



**Phase 4 Commercial and Industrial Customers and Industry Associations**

**Report on key findings**

**September 2019**

## Contents

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<b>Executive Summary .....</b>	<b>3</b>
Key issues and developments .....	3
Overall feedback .....	3
Resilient network .....	4
Digital network.....	4
Affordable network.....	4
Improved customer service .....	5
Future engagement .....	5
<b>1.0 Introduction.....</b>	<b>6</b>
<b>2.0 Methodology .....</b>	<b>7</b>
2.1 Customer and industry association recruitment .....	7
2.2 Discussion topics.....	8
2.3 Data capture and analysis.....	8
<b>3.0 Key Findings.....</b>	<b>9</b>
3.1 Business Developments, Industry Issues and Energy Planning .....	9
3.2 Overall Reactions to the Draft Proposal and Short Document.....	11
3.3 Resilient Network – Reliability and Quality .....	14
3.4 Digital Network .....	18
3.5 Affordable Network .....	19
3.6 New Connections .....	22
3.7 Safety .....	22
3.8 Improved Customer Service .....	22
3.9 Future engagement .....	26
<b>Appendix A: Interview Topic Guide for C&amp;I Customers .....</b>	<b>27</b>
<b>Appendix B: Pre-reading materials.....</b>	<b>32</b>

## Executive Summary

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This report outlines the findings of Commercial and Industrial (C&I) customer interviews undertaken in Phase 4 of the CitiPower, Powercor and United Energy (CPPCUE) Energised 2021-2026 engagement and research program. This program is being conducted to inform the development of the distributors' regulatory submissions to the Australian Energy Regulator.

In this component of the program, seventeen (17) interviews were conducted - fifteen (15) with C&I customers across an array of industries and two (2) with representatives from industry associations, these being the Australian Industry Group (Ai Group) and Dairy Australia. All participants had taken part in previous interviews during either phase 2 or 3.

The objective of the interviews was to obtain feedback on some of the programs from the draft regulatory proposals that could support C&I customers. Each participant was emailed a short document that highlighted these programs prior to their interview. The discussion guide for the interviews included questions that covered recent developments in their businesses that impact electricity usage, plans for the future, overall reactions to the regulatory draft proposals and specific reactions to proposals for a resilient, digital and affordable network as well as improving customer service. The main findings are outlined below.

### Key issues and developments

For most C&I customers, the important priorities for electricity distribution remain ensuring a consistent electricity supply at an affordable price. Although outages are rare, variations in power quality are significant disruptors, even small dips and surges in supply, which result in considerable impacts on equipment and processes. They would value increased communication and visibility of data on these issues in order to be able to manage any potential problems.

Since the last time we interviewed them, some C&I customers have moved further towards an increased use of renewables, such as the development of new solar farms. Although it varied between customers, at this stage most of these moves resemble 'a toe in the water' rather than widespread use. Motivation for these moves is predominantly to meet government targets (e.g. VRET), appear greener for a competitive advantage but it was emphasised that they also have to make sense financially.

C&I customers support the 'Green Power' future scenario outlined in the pre-reading materials – indeed a greener future is expected, desired and being planned for. However, they do not want the distributors to focus on facilitating the use of renewables at the expense of providing a consistent high quality supply to meet the core needs of large customers.

### Overall feedback

Overall the C&I customers are supportive of the proposals by CPPCUE, however the perception is that some are only really relevant to residential customers (rooftop solar) and that some should simply be business as usual (IT security, network safety). Projects related to adding capacity to ensure that future demand is met

were singled out as important. There were some questions regarding the costs of these proposals to C&I customers.

### Resilient network

Feedback is positive regarding the upgrade projects mentioned in the proposals, particularly if they are located near the customer's centres of operation. They are also supportive of a focus on demand management and connecting wind and solar farms to defer further upgrade investment in the Powercor area.

As mentioned, outages are considered very rare so not as much of a concern to these customers as power quality issues (voltage dips/surges). The main feedback regarding outages is that the distributors should ensure that sufficient notice is provided prior to planned outages, as this was not always thought to be the case to date.

There is concern about the recent perceived "experimentation" regarding reducing voltage on the network, mainly due to a lack of communication from United Energy around this.

The proposal to manage voltage excursions on the high voltage (HV) network is welcomed along with feeder upgrades in North West Melbourne and the Geelong area.

Most C&I customers are not expecting that their businesses will experience any power quality issues as a result of more renewables on the network.

### Digital network

Investing in new IT systems is believed to be a good idea although participants were unsure about the details of this proposal. C&I customers are positive about the possibility of being able to monitor the network and predict where potential issues may occur before they happen, and they assume that the new IT systems will provide them with this (rather than just the distributors). They are looking for a greater level of visibility of data and more control over their response to any potential issues. There is a desire to work in close collaboration with the distributors on demand management programs.

### Affordable network

Customers are generally positive about the proposed change for the measurement period for maximum demand and the distributors encouraging customers to move their usage to off peak if possible. Although most do not think this change will affect them greatly as their operations are 24/7 with little flexibility to move demand, a couple do think the change from 11pm to 8pm would benefit them.

When asked if there were any other pricing options that they would like to see from the distributors, one suggested a maximum 30 minute demand rather than 15 minute to decrease the likelihood of unexpected problems causing demand spikes and the subsequent increase in costs. Two suggested critical peak pricing similar to AusNet whilst a fourth suggested the ability to review their estimates for peak demand rather than being contractually locked in for the life of the asset. One also suggested dynamic pricing, i.e. pricing

that focuses on the actual level of congestion on the network at any given time rather than having set time periods for peak and off peak.

### Improved customer service

General feedback on customer service is positive with the majority of interviewees happy with their personal contact with their distributor. Their Customer Relationship Managers are familiar with their business so can sort out problems much quicker than a general contact could.

The proposed improvements listed in the information are welcomed, with some already having used some of them.

The main areas for improvement are thought to be:

- Notification of planned outages – ensuring there is enough notification (as it's currently not thought to be sufficient) and that it is provided in a personal way to C&I customers, both low voltage (LV) and high voltage (HV), rather than just a mail out or letter box drop.
- eConnect – there are some criticisms of this portal with a few C&I customers reporting that it was a bit standardised and so difficult to use if a project had any unusual characteristics. There have also been issues regarding the provision of incorrect information and updates on projects.

Responses to the dedicated phone line are mixed but as long as the Customer Relationship Manager remains then some can see the benefits of this development (particularly LV customers), rather than having to telephone the contact centre.

