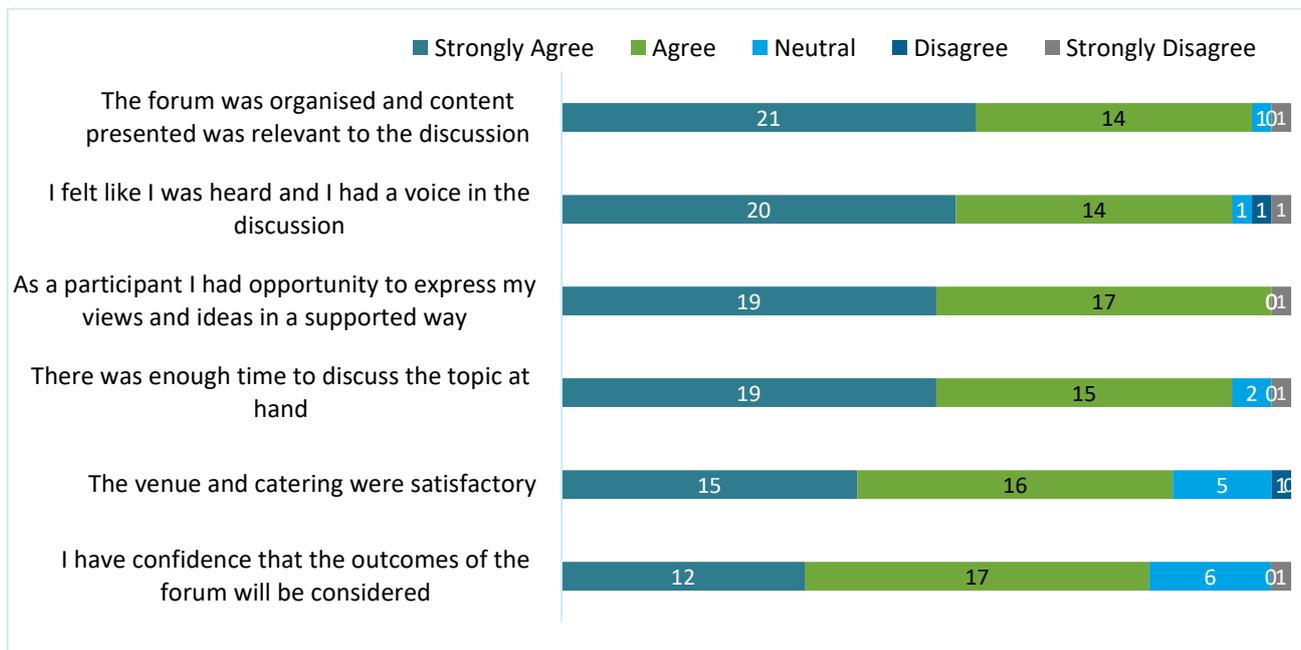
How much did the forum live up to your expectations?

Base: Powercor (n=37)

Participants were also asked to show their agreement with a number of statements regarding the forum outcomes, the running of the forum and their overall participation.

Figure 8 shows that nearly all participants (36) felt they were able to ‘express their views in a supported way’, felt that ‘the forum was well organised and content presented was relevant to the discussion’ (35) and that they ‘felt heard and had a voice in the discussion’ (34). Over three-quarters (29) of participants agreed that the outcomes from the forum would be considered by the distributor.

Figure 8: Powercor Forum Agreement Statements



Please read the statements below about the forum and select the response with which you most agree, from 1 = strongly disagree to 5 = strongly agree

Base: Powercor (n=37)

## 5.0 United Energy – Forum findings

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At the beginning of the forum, participants were welcomed by an executive of United Energy and provided with a brief explanation of the distributor's role in the energy supply chain. They were also informed of how the organisation had engaged with United Energy customers and stakeholders so far.

Also in focus in this introductory session was the past performance of United Energy in terms of energy costs and reliability, how the network sets its prices and the future aim of the organisation to deliver a safe, dependable and flexible network and more affordable electricity.

United Energy explained that it is constantly seeking cost savings in its operations in order to reduce price pressures and that it expected that the annual residential network tariff charge would decrease by 7.3% between 2018 and 2021.

### 5.1 Making it easier for customers to export solar and charge batteries

The first value proposition to be discussed within the forum related to making it easier for customers to export solar and charge batteries. A presentation was given that covered the feedback from customers so far on this issue and then United Energy presented the network's proposed options for the future.

The key challenge that United Energy identified was that 'customers want to be able to export their spare electricity from solar, batteries or any other technologies; without being constrained by network capacity; without sacrificing power and quality; and at a reasonable cost of connection'.

The three possible options for the future presented were:

- Option 1 : Limit exports to manage the network
- Option 2: Increase the network's capacity to cope with more exporting
- Option 3: Introduce "Flexible Grid" technology to provide real time data that would help United Energy identify problem areas and digitally manage constraints on the network

To assist in the discussion, participants were provided with a list of the key considerations in assessing each option (see Appendix 3). The list included the following:

- Customer choice - do customers have a choice in how they use, generate and export electricity within this option?
- Power quality – are there power quality issues that may impact electricity supply and the life of appliances within this option?
- Cost – how much will this option cost the average customer?

- Flexibility of the network – how does this option impact the network’s capacity to adapt to future needs (e.g. future needs could involve increased or decreased demand)?
- Safety – is there an impact on the safety of the network with this option?
- Reliability - is there an impact on the frequency and duration of outages within this option?
- Environment – does this option promote a greener future and lower CO2 emissions?

Participants agreed that the key issue presented by Powercor was a legitimate challenge that needed to be addressed by the network.

Overall there was strong agreement that this challenge of making it easier for customers to export solar and charge was an important one with more people putting in solar panels who are likely to also have the desire to export their excess energy to the grid.

*“More and more people are going to go for solar so they need to do something to beef up the system”.*

*“We need to do something – everyone will want to take it up in the future”*

It was also thought that solar usage needed to be encouraged for environmental reasons and that United Energy should be assisting people in this regard.

*“If people can’t export then they’re probably less likely to get solar which is bad for the environment”.*

### **Option 1: Limiting exports to manage the network**

Overall, the majority of participants were not in favour of this option. It was felt that the idea of limiting exports was not addressing the problem at all and that limiting the export of energy to the network was unfair to those who had invested in solar panels. In addition, most felt that this option would not encourage the installation of solar panels in the future.

*“It’s simply maintaining the status quo, there are no advantages for anyone and it’s not encouraging anyone toward solar”*

Those who had solar panels indicated that the need to export solar is high, especially if people are working during the day and therefore not using the energy generated during the day. They felt they should be rewarded for exporting their excess energy and that it was more efficient to generate electricity closer to the source.

*“If you have two people working in the day they are not using what they generate, we have solar and we’re only using a third of what we are generating”*

This option was also not felt to be as positive for the environment as it was not encouraging alternative sources of energy from coal. It was generally agreed that the option didn't give customers a great deal of choice with regard to self-generation, use and/or export of technology. Some noted that not everybody can afford batteries to store excess energy.

*"We use more coal if we adopt option one"*

*"There will be more outages under this option and it is bad for the environment"*

While customers were pleased to see a zero impact on their annual bill, this option was viewed as having a high impact on the flexibility of the network, with limited capacity for the network to adapt to future needs of customers. Most felt that this limited capacity could mean that future upgrades were still needed which may in turn impact their bills in the future.

*"It's quite short sighted, the network efficiency is not improved, it relies on the existing network"*

### **Option 2: Build capacity to cope with more exporting**

This second option of increasing capacity by building more infrastructure at a capital investment of \$28 million gained some positive reactions. This option gave customers the ability to export their excess energy; to potentially make or save money by doing so; and, it encouraged solar panel installation with a relatively low perceived impact on their annual bill (\$2.10/year).

However many participants believed that this option was not sustainable for the longer term and there was a sense that this was more of a short term solution or a 'patching' option. It was not seen to be a particularly innovative solution given that power quality issues could still arise.

*"Do we really want boxes to be increased? And we have to spend \$28 million, it's just a patching exercise"*

*"It implies that they're not exploring other options – it's not very innovative, and power quality issues are not solved"*

### **Option 3: Implement Flexible Grid Technology (no change to network capacity)**

The idea of introducing flexible grid technology (a digital solution) was very well received by most participants; however there were queries about whether investment in infrastructure would still be needed alongside the use of this technology.

*“I think option 2 and 3 will both be needed over time. As the population increases then we will need to put in a new transformer system. Surely they would have the capacity to do option 3 anyway?”*

*“I don’t like either option. I want something in between. I don’t see how a lower investment can be good for network assets”.*

The idea of investing in IT technology was considered innovative and important as it would give United Energy greater control of the system, and it would presumably be easier to implement than building new infrastructure.

There were questions regarding the six year lifespan of the technology and the potential need to upgrade or re-invest after this period of time to keep up with changes in technology and demand (i.e. an increasing number of customers wanting to export their solar energy).

Some also questioned the extent to which this option would still constrain customers wanting to export to the network, and if this was the case, then it was less appealing.

A few participants mentioned that the Flexible Grid Technology was essentially assisting United Energy in managing the electricity flow and voltage variations, but it was not really solving the capacity problem. There were comments in this regard that this was only a part way solution that was primarily addressing power quality problems.

*“United Energy will use it to help with demand management”*

*“It will result in better power quality, and that could prolong an appliance’s life”*

The annual bill impact of \$5.30 was considered reasonably small (and affordable), and in that regard participants were generally in favour of its adoption. However as mentioned there was a feeling that incorporating both Options 2 and 3 together would provide a better solution as it would increase capacity and enable United Energy to ensure desired levels of quality are maintained and solar export is not constrained. Enabling the export of electricity was viewed favourably from a customer choice point of view, a cost perspective (exporting of solar power would help those with the technology to reduce their bills) and an environmental perspective (in that it would encourage the take-up of renewables into the future).

### **Preferred Option**

At the conclusion of the discussion, participants were asked to vote on their preferred option by placing a sticky dot under their option of choice (on posters placed on the wall). The results of the voting were as follows:

Table 22: Voting results for ‘making it easier for customers to export solar and charge batteries’ – United Energy

Making it easier for customers to export solar and charge batteries	N=38 #
Option 1: Limiting exports to manage the network	1
Option 2: Build capacity to cope with more exporting	7
Option 3: Implement Flexible Grid Technology (no change to network capacity)	28
Both options 2 and 3 / something in-between	2
None of these	0

The preferred option overall was to implement ‘Flexible Grid Technology’. Building capacity to cope with more exports also gained a number of votes, with a couple of participants voting for a combination of Options 2 and 3, however this was well supported in the comments and discussions at the table level.

## 5.2 Maintaining affordability

In this section of the forum, tariff structure options under consideration for 2021-2025 were discussed with participants. As a preface to this discussion, United Energy explained the average proportion of the overall electricity bill absorbed by the electricity distributor (28%). The presentation then moved to what had been heard so far from customers with regard to pricing and affordability. In essence, customers felt that their bills were expensive and wanted simplicity, fairness and affordability and due consideration of the needs of struggling consumers.

The key issue or challenge outlined by United Energy was the need to provide services at affordable prices while offering simple and fair pricing structures. To tackle these challenges, four pricing structures were proposed, each trading-off simplicity for fairness (option 1 is the most simple but least fair):

- Option 1: Flat rate
- Option 2: Time of use
- Option 3: Peak usage
- Option 4: Demand pricing

From the outset many participants agreed that it was logical that pricing should be cost reflective to help reduce load and in turn reduce electricity prices for some people. However, customers noted that their retailer was already offering this type of pricing structure and that they were therefore confused about how electricity tariffs work (e.g. what happens if the retailer and distributor offer different pricing structures?).

### Option 1: Flat Rate

A flat rate option was presented as the most common residential tariff currently. Participants were informed that this rate involves the same pricing regardless of the time of day that electricity is used so there is no incentive for customers to change their energy usage behaviour to reduce demand at peak times of the day or year.

Clearly the flat rate structure was familiar to participants and was seen to be simple and easy to understand. Some customers could see that the flat rate systems benefited them because they used a fair amount of energy during the day. A flat rate was seen to also have the added advantage of customer's energy bills being stable and predictable every quarter.

*"I am on this. I use power all through the day so it benefits me to be on the flat rate. I am retired and use power all through the day".*

*"The bill would be more predictable on a flat rate system"*

However many saw disadvantages in the flat rate structure. The main disadvantage identified for that some customers may be paying more than they should be at non-peak times of the day and some may be using a lot of energy at peak times and paying less than they should be. A further disadvantage of the flat rate for customers was its inability to provide customers with an incentive or reason to reduce their usage or change their usage patterns.

*"If my neighbour is using more energy with large air conditioning units then I'm compensating for his high usage*

*"Flat time doesn't give you incentive to reduce"*

*"It's a lazy way to do it – without IT it's the easiest way to do it"*

Overall, very few forum participants selected the flat rate option as their preferred pricing structure.