### Future engagement

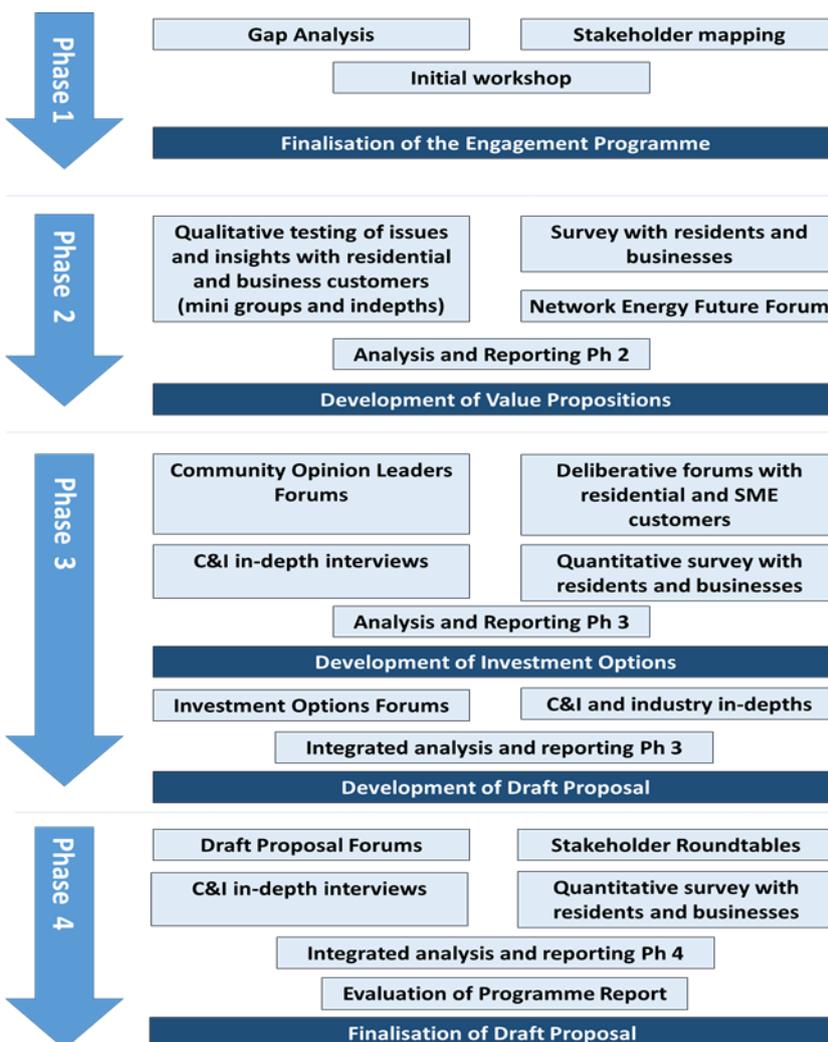
At the end of the interview participants were asked whether there were any other topics that they thought CPPCUE should be engaging with them on, or if they had any other feedback. There were two topics put forward for further discussion – demand management and battery installation. A desire was expressed to work in partnership with the distributors on both of these issues, to discuss how these could be implemented further.

## 1.0 Introduction

This report discusses the key outcomes of Commercial and Industrial Customer and Industry Association interviews conducted in 2019 to inform CitiPower, Powercor and United Energy’s (CPPCUE) planning for the 2021-2026 regulatory period. All network distributors are required to submit regulatory proposals to the Australian Energy Regulator (AER) every five years, detailing their predicted expenditure and revenue requirements.

The Energised 2021-2026 engagement and research program supports the development of CPPCUE’s regulatory submissions. These in-depth interviews with C&I customers and industry associations were conducted following the development of the Draft Regulatory Proposal in Phase 4 of the program. Feedback from these major customers and stakeholders has progressively informed the development of CPPCUE’s Draft Proposal.

Figure 1: Components of the engagement and research program for the regulatory reset conducted by Woolcott Research



## 2.0 Methodology

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Viewpoints of commercial and industrial customers and associations discussed in this report are based on seventeen (17) interviews of 35-45 minutes duration with fifteen (15) organisations who are among CPPCUE's largest energy users and leaders of two (2) industry associations whose members demonstrate a high level of interest in energy.

### 2.1 Customer and industry association recruitment

For this study, we re-contacted participants from previous rounds of interviews conducted in 2017 and 2018. The initial sample list included around thirty (30) customers as well as three (3) industry associations. Each was contacted multiple times and invited to take part, resulting in a total of seventeen (17) interviews being completed. Of these, six (6) were last interviewed in 2017 and eleven (11) last took part in 2018.

Of the C&I interviewees, eight (8) participants were in the Powercor area, eight (8) in United Energy and five (5) in CitiPower. The industries represented ranged from telecommunications, transport, higher education, tourism, health and hospital facilities, water management and distribution, chemicals, banking, food production and manufacturing. All participants were involved in multi-site operations providing products or services to a large marketplace, which for some spanned other Australian territories and offshore markets. For organisations with multi-region interests, the focus of the discussion was only on their Victorian plants and facilities.

The roles of those interviewed ranged from general management (e.g. planning, operations, infrastructure, facilities and services) through to strategic sourcing of energy and water and related procurement. In some cases, the manager served as an 'integrator' of these inputs to the business and used an internal procurement group (e.g. university business unit) or an external procurement agency to plan, cost and acquire their short and long term energy supply.

The three industry associations that participated in Phase 3 research were approached to participate in Phase 4. Two interviews were conducted, one with the Ai Group and one with Dairy Australia. Specific roles played by these organisations are profiled below.

**Ai Group** - The Ai Group works with its Victorian members (and members in other states/territories) to develop a shared understanding of energy issues and their business impacts. With a primary focus on research, analysis and government advocacy, the Ai Group engages with its members on energy pricing, network productivity, reliability and quality and facilitates discussions around self-generation and electrification of industrial activities. The Ai Group has worked closely with the Finkel Review and Energy Security Board and actively participated in NEG policy discussions. It is represented on CPPCUE's customer consultative committee and Energy Futures Customer Advisory Panel (EFCAP).

**Dairy Australia** – As a rural research and development corporation, Dairy Australia has two major sets of stakeholders which include dairy farmers and dairy processors or manufacturers. It does not engage in advocacy but has links to Australian Dairy Farmers (ADF) and the Australian Dairy Products Federation

(ADPF) which do advocate on behalf of the industry. Dairy Australia does facilitate and participate in discussions on energy across various forums including the Dairy Manufacturer's Sustainability Council. Dairy Australia is represented on CPPCUE's Energy Futures Customer Advisory Panel (EFCAP).

## 2.2 Discussion topics

Key topics investigated in the interviews (See Appendix A for the discussion guides and Appendix B for the pre-reading materials sent to participants) were:

- Recent developments in their businesses that impact electricity usage and plans for the future
- Overall reactions to the Regulatory Reset Draft Proposal
- Specific reactions to components of the draft Proposal under the topics of:
  - Resilient Network
  - Digital Network
  - Affordable Network
  - Improved Customer Service

## 2.3 Data capture and analysis

To facilitate a free-flowing discussion and a detailed and accurate account of customer views and opinions, all interviews were audio-recorded. Participants were given required assurances about the confidentiality and management of interview data and related to that, our practice of de-identifying comments and opinions in final reporting.

## 3.0 Key Findings

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The key findings from interviews conducted with major customers are outlined in this section and supplemented with observations drawn from macro-level discussions held with industry associations.

### 3.1 Business Developments, Industry Issues and Energy Planning

At the commencement of the interview, customers were asked what their current priorities were regarding energy, whether there had been any recent developments in their business that impact energy usage and what the current state of play was with their business's energy planning.

Across the C&I customers, similar to the previous investigation, a reliable consistent supply was a key priority together with affordability, due to high cost pressures. This was also echoed by the industry association representatives interviewed.

*“The situation remains challenging for intense energy users and their interest in ways of making savings through what they can control themselves and what different parts of the supply chain can do for them remains very intense.”*

Although reliability was thought to be of a high standard in general, in that there are very few electricity outages, power quality was still perceived to be an issue, with many regional areas in the Powercor network in particular still suffering from power quality problems. However, it was acknowledged that quality issues are not always caused by Powercor but can be a transmission problem or even a result of problems in other distribution areas that travel through the network. Either way the problems have severe impacts and can cause plants to have to be shut down completely and restarted. There can also be damage to equipment and secondary problems from these dips in supply, all of which lead to financial losses.

*“Regional areas have lower quality power in general.....Gippsland farmers suffer from brown outs”*

*“We suffer from even very small voltage dips and so even a dip of a few milliseconds will trip the plant and there is quite large consequences to starting it up again. This happens about 15 times a year.”*

*“There are continuing issues over quality of supply, and freely accessing useful and specific information from the relevant zone subs detailing quality of supply incidents and outages.”*

For the majority there had not been any major developments that impacted their energy usage since the previous round of research however a minority had experienced developments and expansions in the last year that had resulted in their electricity consumption increasing.

*“We’ve just boarded a new customer into our building that plans on using quite a bit, probably close to doubling our current demand with their needs. So our power consumption increasing is going to be the direct result of them moving in and ramping up.”*

*“We’ve almost doubled the size of the existing hospital with new theatres and many other critical facilities.”*

For some there were plans to expand further in the next one-two years, or there were new developments in their business that would increase electricity usage.

*“We’ve now got plans to construct a third site and have that commissioned and available for more customers, whether they’re new or our current ones to expand into. We’ll be potentially completing that build in the next 12-18 months and doubling our demand again.”*

*“We are just about to roll out the new high capacity metro train, we’re expecting delivery of the first ones anytime now. That’s expected to significantly increase the usage, once we’re at full capacity over the next few years.”*

Some C&I customers had transitioned further towards renewables since we last spoke to them, either directly or indirectly through signing Power Purchase Agreements with large scale renewables projects. One business had just commenced development of a solar generator for a new plant with plans to establish a second solar farm. Others were in various stages of planning or development. The main reasons for this move to a greater proportion of power from solar sources since the 2017 research were economic, a desire to appear more environmentally conscious, or to meet government targets, with some also interested for practical reasons. Some were moving in this direction to provide a competitive advantage.

*“We’re looking to move to renewables. We’re always keen, whether it’s local to the site or whether it’s through our energy provider, to adopt green energy. We want to reduce our impact on the planet, primarily. We also want to be able to use that as a sales pitch to make us more attractive than other operators and our competitors.”*

*“We’re looking at putting in better kilowatt to solar as part of a new development.”*

*“An offsite renewable energy Power Purchase Agreement is being considered directly with a renewable generator.”*

*“From an infrastructure perspective we are always focused on trying to reduce our carbon footprint. Whenever we replace major plant equipment we always look for the most energy efficient option.”*

*“We installed a large solar system two years ago and have capacity to increase that in the future”*

*“We have a reduced carbon footprint target and are looking at the activities we can do to meet that. That is our motivation – meeting the reduced carbon footprint target from the government.”*

*“Renewables on the pole is something we’d still like to explore. So if that was possible, we’d be very open to that. It would help us to be able to power sites that aren’t easily able to be energized on the grid. If they were more off grid it also helps us to reduce our overall carbon footprint.”*

Some, who weren't using solar yet, stated that any move to renewables had to make sense from a cost perspective, in that it couldn't be more expensive.

*“Those options (green) are more expensive at the moment and you would want to use that money for patient care. If costs come down it's something we would consider in the future, absolutely. So it has to work financially.”*

There was a report that sometimes the distributors had put up some resistance to this transition and that the C&I customers had been encouraged to engage with Energy Safe Victoria instead.

In the Powercor area there were still challenges around upgrading and installing solar panels because of the SWER lines that many of the farms are on and they were not able to connect.

Other than using solar, one C&I customer also mentioned that the business was planning to transition to zero emissions vehicles for its car fleet and there was some desire to enter into demand response programs to a greater degree than previously.

In an industry wide development, it was believed that high voltage regional businesses were bearing a high share of the costs associated with the changes required to their facilities to meet the needs of the REFCL upgraded system, although this was primarily seen to result in ongoing friction with the state government rather than with distributors. One of the C&I customers interviewed was directly affected by this.

Another more positive industry wide initiative mentioned was the development of clean energy precincts which Powercor in particular was thought to be facilitating.

In addition, the participants thought themselves to be a bit more educated and informed about energy issues and planning than they were previously.

### **3.2 Overall Reactions to the Proposals**

Prior to the interview participants were emailed a short document highlighting some of the programs from the draft proposals for C&I customers and then during the interview they were asked to provide feedback on each of the proposals.