### Option 2: Time of Use

The time of use tariff option was explained as a daily fixed charge with the usage charge varied depending on whether electricity is being used at 'peak', 'shoulder' or 'off-peak' times.

United Energy outlined that this option enabled customers to choose when to consume more or less electricity and to reduce their bill by moving their usage to the off-peak period. However, customers who cannot move their usage would receive higher energy bills.

Most participants could easily understand time of use pricing because their retailer already offered it to them. The idea of being charged a higher price during peak times and a lower price during non-peak times was felt to make sense conceptually.

However, in a practical sense, many indicated that not all households were able to adjust or change their usage during the peak times in the evening. A household with people working a typical 9am-5pm timeframe was seen to be disadvantaged by this pricing structure, whereas retirees who are home all day would benefit a lot more

*“You have to be clever to use this and then you have to be home to use it”*

*“It’s not a feasible option for large families with two working parents who are out of the house all day”*

Those in favour of time of use pricing saw that they would have greater control over their energy consumption and that cheaper rates at off peak times could provide an incentive to change their energy usage behaviour. Habits such as turning on the dishwasher later at night, doing the clothes washing during the night or on weekends and, adjusting the temperature of their air conditioning and heating, were commonly mentioned tasks that participants felt they could or would be willing to change.

Some customers however rejected this option on the basis that it involved too much thinking. These participants did not want to have the added concern or effort involved in being aware of what time of day the electricity price reduced or increased and adjusting their use of appliances.

*“It feels like work, because I don’t have the time to think about this”*

Time of use pricing had no real appeal for customers with solar panels who felt it would not encourage future solar panel use. These customers saw no benefits to this pricing approach when solar energy is mainly used during the day (i.e. they did not want to be charged higher rates when they accessed the network in the evening).

*“If you have solar what is the point in having time of use? You would be needing to use power in the evenings. There is no benefit for anyone who has solar”.*

### **Option 3: Peak usage bands**

Under this option, United Energy stated that customers would be banded into small, medium and large users based on consumption between 3-9pm. They would be charged a fixed fee depending on their band then a low volumetric charge.

There was a mixed response to the use of peak usage bands with many finding this tariff option difficult to understand. Most customers immediately likened this structure to mobile phone bills. In this context, there were concerns that they might go over their 'cap' amount and be charged a lot more than they expected or were currently paying. There were many questions about how the fixed amounts were calculated, if the amounts proposed of \$15, 420 or \$25 were appropriate for them and, whether or not customers would have the ability to change bands, especially during summer, or if they went away on holidays.

*"It's difficult to elect a band because I'm not sure what I'm going to be using from month to month. There's a concern that I may go over my band and the consequences aren't clear"*

*"If you go over how much more would they charge you? Would they triple your bill? It's scary. You would be worried about bill shock - like the stories on the 7.30 report!"*

Nevertheless, some participants could see the benefits of peak usage bands in that this approach could potentially help customers reduce their bills during peak times without too much behaviour change. For some customers, this tariff structure could make bills relatively consistent and reduce 'bill shock'.

*"It would mean more consistency with bills"*

*"It's an interesting option, it would mean there would be no surprises"*

*"Could we buy an unlimited package like you do with data on mobile phone plans?"*

The key outcome of the discussion though was that very few participants selected this tariff. A level of confusion and insufficient detail appeared to impact the low level of preference for this pricing option.

#### **Option 4: Demand Pricing**

Demand pricing was explained as the tariff option where customers would receive a daily fixed charge, a demand charge (based on peak demand) and a volumetric charge. Similar to options 2 and 3, again customers would choose when to consume more or less electricity and could reduce their bill if they spread their usage out across the day. However, customers who cannot move their usage would receive higher energy bills.

Many participants had difficulty understanding demand pricing. While the concept of having a peak usage time in the evening was generally accepted and understood, the overall idea of United Energy setting a maximum demand level and charging customers more if they went over this amount was very confusing for a number of participants.

Again there was a discussion about the extent to which certain types of customers could control or change their usage behaviour during the peak times, with particular concerns expressed about the impact of demand pricing on large families, the disadvantaged and the elderly. There were many questions asked e.g. would one really cold or hot day when customers used their air conditioning and went over the designated mark be the trigger point for them to have a high rate for the rest of the billing quarter or month?

*“If you are in a large family – sometimes you cannot spread your load. You can’t be that flexible sometimes”.*

*“If you work a lot of hours then it makes it hard to change energy usage patterns. It depends on the family structure and make up. If everyone is working then it is hard to spread use”.*

*“Who turns on their washing machine at night though?”*

*“There are people in the community that we would not want to discourage to use electricity. Don’t want them to be worry about putting power on because they will go onto a higher tariff e.g. pensioners”.*

There was strong agreement that if demand pricing was introduced, United Energy would need to educate people on how to reduce their bills and ensure access to immediate usage information. The network would probably also need to assist or incentivise customers to purchase more modern appliances that turn on and off at the acceptable time.

*“We need to educate people – you can’t physically see how much you are seeing it is not visible, - we need apps to be able to see usage”*

On the positive side, there were some participants at the forum who had an existing understanding of demand pricing and could see the advantages. This pricing approach was seen to provide a more accurate reflection of customer’s usage and impact on the network (therefore providing customers with greater choice and flexibility). It was also viewed as beneficial to customers who want to take an active role in reducing their bills and those who have a good understanding of the technology available to view and consequently adjust their energy usage.

*“It’s user pays, it is good, it gives the consumer the biggest amount of control”*

*“If there is an incentive to adjust usage and move more to off peak people probably will”*

*“Option 3 or 4 is good but you have to be tech savvy or IT literate”*

*“You have to provide incentives and price signals to change people's behaviour. Option 4 is the best option for that.”*

Overall, while a significant proportion of participants selected the demand pricing option, it needed more explanation for participants to fully appreciate how it would work and the potential impact on their bills.

### Preferred Option

Participants were asked to vote on their preferred option by placing a sticky dot under their option of choice. The results of the vote were as follows:

Table 23: Voting results for ‘maintaining affordability’ – United Energy

Maintaining affordability	N=38 #
Option 1: Flat rate	4
Option 2: Time of use	9
Option 3: Peak usage	4
Option 4: Demand pricing	21

Demand pricing clearly attracted the most interest and popularity amongst participants at the forum, with time of use being the next most preferred option.

### 5.3 Making it easier for customers to use their energy data to make informed choices

In this section of the forum, United Energy outlined findings of previous research showing that customers would like better access to energy usage data and to be educated on how to use that data to adjust their energy consumption and save money.

The key issue outlined was that customers do not currently have easily accessible information about their energy usage which is limiting their ability to:

- Manage their own energy use and price options
- Make informed responses to outages
- Decide on their best use of their solar and batteries.

While many customers indicated that this was an issue to be addressed, they had not viewed the website for information about their usage. A minority (particularly those with solar panels) stated

that they had already accessed information via an app on their phones, which was available to them through their retailer. These customers stated that they found it quite useful to observe their usage and determine how much energy they had used or were available to export.

However, a number of customers were somewhat confused by the idea of their distributor providing this information versus the retailer given that some (as mentioned earlier) had already received this service via their retailer.

*“I already have an app that shows me usage with 15 minute information – I think it’s because we have solar, that’s why we have this app”*

*“You can get some of this information now anyway from the retailer. Why are we interacting with the distributor and not the retailer? AGL offer this information. It will cause confusion..... would you then go to the distributor or the retailer?”*

Overall most customers liked the idea of accessing more detailed information or data about their household energy usage and thought it would be interesting and useful to them.

United Energy presented three possible options:

- Option 1: No changes to customer portals or services
- Option 2: Invest in a ‘one-stop-shop’ for all customer energy information and enhance customer experience
- Option 3: Option 2 as well as ability to access real-time usage data

### **Option 1: No changes to customer portals or services**

This option of no changes to current customer portals (with data access available the next day and no cost impact) was viewed favourably by many participants. Many said they were not interested in accessing more detailed information about their usage or having real time access and were happy to visit the website if they wanted to find out information. They were generally unsure about exactly what they would do with the real time information and how or what they could do to change their consumption.

There were also suggestions that while it might be interesting information to access initially or occasionally, they could not see themselves regularly checking on their usage data and changing their behaviour in a long term sense.

*“I’m not sure if people want more information – what will you do with it all? It’s more useful to high users – people in business, not the average person”.*

*“You might look at it initially but then not look at it at all”.*

*"It's a waste of time, the status quo option is fine"*

However participants could also see some advantages of being able to access their data more simply and in real time who were therefore not in favour of Option 1. They felt it was important for United Energy to offer greater choice for customers going forward and to stay up to date with other organisations that offered detailed, real time usage information, for example, telecommunications companies. They also felt it was important to inform and educate customers about their overall usage and energy consumption different appliances to be aware of their cost impacts so they were not surprised when they receive their electricity bill.

*"I use my heater a lot in winter and would like to see how much it is using"*

*"The average person hasn't got a clue what the average appliance uses. I think that (Option 1) is dumbing it down, - at least with the other options you are not going to be surprised by your bill"*

*"If you go to the doctor and cholesterol is high you cut out high fat stuff and it changes – you think wow I didn't know that, same goes for your electricity bill".*

*"Power is knowledge and we're talking little money for a change"*

## **Option 2: Invest in a 'one-stop-shop' for all customer energy information and enhance customer experience**

Reactions to the idea of a one stop shop portal with access to data the next day for customers were quite mixed. While many could see the benefit and convenience of accessing the information (either the next day or any time), others felt it was less of a necessity or had assumed that this was a service for which customers would not pay anything extra.

*"We shouldn't have to pay for this, it should be a given. From my retailer, I have all the information on my app so this option doesn't improve customer service... this information should be provided without question"*

*"Most people wouldn't want a one stop shop – they won't use it"*

Those who were in favour of Option 2 felt it would be important to have information about outages and when power was likely to be restored and they liked the simplicity of having all information in one place. Many also suggested that while they might not have a need for real time data now, they may need it in the future.

*"I like the one stop shop but I don't need the real time data at the moment. In the future I might need the real time data but not now".*

While the additional \$2.90 on customer's bills was not considered a significant amount, many felt that energy companies should be doing this anyway (i.e. given that some retailers were already providing this information as noted earlier).

*"Why do these changes cost customers money? The company should be implementing these anyway".*

Again there were polarised reactions to the idea of being able to access the data in real time compared to having their energy usage data from the day before. Many felt it was sufficient to have the information the next day because they would know what they were using and perhaps change their behaviour the next day. However, others felt that unless they could access the data in real time it was not useful and they would be unlikely to use it, having forgotten what appliances they were using the day before in order to then identify which appliance(s) to turn off.

### **Option 3: Invest in 'one-stop-shop' portal and real-time usage data access**

The third option was presented as the same as option 2 but with the usage data available in real time. However, again, some participants did not feel that a 'one stop shop' idea was a priority for United Energy. Some customers felt that access to real time data was not essential because they were unlikely to use an app or access the information on a portal on a regular basis and Option 3 was therefore not especially appealing.

*"Option 3 is useful for business and government but most households would not use it perhaps"*

*"I don't feel that the customer will be looking at the data often, therefore it seems a bit to pay for an infrequent benefit"*

There were also less favourable comments regarding the price increase associated with Option 3. Again, it was suggested that a single portal and real time data should be something that United Energy offered without charging customers anything extra.

*"Why do these changes cost customers money? The company should be implementing these anyway".*

Nevertheless, a significant proportion of participants could see the advantages of having a single portal and real time information regarding their energy usage. Having a single portal where all information could be accessed was considered efficient, convenient and 'best practice', but

customers were in agreement that United Energy should be supplying this service anyway to stay up to date with other organisations.

*“If we all want demand management pricing we would need to see how our appliances effect our energy usage*

*“Option 3 – people would really get used to checking in the future – it’s got lots of benefits, like better for the environment”*

*“I’m doing this already, I can fine tune the use of my electricity – I now turn my pool on at a time during the day where I am not paying for electricity – my solar panels have made this possible”.*

*“We’re still a long way behind the world in terms of technology and we need to put some effort into catching up, so we should be investing in this option now rather than later”*

The idea of real time information was considered a significant benefit of Option 3 as many felt that the likelihood of utilising the information was higher if they could access it immediately. Information the next day was thought to be less useful and less likely to cause a change in their behaviour.

Some also suggested that while they might not have a need for real time data now, they may need it in the future.

*“I’d rather know immediately what’s going on with my power”*

*“This has an immediate effect on my usage, it would make me more conscious and aware of my usage”*

*“It will be good for big users, it will help them keep their prices down. Can systematically go through and see how much different appliances use”.*

*“I like the one stop shop but I don’t need the real time data at the moment. In the future I might need the real time data but not now”.*

## Preferred Option

Participants were asked to vote on their preferred option by placing a sticky dot under their option of choice.

The results of the vote are shown on the following page.