The first page outlined a summary of the three potential scenarios for the future and the fact that Green Power was customers' preferred vision for the future. The page is provided below.

## Network for the future

### Steady State

Electricity is managed and supplied in much the same way as it is today, considered as business-as-usual. There is a strong driver to reduce costs while maintaining network performance and ensuring security of supply.



Scenario 1

### Consumer Power

Electricity supply and demand is markedly impacted by consumers' uptake of new energy efficient appliances, electric vehicles and individuals' investment in renewable energy sources.



Scenario 2

### Green Power

The electricity network (and market) adapts to a greener future quickly, backed by more investment in alternative energy sources and policies that encourage more ambitious renewable energy targets.



Scenario 3

- We began our engagement by understanding what customers want for their energy future
- Our customers have a greener vision for the future, indicating Green Power was the preferred energy future
- The Consumer Power energy future was expected to present sooner than Green Power, and technology would be a key driver to achieving a greener outcome
- 75% of residential and small to medium businesses suggested the network should be upgraded faster than planned to accommodate more renewables
- Big businesses saw renewables being part of their energy mix, however the timeframes for investment were relatively unknown

There was support from most participants for the potential of a green future scenario – it was expected, desired and being planned for by many of the C&I customers interviewed. As mentioned previously, some were motivated to by government targets and some by competitive advantage, but for those considering these initiatives, planning for a greener future scenario had to be beneficial from a financial perspective. There was a desire to balance green power with greater demand management to decrease the need for further investment in capacity building.

*“That’s good. I think they’re very much in alignment with what it is we expect and what they’re planning to deliver.”*

*“If I was asked what the perfect scenario would look like, I think the way they’ve put it forward in these proposals, it’s perfect.”*

*“All the major power companies are heading in that right direction.”*

Within this scenario there was support for large scale renewables on the grid and a feeling that the transition towards greater use of renewables is not happening as quickly as many would like.

*“I think once the network distributors open the pathways to allow new generators, like wind, solar generators to connect onto the networks, I think that’ll have a positive impact, a reduction in our overall cost, and move us further and further away from coal.”*

However, there were some suggestions that the distributors should be focussing on reliability as a priority for the future, rather than green power, to better meet the core needs of large customers.

*“I don’t think green is our main concern so like I said before, what we would really like them to try to improve is higher reliability. I don’t know if it’s possible but that would be very important for us.”*

*“Capacity and resilience are probably the two things that we expect from a distributor.”*

A snapshot of the draft proposal was provided for each relevant distributor. Below is an example of the chart for Powercor (individualised charts were shown for United Energy and Citipower which are appended to this report – Appendix B).



Overall reactions to the types of activities that CCPCUE had planned were positive. There was mention that some of the proposals seemed more relevant to residential customers, and that others should be ‘business as usual’ but nonetheless the overall response was favourable.

Noted positive aspects were the capacity upgrades, replacing or reinforcing of poles, investment in IT systems, renewables and bushfire risk management. Any proposals to improve reliability and power quality were thought to be important, for example adding capacity to ensure that future demand is met from residential growth but also business growth was singled out as an important project.

*“From a health service perspective the key thing for us is a reliable power supply, with minimum downtime. And if there is downtime, that there is a proper advanced notification that gives us sufficient time to prepare.”*

*“The more we get it (reliable supply) from the grid, the less we have to worry about our equipment bridging the gaps.”*

*“The new building that we’re constructing in the next 12 months, I believe it will be fed from Tarneit. So it’s good that they’ve called that one out and said they’re adding capacity to that.”*

Some commented that there were no costs implications for C&I customers associated with the plans, and that the distributors appeared to be spending a great deal, so they would like to learn more about the plans and how efficient and transparent the processes will be.

*“Bushfire risk is great but there’s lots of money so I’d like to understand how they’re bringing efficiencies to the process and the investment, and what are they doing to make it transparent.”*

There were also comments regarding the investment in batteries and interest in obtaining more information about this. Some presumed that it was ‘probably smaller scale and residential batteries they were investing in’ rather than grid level batteries.

Some suggested that their retailer already provides electricity usage data and consumption trends to their business so the one-stop shop may not be of as much use as other proposals.

There were some negative comments about the eConnect portal with some suggesting that it has not made the process easier and in fact has made it more difficult in some situations. Their feedback was that if a project has any element that is slightly different to the norm then the tool is not user friendly. There were also comments about incorrect information being provided and a lack of updates.

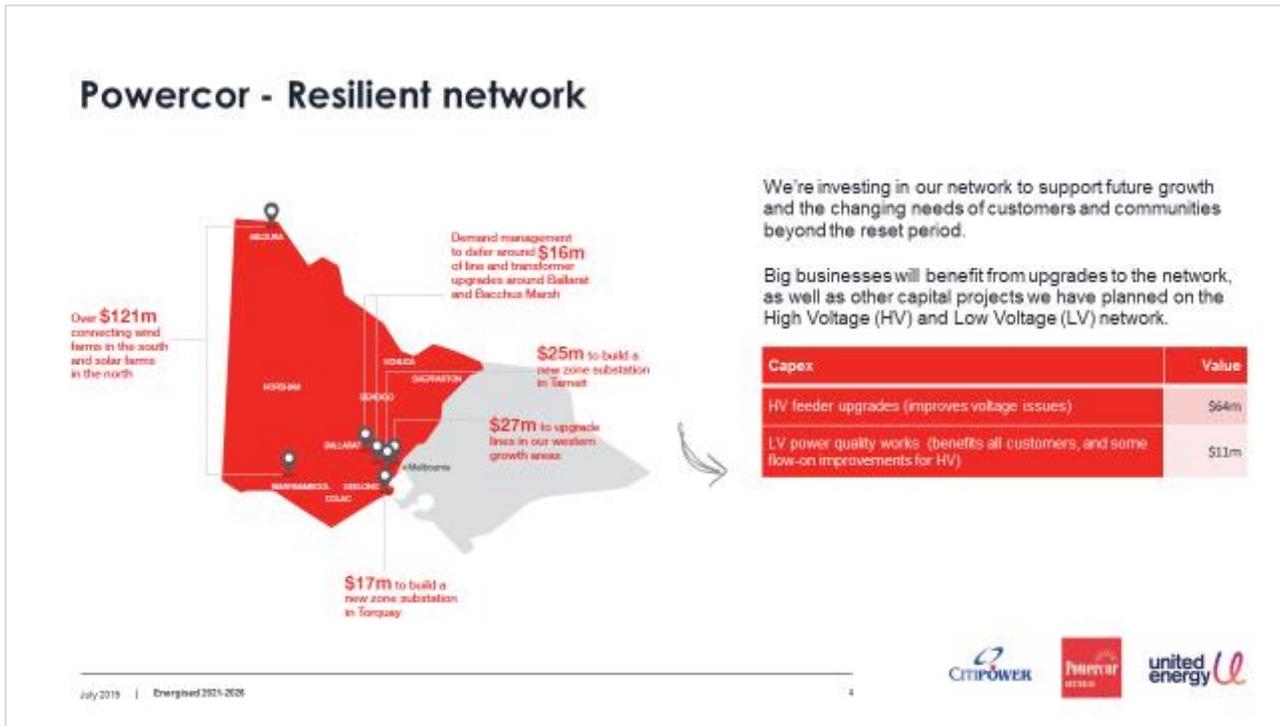
*“I must admit that is proving to be a real pain in the butt. That whole e-portal process for CitiPower. It has been used. It’s made some of those changes and managing that stuff really quite difficult.”*

*“It is a very hard tool to use. It’s not very intuitive. You really do need to get some input from major electrical contractors about that tool.”*

*“If you have a job that doesn’t quite fit the template then it doesn’t work well.”*

### **3.3 Resilient Network – Reliability and Quality**

Participants were presented with the relevant distributor’s plans in relation to upgrading the grid to ensure a resilient network. The example page below is provided for Powercor (all are included in Appendix B).



As mentioned, reliability and power quality were considered crucial considerations for C&I customers and the investment in some areas to improve these aspects was appreciated. However, there was also a feeling that reliability had been improving over the last decade and outages in particular were not such as frequent nowadays. There were a couple of exceptions to this where the participants felt that reliability issues were still being experienced in regional areas, however they were uncertain as to the exact time period of when the outages occurred.

*“Factories in Bendigo were experiencing trips and loss of supply once every two months at one stage... I think that was last year”*

The main issue regarding outages was ensuring that they were provided with enough notification prior to planned outages, as this was not always thought to be the case.

They were supportive of the proposals to upgrade the network, connect wind and solar farms and the focus on demand management outlined in the information provided. Any proposals to improve power quality would be valued most as this aspect was thought to have declined in recent times.

*“Reliability has vastly improved over the last 10 years, particularly in the Box Hill area. Certainly the works being done around Doncaster in particular, because that’s a neighbouring suburb of Box Hill, would be of interest.”*

*“It’s good to see that they’re investing in that and they’ve acknowledged that the risk in the network, as it was, is real. It looks like they’re addressing that in the building of a more robust network.”*

*“Where we get our power from has been pretty reliable. In fact, we’ve ever had any outages. Not the three years that I’ve been here on site, we’ve never had a utility outage.”*

*“We haven’t had any immediate issues with reliability. More to the point, we haven’t experienced any unplanned outages. That’s what we are very worried about - when blackouts/outages happen.”*

*“If they get upgraded systems then the more reliable it becomes, then the better it is, but I think it’s also partially related to how they run the system. It’s not like we suffer often from longer outages here but it’s especially the voltage issues.”*

*“The most important thing they are doing is modernising the network, - addressing the old underground pits and replacing poles and lines. These are the things that affect us most, as power and reliability are important for us.”*

*“Around 6-10 times per year we experience brown outs and they affect our plant and equipment – the reasons for the brown outs are usually due to old pits and lines.”*

There were some comments that the investment in the Powercor network seemed to be mainly occurring in the East, closer to Melbourne and perhaps not where it was needed in regional/rural areas.

Concerns were again raised about the potential cost to the customers.

*“If it doesn’t come at an extra cost it’s good – we’ve seen some big increases in energy costs.”*

Some concerns were raised about recent occurrences where United Energy was perceived to have been “experimenting” with reducing voltage on the network, which in some cases had impacted their business’s equipment. The main criticism from those affected was that there had not been enough communication prior to the events about when and why they were doing it, so customers did not have a chance to prepare.

*“When the distributor was experimenting on running on reduced voltage. We had some concerns about that.”*

*“We had to shut something down because the distributor reduced voltage on the network and it impacted our equipment. There wasn’t enough communication about what they were doing.”*

Participants were asked whether there were any other projects they would like to see the distributors proposing in relation to building a resilient network and only one was mentioned which was to upgrade the Richmond zone substation. They found it hard to identify any future projects or areas of investment required.

*“I do know that the Richmond zone substations are fairly old, and I’d be interested to know when the last time was that any money was spent on them.”*

Interviewees were asked if they had experienced, or expected to experience, any voltage or quality issues as a result of more renewables being connected to the network. None of those spoken to had any

knowledge of quality issues being caused by an increase in renewable use and did not expect an increase in issues as a result of more renewables on the network. However, there were concerns about an over reliance on grid wide renewable generation, in light of the issues in South Australia.

### Dynamic Voltage Management System (DVMS)

Participants were provided with information on CPPCUE's plans to invest in programs to support big businesses, particularly the introduction of a Dynamic Voltage Management System (DVMS) to manage voltage excursions on the high voltage network. The information provided is below.

## We're investing in programs that will support big businesses

- Introduction of a Dynamic Voltage Management System (DVMS) which will manage voltage excursions on the high voltage network. This program will provide the most benefit to C&I customers, especially those connected on the High Voltage network
- HV feeder upgrades will benefit C&I customers connected to these feeders which are mainly located in north west Melbourne and the Geelong area.
- Funding to continuously address localised power quality issues as they occur through re-conductoring of feeders, augmenting transformers and where possible tapping existing transformers
- C&I customer on the LV network will benefit from our solar enablement program as they will indirectly benefit through the lowering of voltage across the LV network

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There were mainly positive reactions to the idea that the network is planning to introduce a DVMS. While participant's knowledge of DVMS was variable, the overall concept of potentially better power quality was welcomed. Some wanted to know a bit more about what the proposals entailed.

*"We've certainly had multiple voltage excursions. So they've acknowledged that and it seems like they're working to minimise any quality concerns being passed through to the customer. So that's only going to help our equipment and our promise to our customers."*

*"I'm a bit unclear on how DVMS will operate and benefit us as a large C&I consumer."*

*"This is absolutely necessary if they are also expanding solar."*

Again however this proposal was mainly seen to benefit areas closer to Melbourne and not rural areas in Central or Western Victoria.