*Table 24: Voting results for ‘making it easier for customers to use their energy data to make informed choices’*

Making it easier for customers to use their energy data to make informed choices	N=38 #
Option 1: No changes to customer portals or services	6
Option 2: Invest in a 'one-stop-shop' for all customer energy information and enhance customer experience	9
Option 3: Option 2 as well as ability to access real-time usage data	23

As discussed there was a clear preference for Option 3 with N=23 votes recorded. However Options 1 and 2 still received some customer votes.

#### 5.4 Providing a safe environment for workers and customers

Providing a safe network is seen as one of the top value propositions for customers across the three networks. The key challenge for the networks is that customers are largely unaware that safety comes at a cost and that networks balance the risk of safety incidents occurring and the cost of any investment in safety improvement.

In this session, United Energy personnel provided an overview of what the safety risks are, and then demonstrated real-life safety concerns on the network with options for investment. The difference between the options presented was in the level of the trade-off between safety risk improvements and the cost of the investment.

The real-life example used to demonstrate the safety risk and cost trade-off was replacement of 'dog bones' (metal rods coated in plastic that attach service lines to the street pole and the customer's property). United Energy demonstrated old-type 'dog bones' have started to exhibit increasing fault rates. To address this challenge, three risk-cost trade off options were presented and discussed:

- Option 1: Replace high priority dog bones only (status quo)
- Option 2: Replace high priority dog bones and replace moderate priority ones within 5 years
- Option 3: Replace high priority, and replace moderate priority dog bones within 10 years

Initially the majority of participants agreed that safety should always be a priority above anything else, and they did not want United Energy taking risks with the safety of customers or employees. However, there was some confusion with questions asked about the extent to which safety issues were regulated and undertaken as a matter of course, and why 'dog bones' would be any different to other maintenance issues or costs that United Energy covers in its budget.

*“Why should we be paying for making the system safe -I don’t care if it’s 90 cents or 10 cents, why should I be paying for it?”*

*“So the argument is why should the customer pay?”*

## Replacing dog bones

Most participants saw the replacement of deteriorating dog bones to be a priority if there was any safety risk for people. In this respect there were many who were happy to pay extra to reduce the risk.

*“I think pay more to reduce risk as it is a matter of life and death”.*

*“They need to be proactive when it comes to safety. Therefore Option 2 is best. When it comes to saving a life, cost shouldn’t matter”.*

A minority of participants indicated that they wanted the first option which would see United Energy continue to replace only the high priority dog bones. Most customers however concluded that there was an unacceptable level of risk involved in this option and it was not a forward thinking, proactive course of action.

*“Option 1 is putting your head in the sand”.*

As a result, the second option of replacing high priority dog bones and replacing moderate priority ones within five years for an additional cost of 90 cents to their bill, was a very popular choice amongst participants (simply because it was seen to be the safest alternative).

*“We need to make the system as safe as possible so option 2 is the preferred”*

*“It’s not worth waiting longer than that in option 3 for the sake of 45c a year”.*

A very small number of participants liked the idea of Option 3 which was to replace the moderate priority assets within 10 years for an extra cost of 45 cents on the bill because it was a good compromise.

*“It makes sense to go with option 3, it’s a no brainer, it improves the infrastructure and improves the safety and it’s hardly any money”*

## Preferred Option

Participants were again asked to vote on their preferred option by placing a sticky dot under their option of choice. The results of the vote were as follows:

Table 25: Voting results for ‘making a safe environment for workers and customers’ – United Energy

Replacing dog bones	N=38 #
Option 1: Replace high priority only	5
Option 2: Replace high priority and replace moderate priority within 5 years	31
Option 3: Replace high priority and replace moderate priority within 10 years	2

As mentioned, the most popular option was option 2 by a significant margin, as it was considered to be the safest option.

## 5.5 Providing a reliable supply of electricity

The value proposition in focus in the last forum session was the provision of a reliable supply of electricity. Again, United Energy outlined findings from its earlier customer research and the challenges and proposed business options for the future.

United Energy’s key issue or challenge is that customers want the network to invest in improving reliability in areas where it may be below average. Four possible options for the future were outlined as follows:

- Option 1: Continue to maintain and monitor asset condition
- Option 2: Replace one transformer at Doncaster zone substation in 2021
- Option 3: Invest in a 4th transformer at Doncaster zone substation in 2015
- Option 4: Employ demand management to defer capital investment

Participants agreed that the challenge presented by United Energy was important because they felt that reliability was important now and in the future. Customers understood that population growth is occurring rapidly and demand for energy is increasing with a related need to continually monitor and address reliability issues.

### Option 1: Continue to maintain and monitor asset condition

There were generally poor reactions to the first option (a business as usual approach) because it was seen as costly and not addressing future population growth or related planning of assets to accommodate the future. Very few participants could cite any benefits of this idea.

*“Option 1 is bad – it is costly to the community, there’s nothing attractive about it”*

*“Option 1 is not an option. There is no room for growth and if that is a big growth area then they will have to replace it anyway. There will be more to replace over the years – and the worse it will get”*

*“In the short term you save money but that is all. When it blows a lot of people will be affected over time”.*

*“It’s a head in the sand approach. Not future proofing anything. A likely incident would be a major disruption”*

## **Option 2: Replace a transformer at Doncaster**

This second option also did not gain a great deal of support from forum participants. Despite the smaller capital investment of \$6 million required and the relatively low extra cost to bills of 60 cents per annum, most felt this option did not take into account the future population growth of Melbourne.

*“There is no capacity for growth – it is a short term solution – it doesn’t match Melbourne’s growth plan”*

*“Option 1 and 2 is pretty much the same. It’s only going to replace one of them and not giving benefit of future growth.”*

The only potential benefit of this option for participants was that perhaps there would be less chance of a new asset failing (so potentially the option did offer more reliability).

There were also some suggestions to retain the asset if it is currently working.

*“Why throw out an asset that is currently working? They should keep it, and just make this Option 3”*

## **Option 3: Invest in a 4<sup>th</sup> transformer at Doncaster zone substation in 2025**

There was much stronger support for the third option across forum participants. It was seen as having the lowest risk of failure, the ability to respond to population growth and it was one of the cheaper options.

*“If it’s a new transformer so it is more reliable. Doing a 4th you have a redundancy plan. You could do staggered maintenance. It gives them total flexibility – if one fails you can use the new one or keep and old one as a spare”*

*“Option 3 because we need more availability for more people”*

*“The 4th transformer gives more capacity than we need but in the long run it will be better. It also has the best power quality and the lowest cost”.*

*“It is best for flexibility of the network because it allows for population growth, and it is also best for on reliability”*

*“It will take the stress off the existing assets thereby increasing their longevity”*

#### **Option 4: Employ demand management to defer capital**

There were mixed reactions to this fourth option, with many suggesting that this option should be combined with Option 3 as it gave people more control and flexibility to reduce their energy bills. However it was viewed as a narrow option, potentially not fixing reliability problems in a long term sense.

*“This gives people more control. They can opt in. The programmes they offer to reduce their energy bills mean they have more control. They would have to do option 2 or 3.”*

*“I would go for 4 but pair it with 3. A combination. At least then it gives the option to opt in to save money. It gives the choice”.*

*“Still has the risk of losing one of the existing transformers, so it’s not improving the network. It relies on the assumption that people will change their ways. Will growth outweigh the decrease from management?”.*

*“Climate change is coming and we’re going to have to future-proof – we’re only growing”*

#### **Preferred Option**

Participants were asked to vote on their preferred option by placing a sticky dot under their option of choice. The results of the vote were as follows:

*Table 26: Voting results for ‘providing a reliable supply of electricity’ – United Energy*

Providing a reliable supply of electricity	N=38 #
Option 1: Continue to maintain and monitor asset condition	0

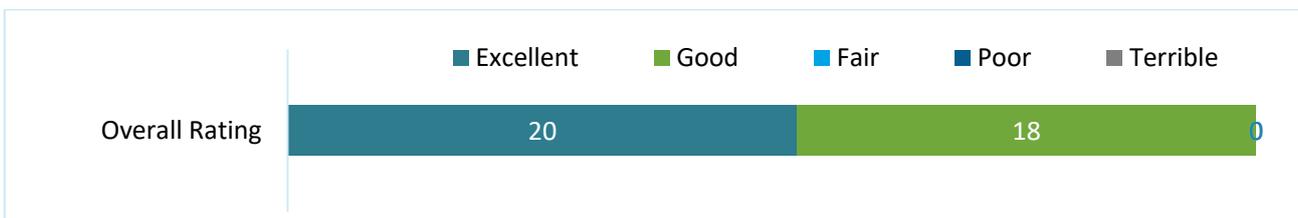
Option 2: Replace transformer at Doncaster zone substation in 2021	0
Option 3: Invest in a 4 <sup>th</sup> transformer at Doncaster zone substation in 2025	33
Option 4: Employ demand management to defer capital investment	5

Overall, customers participating in the forum preferred Option 3 – investing in a 4<sup>th</sup> transformer. A high level of support was given to this option mainly because it enabled the network to accommodate future growth in customers and demand and in turn, provide a greater assurance of energy reliability.

### 5.5 Forum evaluation results

At the end of the forum, participants were given an evaluation sheet which enabled them to give feedback on the engagement session. Overall, the United Energy forum was ranked highly (see Figure 9) with just over half (20) of participants rating the forum as ‘excellent’.

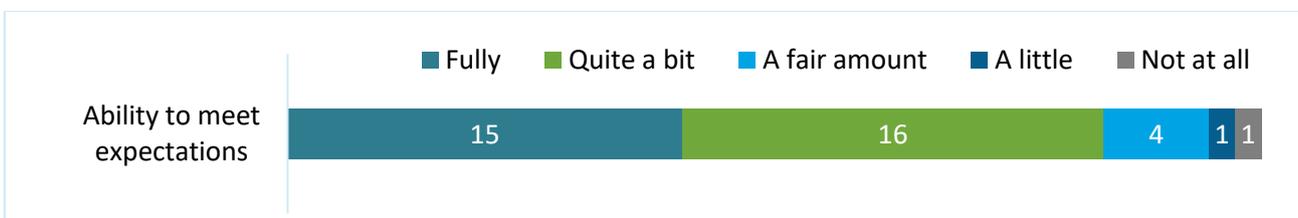
Figure 9: Overall rating of United Energy Forum



Overall, how would you rate the forum?  
Base: United Energy (n=38)

The feedback shows that the majority of United Energy forum participants had their expectations met ‘fully’ (15) or ‘quite a bit’ (16).

Figure 10: Expectations of the United Energy Forum

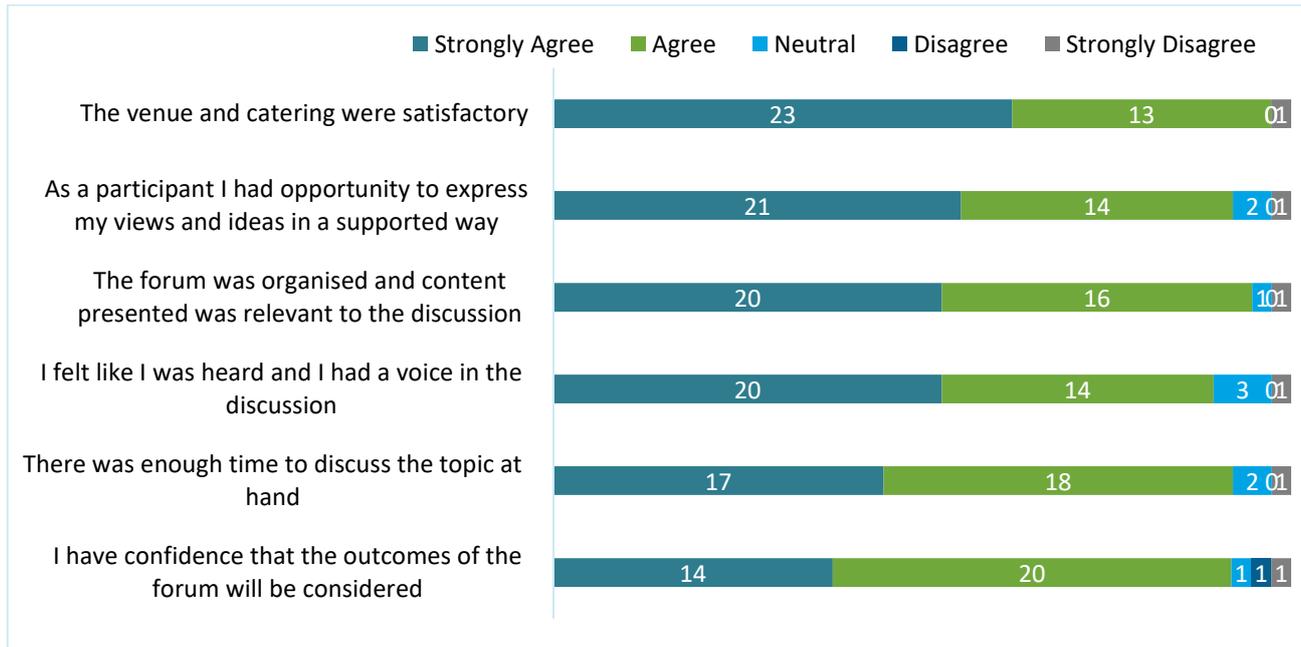


How much did the forum live up to your expectations?  
Base: United Energy (n=38)

Participants were also asked to show their agreement with a number of statements regarding the forum outcomes, the running of the forum and their overall participation. Figure 11 shows that

nearly all participants felt that ‘the forum was well organised and content presented was relevant to the discussion’ (36), they were able to ‘express their views in a supported way’ (35), and that they ‘felt heard and had a voice in the discussion’ (34). A similar number also thought that the outcomes of the forum will be considered by United Energy (34).

Figure 11: United Energy Forum Agreement Statements



Please read the statements below about the forum and select the response with which you most agree, from 1 = strongly disagree to 5 = strongly agree  
Base: United Energy (n=38)

## Appendix 1: CitiPower Agenda and Materials

### CitiPower Investment Options Forum Agenda Final - 3.5 hours

Time	Session details	Responsibility	Materials
5.30-5.32pm	<p><b>Welcome</b></p> <ul style="list-style-type: none"> <li>Woolcott Research Lead Facilitator to welcome and thank participants for coming back</li> <li>Explain who is in the room:                             <ul style="list-style-type: none"> <li>Residents and small and medium businesses in the CitiPower area</li> <li>Local Council representatives and other local stakeholders</li> </ul> </li> <li>Introduce opening speaker</li> </ul>	WR Lead Facilitator	
5.32-5.40pm	<p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>CPPCUE to welcome back and thank for coming.</li> <li>Give context to the engagement – Regulatory Reset</li> <li>Explain objectives and purpose of the forum:                             <ul style="list-style-type: none"> <li>We are going to present what we have heard so far from customers for each section and our related proposals.</li> <li>We want to hear your feedback on the options for investment – which one you prefer.</li> </ul> </li> <li>How we have engaged so far</li> <li>Our performance, and aims for the future</li> <li>How we set our prices and reducing network tariffs</li> </ul>	Renate Vogt	PP Slides
5.40-5.45pm	<p><b>How the session will run</b></p> <ul style="list-style-type: none"> <li>Purpose of tonight</li> <li>Brief outline of the session agenda</li> <li>Guidelines</li> <li>Housekeeping (mobiles off, toilets, fire evacuation)</li> </ul>	WR Lead Facilitator	PP Slides
5.45-5.55pm	<p><b>Presentation 1: Making it easier for customers to export solar and charge their batteries</b></p> <ul style="list-style-type: none"> <li>What we have heard</li> <li>State problem/challenge from customer feedback</li> <li>Proposed options for investment including key differences between the options</li> <li>We want to hear what you think about each option</li> </ul>	Megan Willcox	PP Slides
5.55-6.15pm	<p><b>Table discussion 1: Making it easier for customers to export solar and charge batteries</b></p> <ul style="list-style-type: none"> <li>This is the challenge CitiPower have identified from the feedback so far:</li> <li><i>‘Customers want to be able to export their spare electricity from solar, batteries or any other technologies:</i> <ul style="list-style-type: none"> <li><i>without being constrained by network capacity</i></li> </ul> </li> </ul>	WR Table Facilitators	HANDOUT 1 on options  + TABLE EXERCISE



6.15	<p><b>Summary of voting for table discussion 1</b></p> <ul style="list-style-type: none"> <li>Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting sheets 1 on wall
6.15-6.25pm	<p><b>Presentation 2: Making it easier for customers to use their energy data to make informed choices</b></p> <ul style="list-style-type: none"> <li>What we have heard</li> <li>State problem/challenge from customer feedback</li> <li>Proposed options for investment including key differences between the options</li> <li>We want to hear what you think about each option</li> </ul>	Megan Willcox	PP Slides
6.25-6.40pm	<p><b>Table discussion 2: Making it easier for customers to use their energy data to make informed choices</b></p> <ul style="list-style-type: none"> <li>This is the challenge that CitiPower have identified from the feedback so far: <ul style="list-style-type: none"> <li><i>‘Currently customers have little knowledge about their own energy use which limits their ability to: <ul style="list-style-type: none"> <li>manage their own demand</li> <li>make informed choices about their retailer</li> <li>decide on a preferred tariff structure</li> </ul> </i></li> <li><i>Customers must access multiple portals to obtain their energy usage data, outage and service requests.’</i></li> </ul> </li> <li>Do you agree that this is the key ‘challenge’ or problem CitiPower should be solving to ensure customers receive the services they want?</li> <li>Are there any other challenges or problems in data availability and access that CitiPower is not tackling today?</li> </ul> <p><b>GIVE OUT HANDOUT 2 - summary of the 3 options (i.e. blue boxes on presentation)</b></p> <ul style="list-style-type: none"> <li>Recap the options.</li> <li>What are your reactions to the proposed options? Why? <ul style="list-style-type: none"> <li>What are the pros and cons of each?</li> </ul> </li> <li>Are there any other suggestions for solving this problem?</li> </ul> <p><b>GIVE OUT CONSIDERATIONS</b></p> <p><i>The considerations are (same as section 1):</i></p> <ol style="list-style-type: none"> <li><i>Customer choice (e.g. energy sources, usage, tariffs, export or other)</i></li> <li><i>Power quality (i.e. quality variation impacting lighting, appliances)</i></li> <li><i>Cost (i.e. dollar outcomes for customers)</i></li> <li><i>Future flexibility (i.e. capacity to adapt to future needs, investing in assets for future generations)</i></li> </ol>	WR Table Facilitators	HANDOUT 2 on options  + TABLE EXERCISE SECTION 2

	<p>5. <i>Safety (i.e. safety outcomes for people and/or buildings, roadways and vegetation)</i></p> <p>6. <i>Reliability (risk of power failure/outage)</i></p> <p>7. <i>Environment (e.g. outcomes with CO2 emissions and environmental health)</i></p> <ul style="list-style-type: none"> <li>• What impact will each option have on the considerations? Will it have a positive, negative or neutral impact? Why do you say that?</li> <li>• Which are the most important factors to consider for this problem? TRY TO RANK THE TOP THREE IN ORDER FOR THIS PROBLEM</li> <li>• Are there other factors that are important considerations for this problem?</li> <li>• Which is your preferred option? Has it changed after discussing the impacts/trade -offs? If it has, why?</li> </ul> <p><i>When ready, facilitator to give each participant a sticker and ask them to get up and place sticker on the room voting sheets 2.</i></p>		<p>Stickers (different colours for each table)</p> <p>Room voting sheets 2 on wall</p>
6.40	<p><b>Summary of voting for table discussion 2</b></p> <ul style="list-style-type: none"> <li>• Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting sheets 2 on wall
6.40-7.05pm	<b>Dinner</b>		
7.05-7.15pm	<p><b>Presentation 3: Providing a safe environment for workers and customers</b></p> <ul style="list-style-type: none"> <li>• What we have heard</li> <li>• State problem/challenge from customer feedback</li> <li>• Explain our approach to safety risk management</li> <li>• Proposed options for investment including key differences between the options</li> <li>• We want to hear what you think about each option</li> </ul>	Neil Watt	PP Slides
7.15-7.30pm	<p><b>Table discussion 3: Providing a safe environment for workers and customers</b></p> <ul style="list-style-type: none"> <li>• This is the challenge that CitiPower have identified from the feedback so far: <ul style="list-style-type: none"> <li>○ <i>Customers view maintaining the safety of the network and proactively monitoring and replacing assets as the network's core business.</i></li> <li>○ <i>Customers are largely unaware of the risk of safety incidents on our network and the approach taken to managing those risks and the trade-offs between safety and efficient investment.</i></li> </ul> </li> <li>• Do you agree that this is the key 'challenge' or problem CitiPower should be solving to ensure customers receive the</li> </ul>	WR Table Facilitators	HANDOUT 3 on options

	<p>services they want? Keeping in mind that we are talking about the concept of safety on the network, rather than safety of individual assets.</p> <ul style="list-style-type: none"> <li>• Reactions to approach on safety risk management and proposed options for asset replacement? Why?</li> <li>• What is your preference in the trade off between efficient investment and lowering risk to the minimum possible level?</li> </ul> <p><b>Replacement of neutrals</b></p> <ul style="list-style-type: none"> <li>• Which approach to replacement of neutrals are you most comfortable with? What level of risk are you most comfortable with? Why?</li> </ul> <p><b>Dog bones</b></p> <ul style="list-style-type: none"> <li>• Which approach to replacement of dog bones are you most comfortable with? What level of risk are you most comfortable with? Why?</li> </ul> <p><b>Underground pits</b></p> <ul style="list-style-type: none"> <li>• Which approach to replacement of underground pits are you most comfortable with? What level of risk are you most comfortable with? Why?</li> </ul> <p><b>NO CONSIDERATIONS DISCUSSION HERE</b></p> <p><i>When ready, facilitator to give each participant <b>three</b> stickers and ask them to get up and place stickers on the room voting sheets 3.</i></p>		<p>Stickers (different colours for each table)</p> <p>Room voting sheets 3 on wall</p>
7.30-7.35pm	<p><b>Summary of voting for table discussion 3</b></p> <ul style="list-style-type: none"> <li>• Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting sheets 3 on wall
7.35-7.45pm	<p><b>Presentation 4: Providing a reliable electricity supply</b></p> <ul style="list-style-type: none"> <li>• What we have heard</li> <li>• State problem/challenge from customer feedback</li> <li>• Proposed options for investment including key differences between the options</li> </ul> <p>We want to hear what you think about each option</p>	Neil Watt	PP Slides
7.45-8.05pm	<p><b>Table discussion 4: Providing a reliable electricity supply</b></p> <ul style="list-style-type: none"> <li>• This is the challenge that CitiPower have identified from the feedback so far: <ul style="list-style-type: none"> <li>○ <i>Customers are overall satisfied with the reliability of the network and want that level of reliability to be maintained</i></li> <li>○ <i>Customers want CitiPower to invest in the network to improve reliability in areas where it may be relatively poor and maintain it in other areas.</i></li> </ul> </li> </ul>	WR Table Facilitators	HANDOUT 4 on options  + TABLE EXERCISE SECTION 4

	<ul style="list-style-type: none"> <li>Do you agree that this is the key ‘challenge’ or problem CitiPower should be solving to ensure customers receive the services they want?</li> <li>Are there any other challenges or problems with regard to reliability that CitiPower is not tackling today?</li> </ul> <p><b>GIVE OUT HANDOUT 4 - summary of the 3 options (i.e. blue boxes on presentation)</b></p> <ul style="list-style-type: none"> <li>Recap the options and the fact that engineers will make this decision – CitiPower is not relying on customers to make the final decision. What are your reactions to the proposed options? Why?             <ul style="list-style-type: none"> <li>What are the pros and cons of each?</li> </ul> </li> </ul> <p><b>GIVE OUT CONSIDERATIONS</b></p> <p><i>The considerations are (same as section 1 and 2):</i></p> <ol style="list-style-type: none"> <li>Customer choice (e.g. energy sources, usage, tariffs, export or other)</li> <li>Power quality (i.e. quality variation impacting lighting, appliances)</li> <li>Cost (i.e. dollar outcomes for customers)</li> <li>Future flexibility (i.e. capacity to adapt to future needs, investing in assets for future generations)</li> <li>Safety (i.e. safety outcomes for people and/or buildings, roadways and vegetation)</li> <li>Reliability (risk of power failure/outage)</li> <li>Environment (e.g. outcomes with CO2 emissions and environmental health)</li> </ol> <ul style="list-style-type: none"> <li>What impact will each option have on the considerations? Will it have a positive, negative or neutral impact? Why do you say that?</li> <li>Which are the most important factors to consider for this problem? TRY TO RANK THE TOP THREE IN ORDER FOR THIS PROBLEM</li> <li>Are there other factors that are important considerations for this problem?</li> <li>Which is your preferred option? Has it changed after discussing the impacts/trade -offs? If it has, why?</li> </ul> <p><i>When ready, facilitator to give each participant a sticker and ask them to get up and place sticker on the room voting sheets 4.</i></p>		<p>Stickers (different colours for each table)</p> <p>Room voting sheets 4</p>
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8.05	<p><b>Summary of voting for table discussion 4</b></p> <ul style="list-style-type: none"> <li>Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting sheets 4
8.05-8.15pm	<b>Dessert</b>		
8.15-8.25pm	<p><b>Presentation 5: Keeping our prices stable and giving you choice of tariffs</b></p> <ul style="list-style-type: none"> <li>What we have heard</li> <li>Energy usage and price reform</li> <li>Proposed tariff options and pros and cons of each</li> <li>We want to hear which option you prefer</li> </ul>	Jay Stein	PP Slides
8.25-8.50pm	<p><b>Table discussion 5: Keeping our prices stable and giving you choice of tariffs</b></p> <ul style="list-style-type: none"> <li>This is the challenge that CitiPower have identified from the feedback so far: <ul style="list-style-type: none"> <li><i>‘Customers want affordable electricity with simple and fair pricing structures.’</i></li> </ul> </li> <li>Do you agree that this is the key ‘challenge’ or problem?</li> <li>Are there any other challenges or problems in the affordability and pricing area?</li> </ul> <p><b>GIVE OUT HANDOUT 5 - summary of the 4 options</b></p> <ul style="list-style-type: none"> <li><i>Recap the options.</i></li> <li>What are your reactions to the proposed options? Why? <ul style="list-style-type: none"> <li>What are the pros and cons of each?</li> </ul> </li> <li>Are there any other suggestions for pricing options that would suit your usage pattern better?</li> <li>To what extent would you want to, or be able to, change your usage behaviours? How likely would you be to change your behaviours?</li> <li>How much of an incentive would you need to change your behaviours e.g. do washing at night?</li> <li>Which tariff option do you prefer?</li> </ul> <p><b>GIVE OUT CONSIDERATIONS</b></p> <p><i>The considerations are (DIFFERENT TO PREVIOUS SECTIONS):</i></p> <ol style="list-style-type: none"> <li>Optimising solar and batteries - (ability of the pricing option to enable customers to optimise their solar and storage)</li> <li>Flexible network - (impact of the pricing option on likely future investment in the network i.e. Flexible Grid)</li> <li>Bill impact - (the most likely impact on the average customer bill, based on usage and ability to change usage)</li> </ol>	WR Table Facilitators	HANDOUT 5 on options  + TABLE EXERCISE SECTION 5