There was also a positive response to the increase in funding to continuously address localised power quality issues through re-conductoring of feeders, augmenting transformers and where possible tapping existing transformers, to further alleviate power quality issues for C&I customers.

There was some concern about the last point on the information provided, around lowering voltage on the LV network, in case it resulted in voltage dips and as a result affected equipment. Those who had mentioned the perceived “experimentation” with lowering voltage on the network questioned whether these were related.

### 3.4 Digital Network

The idea of a digital network and that CCPCUE are proposing to invest in a new IT platform and devices to provide greater visibility of the network was discussed with participants. The IT platform would provide greater LV phase identification and rebalancing, reduce non-technical losses, construct more cost effective pricing, optimise the way Electric Vehicle (EV) charging occurs and optimise customer load. The information provided is shown below.

## What flexible network means for big businesses

We are proposing to invest in a new IT platform and roll out more devices, including to HV customers, in order to provide greater visibility of the LV network.

The IT platform will:

- provide greater LV phase identification and rebalancing, which will reduce the risk of fuses overblowing and enhance asset utilisation
- reduce non-technical losses (e.g. through electricity theft), by improving the accuracy in the way we measure electricity usage across the network
- construct more effective cost reflective pricing through greater insights into customer usage
- optimise the way Electric Vehicle charging occurs, through improving our ability to monitor and control the impact of EVs on our network
- optimise customer load (e.g. hot water charging) to reduce evening peaks, through improving our ability to monitor our network

### What this means for big business

Devices being rolled out to HV customers will be wired to the metering test block, which works in parallel with the HV meter.

There will be no interruption to supply when the device is installed.

HV customers may have access to this data once the full installation program is complete (in the next reset period).

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Investing in new IT systems was believed to be a good idea, although the majority were not sure about the details regarding the capability to reduce interruption to supply and improve efficiencies. Again there were comments regarding the cost of doing this and whether or not customers would have to pay for it in the long run. There was also a concern about whether this could be installed and maintained without any impact to customer continuity of supply.

Although there was uncertainty about the degree of visibility that will be available, participants were positive about the possibility of being able to monitor the network and predict where potential issues may occur before they happen. Currently if there is an issue then they have to contact the distributor and receive a short report on the incident but they would like to be able to monitor and receive information through an online portal.

*“The thing that we don’t really do in general is watch the quality of the networks. Only when something happens, as I said when there’s a dip, then of course we talk to Powercor and then we get a little report about what happened. That’s really useful but if we could do all that online then we could maybe learn something or improve something.”*

Greater visibility of the LV network was also expected to reduce the risk associated with maintenance programs.

*“We’ve worked quite closely with Powercor in the past to gain their input. And we seek their guidance before we do any of our high-risk activities. It’s good that they’ve actually invested in this kind of technology because it should give that greater insight and give us more confidence with what they tell us while we’re doing our critical maintenance.”*

One participant wanted more information made available on the energy mix – proportion of electricity that comes from renewables and wanted it available on an online portal.

*“I think, going back to a dashboard. So if there is something that’s made available to us, as a customer, we can log in and we can see it. So at least we can just pull it ourselves and we can publish it in whatever format our customer needs it in. But yeah, if it’s online, and it’s kind of up to date, then that would be the perfect scenario.”*

One participant raised issues regarding security of the IT system and wanted assurances that it would be secure, and not jeopardise their IT system security.

*“How secure is it? As soon as an IT system is connected we get a bit jittery about security issues.”*

Most did not see optimising the charging of electric vehicles as being an important issue yet, but did expect that this was going to be more prevalent in the future.

*“Electrical vehicle charging occurs. It does, but once again, it’s not something we’re being pushed for yet (by staff).”*

Relating to the IT platform optimising customer loads to reduce peaks, there was willingness to work with the distributors to try to level out demand response peaks as much as possible.

### 3.5 Affordable Network

Participants were presented with CPPCUE’s proposals in this area to change the way network charges are calculated to provide customers with the opportunity to use more power at off-peak times. It was explained

that using more power in off-peak times increases the utilisation of network assets which lowers charges for all customers, and shifting demand from peak to off-peak times defers the need for network augmentation in constrained parts of the network. The proposal is that maximum demand is only measured between 8am and 8pm on workdays. Customers were asked for their feedback on this proposal, following the provision of the information below.

## Pricing for an affordable network

CitiPower and Powercor are proposing to change the way network charges are calculated to provide customers with the opportunity to use more power at off-peak times. Using more power in off-peak times increases the utilisation of network assets which lowers charges for all customers, and shifting demand from peak to off-peak times will defer the need for network augmentation in constrained parts of the network.

The following table indicates that it is proposed that maximum demand is not measured over nights, weekends and public holidays and lower off-peak energy charges will apply at these times.

Large LV, HV and sub-transmission network tariffs		
	Current	Proposed from 1 July 2021
<b>Maximum demand</b>	Maximum 15-minute demand measured 24/7 over the prior 12 months	Maximum 15-minute demand measured between 8am and 8pm on workdays only over the prior 12 months
<b>Peak energy</b>	7am to 11pm all days	8am to 8pm workdays
<b>Off-peak energy</b>	Outside peak energy times	Outside peak energy times

These changes will provide customers with a financial incentive to use more power in off-peak times or transfer demand from peak to off-peak times.

Customers still need to ensure that their maximum demand does not exceed their contractual supply capacity.

C&I customers, similar to residential and SME customers, believed that electricity prices increased substantially a few years ago but had recently stabilised and were even expected to decrease slightly in the future.

*“In the last probably four or five years, it jumped up. There was a step change overnight where prices practically doubled. So there was a lot of shock and that certainly changed everyone’s margins.”*

Customers were generally positive about the proposed change for the measurement period for maximum demand and the distributors encouraging customers to move their usage to off peak if possible. A couple believed that it would be much easier for their businesses to move load to after 8pm rather than the previous timing of 11pm.

*“This would benefit us. It is easier to move load to after 8pm than after 11pm. We could change the timing of the processes at the treatment works.”*

*“This change would be good for us – it would actually help us out”*

However, many of these C&I customers did not believe that they could shift much demand as their organisations tended to be continuous users of electricity 24/7, or have processes or equipment use that could not be moved outside of daytime hours. Therefore it was thought that the proposed changes would not have much impact on their electricity costs.