	<p>4. Achieving savings through demand management - (ability of the pricing option to enable customers to manage demand to achieve savings)</p> <p>5. Need for real time data - (need for customers to proactively use real time energy usage data)</p> <ul style="list-style-type: none"> <li>• What impact will each option have on the considerations? Will it have a positive, negative or neutral impact? Why do you say that?</li> <li>• Which are the most important factors to consider for this problem? TRY TO RANK THE TOP THREE IN ORDER FOR THIS PROBLEM</li> <li>• Are there other factors that are important considerations for this problem?</li> <li>• Which is your preferred option? Has it changed after discussing the considerations? If it has, why?</li> </ul> <p><i>When ready, facilitator to give each participant a sticker and ask them to get up and place sticker on the room voting sheets 5.</i></p>		<p>Stickers (different colours for each table)</p> <p>Room voting sheets 5</p>
8.50	<p><b>Summary of voting for table discussion 5</b></p> <ul style="list-style-type: none"> <li>• Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting sheets 5
8.50-9.00pm	<p><b>Summing up, thank you</b></p> <p><i>CPPCUE closing remarks – what CPPCUE will take from today and confirmation of next steps.</i></p>	CP	PP Slides
9.00pm	<p><b>CLOSE</b></p> <ul style="list-style-type: none"> <li>• Woolcott Research Lead Facilitator – thanks and reminder to fill in end of session questionnaire on tables (this will include if/how they want to keep engaged with CPPCUE)</li> </ul>	WR All	End of Session Questionnaire

**Handout 1: 'Making it easier for customers to export solar and charge their batteries'**

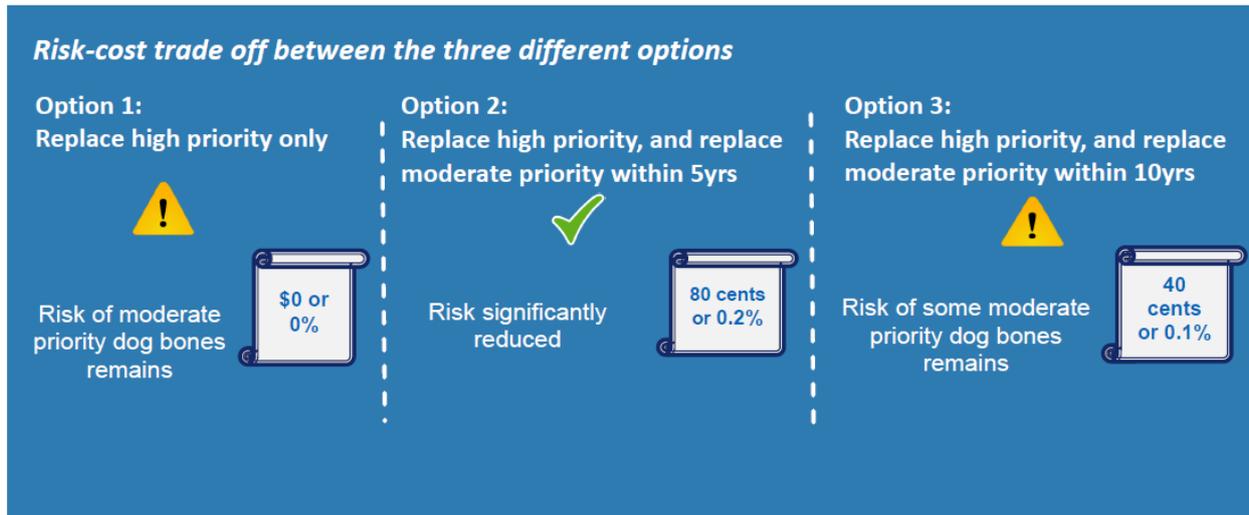
	Electricity export	Power quality	Capital investment	Network management	Annual bill impact
<b>Option 1:</b> Limit exports to manage the network	 Exports maybe constrained	 Power quality likely to get worse	\$0 No investment in network assets or IT	 Inefficient as no visibility of low-voltage network	 \$0
<b>Option 2:</b> Build capacity to cope with more exporting	 Electricity export enabled	 Power quality issues may still arise	\$10M Investment in network assets with 50-year life	 Inefficient - not making best use of existing network	 \$1.3 or 0.4%
<b>Option 3:</b> Introduce Flexible Grid technology	 Electricity export enabled	 Power quality maintained	\$7M Investment in IT systems with 6-year life	 Improved network efficiency and fewer losses	 \$3.20 or 0.9%

**Handout 2: 'Preparing the network to be as flexible as you'**

	Real-time data	Ease of access	Real-time notifications	Capital investment	Annual bill impact
<b>Option 1:</b> <i>No changes to customer portals or services</i>	 Usage data provided the next day	 Data could be more accessible	 Customers are only notified of urgent events	\$0 No investment in network assets or IT	 \$0
<b>Option 2:</b> <i>Invest in 'one-stop-shop' portal</i>	 Usage data provided the next day	 All data at one access point	 Customers notified of all relevant events	\$1.8M Investment in IT systems with 6-year life	 80 cents or 0.2%
<b>Option 3:</b> <i>Invest in 'one-stop-shop' portal and real-time usage data access</i>	 Usage data provided the next day	 All data at one access point	 Customers notified of all relevant events	\$4M Investment in IT systems with 6-year life	 \$1.90 or 0.5%

### Handout 3a: 'Providing a safe environment for workers and customers'

#### Replacement of 'Dog Bones'



### Handout 3b: 'Providing a safe environment for workers and customers'

#### Security of underground pits



**Handout 3c: 'Providing a safe environment for workers and customers'**

**Replacement of 'neutrals' at home**

*Risk-cost trade off between the different options*

<p><b>Option 1:</b> Do not test and replace any neutrals</p>  <p>Risk of faulty neutrals remains</p>	<p><b>Option 2:</b> Test and replace the faulty neutrals</p>  <p>Risk significantly reduced</p> 
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**Handout 4: 'Providing a reliable supply of electricity'**

	Condition of the asset	Capacity for growth	Capital investment	Value of risk	Annual value of risk
<p><b>Option 1:</b> Continue to maintain and monitor asset condition</p>	 Condition getting worse over time	 No capacity for customer growth	\$0 No investment in network assets of 50-year lives	\$23M Risk is high	
<p><b>Option 2:</b> Replace existing assets at Port Melbourne</p>	 Condition improved	 No capacity for customer growth	\$23.1M Investment in new network assets with 50-year life	\$2.9M Risk is low	
<p><b>Option 3:</b> Retire the assets in Port Melbourne, move its customers to Westgate zone substation and upgrade the Westgate substation</p>	 Condition improved	 Allows growth in customers	\$21.6M Investment in new network assets with 50-year life	\$2.9M Risk is low	

**Handout 5: 'Maintaining affordability'**

	Simplicity	Economic efficiency	Change in behaviour	Equality
<b>Option 1: Flat rate</b>	 Relatively simple to understand	 Does not reflect actual cost of providing the service	 Moving usage to a different time does not affect bill	 All customers pay the same
<b>Option 2: Time of use tariff</b>	 More complex to understand	 Somewhat cost-reflective of service	 Moving usage to off-peak can reduce bills	 Not all customers can change
<b>Option 3: Peak usage bands</b>	 Somewhat more complex to understand	 Closer to reflecting the actual cost of providing the service	 Moving usage to off-peak can reduce bills	 Some customers are unable to shift usage to off-peak
<b>Option 4: Demand pricing</b>	 More complex to understand	 Closer to reflecting the actual cost of providing the service	 Moving usage to off-peak can reduce bills	 Some customers are unable to shift usage to off-peak

## Appendix 2: Powercor Agenda and Materials

### Powercor Investment Options Forum Agenda FINAL - 3.5 hours

Time	Session details	Responsibility	Materials
5.30-5.32pm	<p><b>Welcome</b></p> <ul style="list-style-type: none"> <li>Woolcott Research Lead Facilitator to welcome and thank participants for coming back</li> <li>Explain who is in the room: <ul style="list-style-type: none"> <li>Residents and small and medium businesses in the Powercor area</li> <li>Local Council representatives and other local stakeholders</li> </ul> </li> <li>Introduce opening speaker</li> </ul>	WR Lead Facilitator	
5.32-5.40pm	<p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>CPPCUE to welcome back and thank for coming.</li> <li>Give context to the engagement – Regulatory Reset</li> <li>Explain objectives and purpose of the forum: <ul style="list-style-type: none"> <li>We are going to present what we have heard so far from customers for each section and our related proposals.</li> <li>We want to hear your feedback on the options for investment – which one you prefer.</li> </ul> </li> <li>How we have engaged so far</li> <li>Our performance, and aims for the future</li> <li>How we set our prices and reducing network tariffs</li> </ul>	Renate Vogt	PP Slides
5.40-5.45pm	<p><b>How the session will run</b></p> <ul style="list-style-type: none"> <li>Purpose of tonight</li> <li>Brief outline of the session agenda</li> <li>Guidelines</li> <li>Housekeeping (mobiles off, toilets, fire evacuation)</li> </ul>	WR Lead Facilitator	PP Slides
5.45-5.55pm	<p><b>Presentation 1: Making it easier for customers to export solar and charge their batteries</b></p> <ul style="list-style-type: none"> <li>What we have heard</li> <li>State problem/challenge from customer feedback</li> <li>Proposed options for investment including key differences between the options</li> <li>We want to hear what you think about each option</li> </ul>	Megan Willcox	PP Slides
5.55-6.10pm	<p><b>Table discussion 1: Making it easier for customers to export solar and charge batteries</b></p> <ul style="list-style-type: none"> <li>This is the challenge Powercor have identified from the feedback so far:</li> </ul>	WR Table Facilitators	HANDOUT 1 on options

	<ul style="list-style-type: none"> <li>• <i>‘Customers want to be able to export their spare electricity from solar, batteries or any other technologies:</i> <ul style="list-style-type: none"> <li>○ <i>without being constrained by network capacity</i></li> <li>○ <i>without sacrificing power quality</i></li> <li>○ <i>at a reasonable cost of connection.</i></li> </ul> </li> <li>• Do you agree that this is the key ‘challenge’ or problem Powercor should be solving to ensure customers receive the services they want?</li> <li>• Are there any other challenges or problems in the exporting of electricity that Powercor is not tackling today?</li> </ul> <p><b>GIVE OUT HANDOUT 1 - summary of the 3 options (i.e. blue boxes on presentation)</b></p> <ul style="list-style-type: none"> <li>• What are your reactions to the proposed options? Why? <ul style="list-style-type: none"> <li>○ What are the pros and cons of each?</li> </ul> </li> <li>• Are there any other suggestions for solving this problem?</li> <li>• Which is your preferred option?</li> <li>• <b>What are the most important factors in your decision to choose that option? Talk me through your decision making.</b></li> <li>• What did you weigh up?</li> </ul> <p><b><i>Explain the fact that option 2 is a larger investment but over a longer period (so lower bill impact) than option 3 which is a smaller investment but over a shorter period so has a higher bill impact.</i></b></p> <ul style="list-style-type: none"> <li>• Do you prefer a longer or shorter investment period? Why?</li> </ul> <p><b><i>Explain that with any longer term option there is a lower bill impact but there is a risk that it may not be needed that far into the future but we will still be paying for it.</i></b></p> <ul style="list-style-type: none"> <li>• What do you think of this? Does this change your views at all?</li> </ul> <p><b>GIVE OUT CONSIDERATIONS HANDOUT – EXPLAIN THAT NOT ALL ARE RELEVANT TO EACH SECTION</b></p> <ul style="list-style-type: none"> <li>• These are some possible considerations when deciding on which option to choose. Which of these do you think is important and why?</li> <li>• How does each option impact each of the important considerations?</li> <li>• Are there other factors that are important considerations for this problem?</li> </ul> <p><i>When ready, facilitator to give each participant a sticker and ask them to get up and place sticker on the room voting sheets 1.</i></p>		<p>+ CONSIDERATIONS HANDOUT</p> <p>Stickers (different colours for each type of participant)</p> <p>Room voting sheets 1 on wall</p>
6.10	<p><b>Summary of voting for table discussion 1</b></p> <ul style="list-style-type: none"> <li>• Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting

			sheets 1 on wall
6.10-6.20pm	<p><b>Presentation 2: Making it easier for renewables to connect</b></p> <ul style="list-style-type: none"> <li>• What we have heard</li> <li>• State problem/challenge from customer feedback</li> <li>• Proposed options for investment including key differences between the options</li> <li>• We want to hear what you think about each option</li> </ul>	Elizabeth Carlile	PP Slides
6.20-6.35pm	<p><b>Table discussion 2: Making it easier for renewables to connect</b></p> <ul style="list-style-type: none"> <li>• This is the challenge that Powercor have identified from the feedback so far: <ul style="list-style-type: none"> <li>○ <i>‘Customers want us to contribute to the growth of large renewables but the current network capacity limits their connection to the network.’</i></li> </ul> </li> <li>• Do you agree that this is the key ‘challenge’ or problem Powercor should be solving to ensure customers receive the services they want?</li> <li>• Are there any other challenges or problems in making it easier for renewables to connect?</li> </ul> <p><b>GIVE OUT HANDOUT 2 - summary of the 3 options (i.e. blue boxes on presentation)</b></p> <ul style="list-style-type: none"> <li>• What are your reactions to the proposed options? Why? <ul style="list-style-type: none"> <li>○ What are the pros and cons of each?</li> </ul> </li> <li>• Are there any other suggestions for solving this problem?</li> <li>• Which is your preferred option?</li> <li>• <b>What are the most important factors in your decision to choose that option? Talk me through your decision making.</b></li> <li>• What did you weigh up?</li> </ul> <p><b>REFER TO CONSIDERATIONS HANDOUT – EXPLAIN THAT NOT ALL ARE RELEVANT TO EACH SECTION</b></p> <ul style="list-style-type: none"> <li>• These are some possible considerations when deciding on which option to choose. Which of these do you think is important and why?</li> <li>• How do the three options rate on the important considerations?</li> <li>• Are there other factors that are important considerations for this problem?</li> </ul> <p><i>When ready, facilitator to give each participant a sticker and ask them to get up and place sticker on the room voting sheets 2.</i></p>	WR Table Facilitators	HANDOUT 2 on options
6.35	<p><b>Summary of voting for table discussion 2</b></p> <ul style="list-style-type: none"> <li>• Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Stickers (different colours for each table)  Room voting sheets 2 on wall
			Room voting

			sheets 2 on wall
6.35-6.55pm	<b>Dinner</b>		
6.55-7.05pm	<p><b>Presentation 3: Making it easier for customers to use their energy data to make informed choices</b></p> <ul style="list-style-type: none"> <li>• What we have heard</li> <li>• State problem/challenge from customer feedback</li> <li>• Proposed options for investment including key differences between the options</li> <li>• We want to hear what you think about each option</li> </ul>	Megan Willcox	PP Slides
7.05-7.20pm	<p><b>Table discussion 3: Making it easier for customers to use their energy data to make informed choices</b></p> <ul style="list-style-type: none"> <li>• This is the challenge that Powercor have identified from the feedback so far: <ul style="list-style-type: none"> <li>○ <i>‘Currently customers have little knowledge about their own energy use which limits their ability to: <ul style="list-style-type: none"> <li>▪ manage their own demand</li> <li>▪ make informed choices about their retailer</li> <li>▪ decide on a preferred tariff structure</li> </ul> </i></li> <li>○ <i>Customers must access multiple portals to obtain their energy usage data, outage and service requests.’</i></li> </ul> </li> <li>• Do you agree that this is the key ‘challenge’ or problem Powercor should be solving to ensure customers receive the services they want?</li> <li>• Are there any other challenges or problems in data availability and access that Powercor is not tackling today?</li> </ul> <p><b>GIVE OUT HANDOUT 3 - summary of the 3 options (i.e. blue boxes on presentation)</b></p> <ul style="list-style-type: none"> <li>• What are your reactions to the proposed options? Why? <ul style="list-style-type: none"> <li>○ What are the pros and cons of each?</li> </ul> </li> <li>• Are there any other suggestions for solving this problem?</li> <li>• Which is your preferred option?</li> <li>• <b>What are the most important factors in your decision to choose that option? Talk me through your decision making.</b></li> <li>• What did you weigh up?</li> </ul> <p><b>REFER TO CONSIDERATIONS HANDOUT – EXPLAIN THAT NOT ALL ARE RELEVANT TO EACH SECTION</b></p> <ul style="list-style-type: none"> <li>• These are some possible considerations when deciding on which option to choose. Which of these do you think is important and why?</li> <li>• How do the three options rate on the important considerations?</li> </ul>	WR Table Facilitators	HANDOUT 3 on options

Stickers (different colours for each table)

	<ul style="list-style-type: none"> <li>Are there other factors that are important considerations for this problem?</li> </ul> <p><i>When ready, facilitator to give each participant a sticker and ask them to get up and place sticker on the room voting sheets 3.</i></p>		Room voting sheets 3 on wall
7.20	<p><b>Summary of voting for table discussion 3</b></p> <ul style="list-style-type: none"> <li>Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting sheets 3 on wall
7.20-7.30pm	<p><b>Presentation 4: Simple, affordable &amp; fair – What is important to you?</b></p> <ul style="list-style-type: none"> <li>What we have heard</li> <li>Energy usage and price reform</li> <li>Proposed tariff options and pros and cons of each</li> <li>We want to hear which option you prefer</li> </ul>	Mark de Villiers	PP Slides
7.30-7.50pm	<p><b>Table discussion 4: Simple, affordable &amp; fair – What is important to you?</b></p> <ul style="list-style-type: none"> <li>This is the challenge that Powercor have identified from the feedback so far: <ul style="list-style-type: none"> <li><i>‘Customers want affordable electricity with simple and fair pricing structures.’</i></li> </ul> </li> <li>Do you agree that this is the key ‘challenge’ or problem?</li> <li>Are there any other challenges or problems in the affordability and pricing area?</li> </ul> <p><b>GIVE OUT HANDOUT 4 - summary of the 4 options</b></p> <ul style="list-style-type: none"> <li>What are your reactions to the proposed options? Why? <ul style="list-style-type: none"> <li>What are the pros and cons of each?</li> </ul> </li> <li>Which tariff option do you prefer?</li> <li><b>What are the most important factors in your decision to choose that option? Talk me through your decision making.</b></li> <li>What did you weigh up?</li> <li>Are there any other suggestions for pricing options?</li> <li>To what extent would you- want to, or be able to, change your usage behaviours?</li> <li>How likely would you be to change your behaviours?</li> <li>How much of an incentive would you need to change your behaviours e.g. do washing at night?</li> <li>In summary, which would you prefer - short term or long term benefit? <ul style="list-style-type: none"> <li>- <b>short term benefit (and long-term loss):</b> if the tariffs stay as they are today (flat tariff), customers can continue to use electricity as they do and their bills don't change - but if everyone continues to use at peak</li> </ul> </li> </ul>	WR Table Facilitators	HANDOUT 4 on options

	<p>CPPCUE will continue to spend money to build the network to accommodate that peak (as population grows, more people are added to the peak and we spend more money on new assets to accommodate that)</p> <ul style="list-style-type: none"> <li>- <b>long term benefit (and short term pain):</b> if we change to tariffs that charge more at peak time, customers would either adjust their behaviour to use less at peak time or pay more if they don't change their behaviour. But as most people will probably adjust their behaviour to avoid paying a higher bill there will be less peak usage and CPPCUE don't have to build as much, costing customers less in the long run</li> <li>• Does thinking about the above short and long term impacts change your decision or not?</li> </ul> <p><i>When ready, facilitator to give each participant a sticker and ask them to get up and place sticker on the room voting sheets 4.</i></p>		<p>Stickers (different colours for each table)</p> <p>Room voting sheets 4</p>
7.50	<p><b>Summary of voting for table discussion 4</b></p> <ul style="list-style-type: none"> <li>• Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting sheets 4 on wall
7.50-8.00pm	<b>Dessert</b>		
8.00-8.10pm	<p><b>Presentation 5: Providing a safe environment for workers and customers</b></p> <ul style="list-style-type: none"> <li>• What we have heard</li> <li>• State problem/challenge from customer feedback</li> <li>• Explain our approach to safety risk management</li> <li>• Proposed options for investment including key differences between the options</li> <li>• We want to hear what you think about each option</li> </ul>	Elizabeth Carlile	PP Slides
8.10-8.25pm	<p><b>Table discussion 5: Providing a safe environment for workers and customers</b></p> <ul style="list-style-type: none"> <li>• This is the challenge that Powercor have identified from the feedback so far: <ul style="list-style-type: none"> <li>○ <i>Customers view maintaining the safety of the network and proactively monitoring and replacing assets as the network's core business.</i></li> <li>○ <i>Customers are largely unaware of the risk of safety incidents on our network and the approach taken to managing those risks and the trade-offs between safety and efficient investment.</i></li> </ul> </li> <li>• Do you agree that this is the key 'challenge' or problem Powercor should be solving to ensure customers receive the services they want? Keeping in mind that we are talking</li> </ul>	WR Table Facilitators	HANDOUT 5 on options

	<p>about the concept of safety on the network, rather than safety of individual assets.</p> <ul style="list-style-type: none"> <li>• Reactions to approach on safety risk management and proposed options for asset replacement? Why?</li> <li>• What is your preference in the trade off between efficient investment and lowering risk to the minimum possible level?</li> </ul> <p><b>GIVE OUT HANDOUT 5a - summary of the options for dog bones (i.e. blue boxes on presentation)</b></p> <p><b>Dog bones</b></p> <ul style="list-style-type: none"> <li>• Which approach to replacement of dog bones are you most comfortable with? What level of risk are you most comfortable with? Why?</li> </ul> <p><b>GIVE OUT HANDOUT 5b - summary of the options for neutrals (i.e. blue boxes on presentation)</b></p> <p><b>Replacement of neutrals</b></p> <ul style="list-style-type: none"> <li>• Which approach to replacement of neutrals are you most comfortable with? What level of risk are you most comfortable with? Why?</li> </ul> <p><i>When ready, facilitator to give each participant <b>two</b> stickers and ask them to get up and place stickers on the room voting sheets 5.</i></p>		<p>Stickers (different colours for each table)</p> <p>Room voting sheets 5 on wall</p>
8.25	<p><b>Summary of voting for table discussion 5</b></p> <ul style="list-style-type: none"> <li>• Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting sheets 5
8.25-8.35pm	<p><b>Presentation 6: Providing a reliable electricity supply</b></p> <ul style="list-style-type: none"> <li>• What we have heard</li> <li>• State problem/challenge from customer feedback</li> <li>• Proposed options for investment including key differences between the options</li> </ul> <p>We want to hear what you think about each option</p>	Brent Cleeve	PP Slides
8.35-8.50pm	<p><b>Table discussion 6: Providing a reliable electricity supply</b></p> <ul style="list-style-type: none"> <li>• This is the challenge that Powercor have identified from the feedback so far: <ul style="list-style-type: none"> <li>○ <i>Customers are overall satisfied with the reliability of the network and want that level of reliability to be maintained</i></li> <li>○ <i>Customers want Powercor to invest in the network to improve reliability in areas where it may be relatively poor and maintain it in other areas.</i></li> </ul> </li> </ul>	WR Table Facilitators	HANDOUT 6 on options

	<ul style="list-style-type: none"> <li>Do you agree that this is the key ‘challenge’ or problem Powercor should be solving to ensure customers receive the services they want?</li> <li>Are there any other challenges or problems with regard to reliability that Powercor is not tackling today?</li> </ul> <p><b>GIVE OUT HANDOUT 6 - summary of the options (i.e. blue boxes on presentation)</b></p> <ul style="list-style-type: none"> <li>What are your reactions to the proposed options? Why?             <ul style="list-style-type: none"> <li>What are the pros and cons of each?</li> </ul> </li> <li>Are there any other suggestions for solving this problem?</li> <li>Which is your preferred option?</li> <li><b>What are the most important factors in your decision to choose that option? Talk me through your decision making.</b></li> <li>What did you weigh up?</li> </ul> <p><b>REFER TO CONSIDERATIONS HANDOUT – EXPLAIN THAT NOT ALL ARE RELEVANT TO EACH SECTION</b></p> <ul style="list-style-type: none"> <li>These are some possible considerations when deciding on which option to choose. Which of these do you think is important and why?</li> <li>How do the options rate on the important considerations?</li> <li>Are there other factors that are important considerations for this problem?</li> </ul> <p><i>When ready, facilitator to give each participant a sticker and ask them to get up and place sticker on the room voting sheets 6.</i></p>		<p>Stickers (different colours for each table)</p> <p>Room voting sheets 6</p>
8.50	<p><b>Summary of voting for table discussion 6</b></p> <ul style="list-style-type: none"> <li>Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting sheets 6
8.50-9.00pm	<p><b>Summing up, thank you</b></p> <p><i>CPPCUE closing remarks – what CPPCUE will take from today and confirmation of next steps.</i></p>	CP	PP Slides
9.00pm	<p><b>CLOSE</b></p> <p><i>Woolcott Research Lead Facilitator – thanks and reminder to fill in end of session questionnaire on tables (this will include if/how they want to keep engaged with CPPCUE)</i></p>	WR All	End of Session Questionnaire

## Considerations

*Below are some examples of possible considerations to take into account when deciding on your preferred option.*



**Customer choice** - do customers have a choice in how they use, generate and export electricity within this option?



**Power quality** – are there power quality issues that may impact electricity supply and the life of appliances within this option?