*“Unfortunately with us we’re a 24/7/365 organisation, and we can’t control when our maximum demand hits.”*

*“Doesn’t really impact on us because our day and night consumption is the same. For us the time doesn’t matter, if it’s during the day or during the night, because we’re running continuously, it doesn’t make a difference to us.”*

*“It’s hard for a hospital to use power off peak, from 11 to 7, because that’s our least used times.”*

*“Those are just words. That’s it. Because in reality, you never see a massive demand peak outside the 8 am to 8 pm. They’re just playing with words to be perfectly honest.”*

*“The hospital runs much harder during Summer than in Winter. But other than that - day by day - we don’t see major fluctuations.”*

One of the industry association representatives thought the suggested changes to the peak energy times may help the industry he represented but he indicated that he would need to investigate this further and questioned whether or not they were “planning on increasing the pricing rate during the new peak times?”

There was a suggestion that the differential in cost between peak and off peak is not as much as it used to be. There was also the belief that the more that companies shift demand to off peak, then the more likely that off peak pricing is going to increase.

When asked if there were any other pricing options that they would like to see from the distributors, one suggested a maximum 30 minute demand rather than 15 minute to decrease the likelihood of unexpected problems causing demand spikes and the subsequent increased costs. Two suggested critical peak pricing similar to AusNet whilst a fourth suggested the ability to review their estimates for peak demand rather than being contractually locked in for the life of the asset. One also suggested dynamic pricing, i.e. pricing that focuses on the actual level of congestion on the network at any given time rather than having set time periods for peak and off peak.

*“We have to pay 12 months for that 15 minute problem that we had and that would be a very considerable cost, between a hundred and two hundred thousand dollars.”*

*“I would be very happy if they would change to 24 hours but I don’t think that’s going to happen. But let’s say to make it 15 minutes longer, that would be much more beneficial for us than to change the timing of the peak hours.”*

*“I like the AusNet critical peak pricing. They give notice of a few days that they want C&I customers to reduce load, for a financial incentive. If we can do it, it really benefits us financially. We only need*

*about 2-3 days' notice to do this. We have systems in place already to move quickly. If the team can understand the benefits and see the benefits then they will do it."*

*"So there doesn't appear to be any flexibility to revisit things from our side. Whereas it's fully stacked in the distributor's favour of course. That's probably one thing on peak demand that stands out. The ability to go back and actually review contracts for the maximum demand."*

Overall, many suggested that the distributors could work with the C&I customers in partnership to try to reduce their maximum demand, for example scheduling times when they can use their own generators leading to a reduction in significant load on the network.

*"I do think if they work with us on a demand response process, if they're fair dinkum about reducing maximum demand and working with us to reduce our maximum demand figures, then that's a good outcome for us both."*

### 3.6 Connections

Experience of new connections was not extensive, although some still reported experiences that involved long time delays resulting in substantial frustration. This had not changed since the interviews last year.

*"The speed to process applications for grid connection of onsite generation, renewable or other, has been very slow – more than 5 months!"*

*"A drawn out and frustrating experience...didn't really get any indication that problems on the network side might result until quite late in the process."*

Specific feedback on the eConnect portal is provided in section 3.8.

### 3.7 Safety

Customers were asked whether they had any feedback in general on network safety since the last interviews. There were few comments on this aspect other than to say that they thought safety was good and that they always observed workers following the correct safety procedures.

*"When I see people from UE I see that the steps are done in a safe manner"*

*"From what I've seen personally, I find the UE network to be quite well maintained."*

One participant did mention a transformer that had been "forgotten" by Powercor on their site. The customer drew Powercor's attention to it and now it has been added to the regular maintenance program, but they were slightly concerned about the potential safety consequences of this oversight.

### 3.8 Improved Customer Service

Participants were presented with information on CPPCUE's proposals to improve customer service which involved investing in a one-stop-shop to give C&I customers access to information in one place. This would

include being able to access the myEnergy portal, mySupply, eConnect, Outages view tool and an online tool for reporting of street light faults. The information is provided below.

*“Right now I don’t know who our account executive is. There is not enough customer service for big business so not sure if this would help”*

*“Would like to see them every two months if possible”*

## Improved customer service for big businesses

We’re investing in a one-stop-shop to give you access to all the information you need in one place. Big business will be able to access:

- myEnergy portal for customer energy data from their smart meters, updated every 24 hours
- mySupply portal for application and tracking of jobs that require alterations or extensions to the existing network
- eConnect portal for online lodgement and tracking of connections that do not require alterations and extensions to the existing network
- Outages View tool that provides real-time updates on outages on our network
- online tool for reporting of street light faults.

We’re also investigating a phone line dedicated to big business. Meaning, you’ll have access to the part of our call centre that knows the issues and concerns you need support with.



General feedback on customer service was positive with the majority of interviewees happy with the contact with their distributor. All but one of the C&I customers interviewed had personal contacts at CPPCUE and this worked well in that they were familiar with their business so could sort out problems much quicker than a general contact.

*“We have got really good communication between ourselves and our key supplier United Energy. We’ve got an Account Manager - that is productive if there are any unnecessary problems.”*

*“So we’ve got our Key Account Manager so if there’s anything I want to discuss I just give him a call and it works pretty well.”*

*“We’ve got specific people that we deal with on design and construction and we go straight to them and to work one on one with the people that can do what it is we need.”*

*“It’s good that they’re familiar with us. They understand what we do, so you don’t have to explain it to someone every time.”*

An example was provided where Powercor had recently exceeded expectations in relation to customer service. They had provided expert advice for an unusual and complex issue regarding a transformer, when really it was not something that was related to the network. This proved to be very useful and was greatly appreciated by the customer.

Participants particularly valued good customer service in relation to outages, rather than feeling that they were being treated in a similar way to other customers such as residents, who did not experience such large scale impacts from these incidents. Some felt that while a tailored approach for both low voltage and high voltage C&I customers should be provided, to ensure enough notification of the planned maintenance work, currently this did not always occur.

*“If there was some way that we could have better forward planning. If we were told a month in advance, as opposed to two weeks in advance that this is the plan... or even a year in advance that these are the areas that they will be focusing on, that will allow us to plan it a little bit better ourselves.”*

*“They took a large manufacturer out of play – we need notice for this”*

Another customer had experienced an outage in the past and could not find the right person to contact, emphasising that while real time information was good they also need someone to speak to – at the right level who can facilitate change and make decisions.

One customer suggested, that while communication from their Customer Relationship Manager was generally good during planned outages they needed to also communicate when they didn't know how long an unplanned outage would be.