**Cost** – how much will this option cost the average customer?



**Flexibility of the network** – how does this option impact the network's capacity to adapt to future needs (e.g. future needs could involve increased or decreased demand)?



**Safety** – is there an impact on the safety of the network with this option?

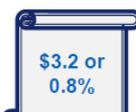


**Reliability** - is there an impact on the frequency and duration of outages within this option?



**Environment** – does this option promote a greener future and lower CO<sub>2</sub> emissions?

**Handout 1: 'Making it easier for customers to export solar and charge their batteries'**

	Electricity export	Power quality	Capital investment	Network management	Annual bill impact
<b>Option 1:</b> Limit exports to manage the network	 Exports maybe constrained	 Power quality likely to get worse	\$0 No investment in network assets or IT	 Inefficient as no visibility of low-voltage network	 \$0 or 0%
<b>Option 2:</b> Build capacity to cope with more exporting	 Electricity export enabled	 Power quality issues may still arise	\$61M Investment in network assets with 50-year life	 Inefficient - not making best use of existing network	 \$3.2 or 0.8%
<b>Option 3:</b> Introduce Flexible Grid technology	 Electricity export enabled	 Power quality maintained	\$27M Investment in IT systems with 6-year life	 Improved network efficiency and fewer losses	 \$5.10 or 1.2%

**Handout 2: 'Making it easier for renewables to connect'**

	Renewable capacity	Ease of connection	Capital investment	Annual bill impact
<b>Option 1:</b> <i>Expand the network for each generator that connects, generator pays</i>	 Capacity may not increase if generators cannot afford to connect	 Connection is more difficult and takes longer to complete	\$0 All investment recovered from the generator	 \$0 or 0%
<b>Option 2:</b> <i>Invest in hubs where generators connect for free, customers pay</i>	 Capacity is likely to increase at a faster rate	 Connections would be easier and faster	\$19M Investment in network assets with 50-year lives	 \$1 or 0.2%
<b>Option 3:</b> <i>Invest in hubs where customers pay initially, generators pay customers when they connect</i>	 Capacity is likely to increase at a faster rate	 Connections would be easier and faster	\$19M Investment in network assets with 50-year lives	 \$0-\$1 or 0.2% or less

**Handout 3: 'Making it easier for customers to use their energy data to make informed choices'**

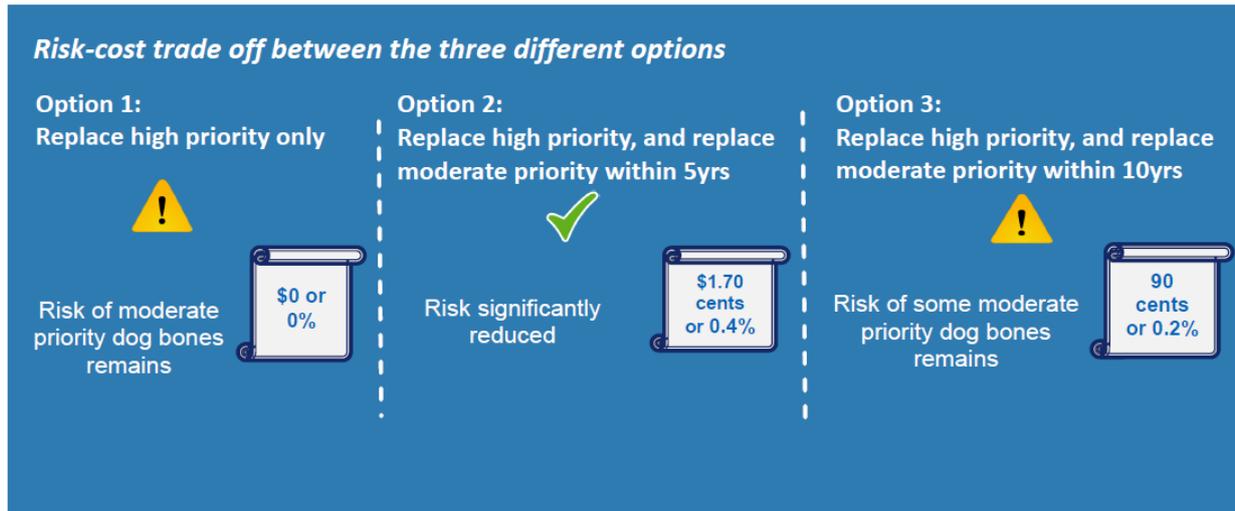
	Real-time data	Ease of access	Real-time notifications	Capital investment	Annual bill impact
<b>Option 1:</b> <i>No changes to customer portals or services</i>	 Usage data provided the next day	 Data could be more accessible	 Customers are only notified of urgent events	<b>\$0</b> No investment in network assets or IT	 <b>\$0 or 0%</b>
<b>Option 2:</b> <i>Invest in 'one-stop-shop' portal</i>	 Usage data provided the next day	 All data at one access point	 Customers notified of all relevant events	<b>\$4M</b> Investment in IT systems with 6-year life	 <b>80 cents or 0.2%</b>
<b>Option 3:</b> <i>Invest in 'one-stop-shop' portal and real-time usage data access</i>	 Usage data provided near instantly	 All data at one access point	 Customers notified of all relevant events	<b>\$8M</b> Investment in IT systems with 6-year life	 <b>\$1.50 or 0.4%</b>

**Handout 4: 'Maintaining affordability'**

	Simplicity	Alignment to cost
<b>Option 1:</b> Flat rate	 Simple to understand	 Does not reflect actual cost of providing the service
<b>Option 2:</b> Time of use tariff	 Relatively simple to understand	 Partial alignment to cost of providing the service
<b>Option 3:</b> Peak usage bands	 Moderately difficult to understand	 Partial alignment to cost of providing the service
<b>Option 4:</b> Demand pricing	 Difficult to understand	 Good alignment to cost of providing the service

### Handout 5a: 'Providing a safe environment for workers and customers'

#### Replacement of 'Dog Bones'



### Handout 5b: 'Providing a safe environment for workers and customers'

#### Replacement of 'neutrals' at home



**Handout 6: 'Providing a reliable supply of electricity'**

	Network reliability	Reliability in poorer areas	Capital investment	Compensation payments	Annual value of risk
<b>Option 1:</b> Maintain current levels of reliability and compensation payments	 Average reliability maintained	 Some customers have poor reliability	<b>\$0</b> No investment in network assets of 50-year lives	<b>\$0M</b> No additional compensation payments	 <b>\$0</b>
<b>Option 2:</b> Improve areas of poor reliability to the average level of reliability	 Average reliability maintained	 All customers have average level of reliability	<b>\$50M</b> Large investment in network assets of 50-year lives	<b>\$0M</b> No additional compensation payments	 <b>\$2.60</b> or 0.6%
<b>Option 3:</b> Increase compensation payments	 Average reliability maintained	 Some customers have poor reliability	<b>\$0</b> No investment in network assets of 50-year lives	<b>\$3M</b> Higher compensation payments, up to 100% increase	 <b>70 cents</b> or 0.1%

## Appendix 3: United Energy Agenda and Materials

### United Energy Investment Options Forum Agenda Draft 1 - 3.5 hours

Time	Session details	Responsibility	Materials
5.30-5.32pm	<p><b>Welcome</b></p> <ul style="list-style-type: none"> <li>Woolcott Research Lead Facilitator to welcome and thank participants for coming back</li> <li>Explain who is in the room: <ul style="list-style-type: none"> <li>Residents and small and medium businesses in the United Energy area</li> <li>Local Council representatives and other local stakeholders</li> </ul> </li> <li>Introduce opening speaker</li> </ul>	WR Lead Facilitator	
5.32-5.40pm	<p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>CPPCUE to welcome back and thank for coming.</li> <li>Give context to the engagement – Regulatory Reset</li> <li>Explain objectives and purpose of the forum: <ul style="list-style-type: none"> <li>We are going to present what we have heard so far from customers for each section and our related proposals.</li> <li>We want to hear your feedback on the options for investment – which one you prefer.</li> </ul> </li> <li>How we have engaged so far</li> <li>Our performance, and aims for the future</li> <li>How we set our prices and reducing network tariffs</li> </ul>	Renate Vogt	PP Slides
5.40-5.45pm	<p><b>How the session will run</b></p> <ul style="list-style-type: none"> <li>Purpose of tonight</li> <li>Brief outline of the session agenda</li> <li>Guidelines</li> <li>Housekeeping (mobiles off, toilets, fire evacuation)</li> </ul>	WR Lead Facilitator	PP Slides
5.45-5.55pm	<p><b>Presentation 1: Making it easier for customers to export solar and charge their batteries</b></p> <ul style="list-style-type: none"> <li>What we have heard</li> <li>State problem/challenge from customer feedback</li> <li>Proposed options for investment including key differences between the options</li> <li>We want to hear what you think about each option</li> </ul>	Megan Willcox	PP Slides
5.55-6.15pm	<p><b>Table discussion 1: Making it easier for customers to export solar and charge batteries</b></p> <ul style="list-style-type: none"> <li>This is the challenge United Energy have identified from the feedback so far:</li> </ul>	WR Table Facilitators	HANDOUT 1 on options



			sheets 1 on wall
6.15-6.25pm	<p><b>Presentation 2: Simple, affordable &amp; fair – What is important to you?</b></p> <ul style="list-style-type: none"> <li>• What we have heard</li> <li>• Energy usage and price reform</li> <li>• Proposed tariff options and pros and cons of each</li> <li>• We want to hear which option you prefer</li> </ul>	Jay Stein	PP Slides
6.25-6.50pm	<p><b>Table discussion 2: Simple, affordable &amp; fair – What is important to you?</b></p> <ul style="list-style-type: none"> <li>• This is the challenge that United Energy have identified from the feedback so far: <ul style="list-style-type: none"> <li>◦ <i>‘Customers want affordable electricity with simple and fair pricing structures.’</i></li> </ul> </li> <li>• Do you agree that this is the key ‘challenge’ or problem?</li> <li>• Are there any other challenges or problems in the affordability and pricing area?</li> </ul> <p><b>GIVE OUT HANDOUT 2 - summary of the 4 options</b></p> <ul style="list-style-type: none"> <li>• What are your reactions to the proposed options? Why? <ul style="list-style-type: none"> <li>◦ What are the pros and cons of each?</li> </ul> </li> <li>• Which tariff option do you prefer?</li> <li>• <b>What are the most important factors in your decision to choose that option? Talk me through your decision making.</b></li> <li>• What did you weigh up?</li> <li>• Are there any other suggestions for pricing options?</li> <li>• To what extent would you want to, or be able to, change your usage behaviours?</li> <li>• How likely would you be to change your behaviours?</li> <li>• How much of an incentive would you need to change your behaviours e.g. do washing at night?</li> <li>• In summary, which would you prefer - short term or long term benefit? <ul style="list-style-type: none"> <li>- <b>short term benefit (and long-term loss):</b> if the tariffs stay as they are today (flat tariff), customers can continue to use electricity as they do and their bills don't change - but if everyone continues to use at peak CPPCUE will continue to spend money to build the network to accommodate that peak (as population grows, more people are added to the peak and we spend more money on new assets to accommodate that)</li> <li>- <b>long term benefit (and short term pain):</b> if we change to tariffs that charge more at peak time, customers</li> </ul> </li> </ul>	WR Table Facilitators	HANDOUT 2 on options

	<p>would either adjust their behaviour to use less at peak time or pay more if they don't change their behaviour. But as most people will probably adjust their behaviour to avoid paying a higher bill there will be less peak usage and CPPCUE don't have to build as much, costing customers less in the long run</p> <ul style="list-style-type: none"> <li>Does thinking about the above short and long term impacts change your decision or not?</li> </ul> <p><i>When ready, facilitator to give each participant a sticker and ask them to get up and place sticker on the room voting sheets 2.</i></p>		<p>Stickers (different colours for each table)</p> <p>Room voting sheets 2</p>
7.50	<p><b>Summary of voting for table discussion 2</b></p> <ul style="list-style-type: none"> <li>Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting sheets 2 on wall
6.50-7.15pm	<b>Dinner</b>		
7.15-7.25pm	<p><b>Presentation 3: Making it easier for customers to use their energy data to make informed choices</b></p> <ul style="list-style-type: none"> <li>What we have heard</li> <li>State problem/challenge from customer feedback</li> <li>Proposed options for investment including key differences between the options</li> <li>We want to hear what you think about each option</li> </ul>	Megan Willcox	PP Slides
7.25-7.45pm	<p><b>Table discussion 3: Making it easier for customers to use their energy data to make informed choices</b></p> <ul style="list-style-type: none"> <li>This is the challenge that United Energy have identified from the feedback so far: <ul style="list-style-type: none"> <li><i>‘Currently customers have little knowledge about their own energy use which limits their ability to: <ul style="list-style-type: none"> <li>manage their own demand</li> <li>make informed choices about their retailer</li> <li>decide on a preferred tariff structure</li> </ul> </i></li> <li><i>Customers must access multiple portals to obtain their energy usage data, outage and service requests.’</i></li> </ul> </li> <li>Do you agree that this is the key ‘challenge’ or problem United Energy should be solving to ensure customers receive the services they want?</li> <li>Are there any other challenges or problems in data availability and access that United Energy is not tackling today?</li> </ul> <p><b>GIVE OUT HANDOUT 3 - summary of the 3 options (i.e. blue boxes on presentation)</b></p>	WR Table Facilitators	HANDOUT 3 on options

	<ul style="list-style-type: none"> <li>• What are your reactions to the proposed options? Why? <ul style="list-style-type: none"> <li>○ What are the pros and cons of each?</li> </ul> </li> <li>• Are there any other suggestions for solving this problem?</li> <li>• Which is your preferred option?</li> <li>• <b>What are the most important factors in your decision to choose that option? Talk me through your decision making.</b></li> <li>• What did you weigh up?</li> </ul> <p><b>REFER TO CONSIDERATIONS HANDOUT – EXPLAIN THAT NOT ALL ARE RELEVANT TO EACH SECTION</b></p> <ul style="list-style-type: none"> <li>• These are some possible considerations when deciding on which option to choose. Which of these do you think is important and why?</li> <li>• How does each option impact each of the important considerations?</li> <li>• Are there other factors that are important considerations for this problem?</li> </ul> <p><i>When ready, facilitator to give each participant a sticker and ask them to get up and place sticker on the room voting sheets 3.</i></p>		<p>Stickers (different colours for each table)</p> <p>Room voting sheets 3 on wall</p>
7.45	<p><b>Summary of voting for table discussion 3</b></p> <ul style="list-style-type: none"> <li>• Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting sheets 3 on wall
7.45-8.00pm	<b>Dessert</b>		
8.00-8.10pm	<p><b>Presentation 4: Providing a safe environment for workers and customers</b></p> <ul style="list-style-type: none"> <li>• What we have heard</li> <li>• State problem/challenge from customer feedback</li> <li>• Explain our approach to safety risk management</li> <li>• Proposed options for investment including key differences between the options</li> <li>• We want to hear what you think about each option</li> </ul>	Craig Savage	PP Slides
8.10-8.25pm	<p><b>Table discussion 4: Providing a safe environment for workers and customers</b></p> <ul style="list-style-type: none"> <li>• This is the challenge that United Energy have identified from the feedback so far: <ul style="list-style-type: none"> <li>○ <i>Customers view maintaining the safety of the network and proactively monitoring and replacing assets as the network’s core business.</i></li> <li>○ <i>Customers are largely unaware of the risk of safety incidents on our network and the approach taken to managing those risks and the trade-offs between safety and efficient investment.</i></li> </ul> </li> </ul>	WR Table Facilitators	HANDOUT 4 on options

	<ul style="list-style-type: none"> <li>Do you agree that this is the key ‘challenge’ or problem United Energy should be solving to ensure customers receive the services they want? Keeping in mind that we are talking about the concept of safety on the network, rather than safety of individual assets.</li> <li>Reactions to approach on safety risk management and proposed options for asset replacement? Why?</li> <li>What is your preference in the trade off between efficient investment and lowering risk to the minimum possible level?</li> </ul> <p><b>GIVE OUT HANDOUT 4 - summaries of the options for each topic (i.e. blue boxes on presentation)</b></p> <p><b>Dog bones</b></p> <ul style="list-style-type: none"> <li>Which approach to replacement of dog bones are you most comfortable with? What level of risk are you most comfortable with? Why?</li> </ul> <p><i>When ready, facilitator to give each participant <b>one</b> sticker and ask them to get up and place stickers on the room voting sheets 4.</i></p>		<p>Stickers (different colours for each table)</p> <p>Room voting sheets 4 on wall</p>
8.25	<p><b>Summary of voting for table discussion 4</b></p> <ul style="list-style-type: none"> <li>Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting sheets 4
8.25-8.35pm	<p><b>Presentation 5: Providing a reliable electricity supply</b></p> <ul style="list-style-type: none"> <li>What we have heard</li> <li>State problem/challenge from customer feedback</li> <li>Proposed options for investment including key differences between the options</li> </ul> <p>We want to hear what you think about each option</p>	Rodney Bray	PP Slides
8.35-8.50pm	<p><b>Table discussion 5: Providing a reliable electricity supply</b></p> <ul style="list-style-type: none"> <li>This is the challenge that United Energy have identified from the feedback so far: <ul style="list-style-type: none"> <li><i>Customers are overall satisfied with the reliability of the network and want that level of reliability to be maintained</i></li> <li><i>Customers want United Energy to invest in the network to improve reliability in areas where it may be relatively poor and maintain it in other areas.</i></li> </ul> </li> <li>Do you agree that this is the key ‘challenge’ or problem United Energy should be solving to ensure customers receive the services they want?</li> <li>Are there any other challenges or problems with regard to reliability that United Energy is not tackling today?</li> </ul>	WR Table Facilitators	HANDOUT 5 on options

	<p><b>GIVE OUT HANDOUT 5 - summary of the options (i.e. blue boxes on presentation)</b></p> <ul style="list-style-type: none"> <li>• What are your reactions to the proposed options? Why? <ul style="list-style-type: none"> <li>○ What are the pros and cons of each?</li> </ul> </li> <li>• Are there any other suggestions for solving this problem?</li> <li>• Which is your preferred option?</li> <li>• <b>What are the most important factors in your decision to choose that option? Talk me through your decision making.</b></li> <li>• What did you weigh up?</li> </ul> <p><b>REFER TO CONSIDERATIONS HANDOUT – EXPLAIN THAT NOT ALL ARE RELEVANT TO EACH SECTION</b></p> <ul style="list-style-type: none"> <li>• These are some possible considerations when deciding on which option to choose. Which of these do you think is important and why?</li> <li>• How does each option impact each of the important considerations?</li> <li>• Are there other factors that are important considerations for this problem?</li> </ul> <p><i>When ready, facilitator to give each participant a sticker and ask them to get up and place sticker on the room voting sheets 5.</i></p>		<p>Stickers (different colours for each table)</p> <p>Room voting sheets 5</p>
8.50	<p><b>Summary of voting for table discussion 5</b></p> <ul style="list-style-type: none"> <li>• Lead facilitator to give overview of the voting for this discussion session.</li> </ul>	WR Lead Facilitator	Room voting sheets 5
8.50-9.00pm	<p><b>Summing up, thank you</b></p> <p><i>CPPCUE closing remarks – what CPPCUE will take from today and confirmation of next steps.</i></p>	CP	PP Slides
9.00pm	<p><b>CLOSE</b></p> <p><i>Woolcott Research Lead Facilitator – thanks and reminder to fill in end of session questionnaire on tables</i></p>	WR All	End of Session Questionnaire

## Considerations

*Below are some examples of possible considerations to take into account when deciding on your preferred option.*



**Customer choice** - do customers have a choice in how they use, generate and export electricity within this option?



**Power quality** – are there power quality issues that may impact electricity supply and the life of appliances within this option?



**Cost** – how much will this option cost the average customer?



**Flexibility of the network** – how does this option impact the network's capacity to adapt to future needs (e.g. future needs could involve increased or decreased demand)?



**Safety** – is there an impact on the safety of the network with this option?



**Reliability** - is there an impact on the frequency and duration of outages within this option?



**Environment** – does this option promote a greener future and lower CO<sub>2</sub> emissions?

**Handout 1: 'Making it easier for customers to export solar and charge their batteries'**

	Electricity export	Power quality	Capital investment	Network management	Annual bill impact
<b>Option 1:</b> Limit exports to manage the network	 Exports maybe constrained	 Power quality issues may still arise	\$0 No investment in network assets or IT	 Inefficient as no visibility of low-voltage network	 \$0
<b>Option 2:</b> Build capacity to cope with more exporting	 Electricity export enabled	 Power quality issues may still arise	\$28M Investment in network assets with 50-year life	 Inefficient - not making best use of existing network	 \$2.10 or 0.6%
<b>Option 3:</b> Introduce Flexible Grid technology	 Electricity export enabled	 Power quality maintained	\$19M Investment in IT systems with 6-year life	 Improved network efficiency and fewer losses	 \$5.30 or 1.6%

**Handout 2: 'Maintaining affordability'**

	Simplicity	Alignment to cost
<b>Option 1:</b> Flat rate	 Simple to understand	 Does not reflect actual cost of providing the service
<b>Option 2:</b> Time of use tariff	 More complex to understand	 Somewhat cost-reflective of service
<b>Option 3:</b> Peak usage bands	 Somewhat more complex to understand	 Closer to reflecting the actual cost of providing the service
<b>Option 4:</b> Demand pricing	 More complex to understand	 Closer to reflecting the actual cost of providing the service

**Handout 3: 'Making it easier for customers to use their energy data to make informed choices'**

	Real-time data	Ease of access	Real-time notifications	Capital investment	Annual bill impact
<b>Option 1:</b> <i>No changes to customer portals or services</i>	 Usage data provided the next day	 Data could be more accessible	 Customers are only notified of urgent events	<b>\$0</b> No investment in network assets or IT	 <b>\$0</b>
<b>Option 2:</b> <i>Invest in 'one-stop-shop' portal</i>	 Usage data provided the next day	 All data at one access point	 Customers notified of all relevant events	<b>\$10M</b> Investment in IT systems with 6-year life	 <b>\$2.90</b> or <b>0.9%</b>
<b>Option 3:</b> <i>Invest in 'one-stop-shop' portal and real-time usage data access</i>	 Usage data provided near instantly	 All data at one access point	 Customers notified of all relevant events	<b>\$14M</b> Investment in IT systems with 6-year life	 <b>\$3.90</b> or <b>1.2%</b>

**Handout 4: 'Providing a safe environment for workers and customers'**

**Replacement of 'Dog Bones'**

*Risk-cost trade off between the three different options*

<p><b>Option 1:</b> Replace high priority only</p> <p></p> <p>Safety risk of moderate priority dog bones remains</p> <p> <b>\$0</b></p>	<p><b>Option 2:</b> Replace high priority, and replace moderate priority within 5yrs</p> <p></p> <p>Safety risk significantly reduced</p> <p> <b>90 cents</b> or <b>0.3%</b></p>	<p><b>Option 3:</b> Replace high priority, and replace moderate priority within 10yrs</p> <p></p> <p>Safety risk of some moderate priority dog bones remains</p> <p> <b>45 cents</b> or <b>0.1%</b></p>
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**Handout 5: 'Providing a reliable supply of electricity'**

	Condition of the asset	Capacity for growth	Capital investment	Value of risk	Annual bill impact
<b>Option 1:</b> Continue to maintain and monitor asset condition	 Condition getting worse over time	 No capacity for customer growth	\$0 No investment in new network assets of 50-year lives	\$35M Risk is high	 \$2.70 or 0.8%
<b>Option 2:</b> Replace one transformer at Doncaster zone substation in 2021	 Condition improved	 No capacity for customer growth	\$6M Investment in new network assets with 50-year life	\$2M Risk is low	 60 cents or 0.2%
<b>Option 3:</b> Invest in a 4th transformer at Doncaster zone substation in 2025	 Condition improved	 Allows growth in customers	\$6M Investment in new network assets with 50-year life	\$1M Risk is low	 50 cents or 0.2%
<b>Option 4:</b> Employ demand management to defer capital investment	 Condition improved	 Allows growth in customers	\$3M Investment in network assets of 50-year lives + \$1M investment in operating expenditure for demand management	\$3M Risk is low	 50 cents or 0.2%