*“It's ok to say we're not sure yet – as long as they are in touch with us”*

This was reiterated by an industry association participant who suggested that UE need to ensure that customers are given sufficient notice of outages coming through as well as changes to the schedule and ideally provide temporary generators if needed.

*“They need a couple of weeks' notice if shutting down the whole process... it effects overtime of workers”*

If there is a sudden power dip then generally the customer would not call their individual contact but would call the direct line to the control room and speak to an operator there to ascertain whether the problem is resolved before starting equipment up again. In these situations this process was thought to work well. They were keen to ensure that the human contact remained in any future proposals.

*“They do it quite well. I'm quite happy with what they've been doing in the years that I've been here working with them. The less contact we have with them the better because it means there's no problems.”*

*“It’s always nice to be able to talk to a person. Sometimes I try to maybe get a bit of personal opinion or something that is not really an official aspect but it’s nice to always talk to somebody.”*

In terms of the proposals outlined for improving customer service, most were welcomed. Some C&I customers had already used the outages tool and found it useful, although they generally used the direct line to the control centre in this instance.

The business to business customers were interested in access to a portal to provide consumption data, risks to the network, updates and information on outages, so they could pass this onto their customers and keep them informed, which would reflect positively on them. Another indicated that it would be good to receive more detailed feedback about why the outage occurred, after the event, so that they can complete their own incident reports.

*“At least then that makes our customers feel a lot better to know that we’ve got real information (from CPPCUE) in real time. We’ve got a portal where the customers actually get that sort of information from us. So if we can get it from our suppliers then we can feed that through.”*

*“Feedback on what actually happened later on would be good - to do our incident reports – we usually just put in ‘no info’ from UE, so more updated information afterwards would be appreciated”.*

*“They (CP) used to call me after an outage but now they don’t. Now, we have to request after the fact (outage) to find out the cause of the outage. We need to know this as it enables us to assess the risk of it happening again.”*

*“It seems like the control room is reluctant to give us reasons for drops in power quality. We need to know the reasons for the outages when they happen.”*

One mentioned that he had already given some detailed feedback on the mySupply portal, and how it could be improved. He believed that some changes had been made already and it had become more useable, with more functionality regarding putting in applications.

As mentioned previously there were some criticisms of the eConnect portal. A few C&I customers reported that it was a bit standardised and so difficult to use if a project had any unusual characteristics. There were also issues regarding the provision of incorrect information and updates on projects. It was suggested that these bugs should be rectified before United Energy implements an eConnect portal.

*“It seems like if the projects have anything remotely different about them then it doesn’t really work. They come back with questions which don’t seem relevant.”*

*“We have found some issues with the eConnect portal where it sends through automatic responses to say works are complete when they’re not actually complete, or we just don’t get updates. So there just seems to be some improvements they need to make there.”*

*“Connecting is messy at the moment” It is hard to find out where your job is at”*

An industry association representative indicated that it would be good if they had more sub-metering because factories for example, need more granular data to assess different parts of the factory and their energy usage.

Responses to the idea of a dedicated phone line for large businesses were mixed. Some believed they already got the customer service and information required from their Customer Relationship Manager and the contact centre. Others thought that if the Customer Relationship Manager remained then the introduction of a dedicated phone line for outages and quality issues would be beneficial, particularly if this meant they were more familiar with the types of issues that large C&I customers face. However, this was only if they could keep their Customer Relationship Manager too.

*“We have a relationship manager for big issues but for the smaller issues this would be good. Sometimes we reach dead ends for issues that this might help with.”*

### 3.9 Future engagement

At the end of the interview participants were asked whether there were any other topics that they thought CPPCUE should be engaging with them on, or if they had any other feedback.

Most believed that all the key issues were covered in the interview so did not have further comments.

There was a desire expressed to work in partnership with the distributors to ensure that future plans for both organisations were collaborative and co-ordinated. They particularly wanted to work together on demand management and would welcome an annual meeting with CPPCUE to discuss this. It was acknowledged that this is also top of mind for the distributors.

*“Demand response and demand management have important parts to play in the network side of things and we’re pleased with the greater attention that CPPCUE are giving them.”*

Battery infrastructure or battery installation was also suggested as a future topic for discussion, to minimise peak load on the network. A conversation would be welcomed about where and how that installation happens, and how the costs are spread, as it was perceived that there will be network benefits as well as customer benefits.

## Appendix A: Interview Topic Guide for C&I Customers

### INTRODUCTION

Introduce yourself; thank participant for participating (again); recap on the project and process:

- We work for an independent research company called Woolcott Research and Engagement
- As you know, we are doing this project on behalf of your electricity distribution company
- The purpose of the discussion is to gain insight into your priorities, values, and views on electricity issues – in particular how you use, store and generate electricity – now, and how you would like to in the future.
- This will feed into the Regulatory Reset Proposal prepared for the Australian Energy Regulator for 2021-2026

Our role is to report back on your feedback; however your responses are completely confidential and anonymous. We report on an overall basis only and do not mention any specific names or personal details. We are recording the interview but that is purely for our analysis and reporting purposes and it will not be provided to the client unless requested by you.

### 1. BUSINESS STATE OF PLAY, INDUSTRY ISSUES AND ENERGY PLANNING

- Firstly, have there been any developments in the business that impact energy usage e.g. expansions (including those across networks) since we spoke previously?
- What's the current state of play with your organisation's energy planning - timeframe, scope, key issues, any new/emerging opportunities or challenges?
- And do you know what the current status is of any industry level energy planning? Is your business involved with other parties in energy planning? What are the key issues/opportunities?
- Can you just confirm which network areas your business is located in? Are there specific energy issues that are of greater importance in the network area(s) where your business is located?

## 2. REACTIONS TO DRAFT PROPOSAL AND SHORT DOCUMENT

- We sent you a short document that highlights some of the programs that could support C&I customers. (Interviewer note: They were sent the relevant DBs plans so could just be one DB or all 3 depending on which networks they are in). This document includes snapshots of CP, PC and UE's proposals then details of plans that are across all three networks. Have you had a chance to have a look at it? If so, what is your feedback/initial thoughts? What are the highest priorities for you?
- Looking specifically at the page titled 'a snapshot of XX draft proposal' (p3 in single DB's documents and pages 3, 5, 7 in combined document). What are your reactions to these overviews of CPPCUE's plans?

Now going through each of the themes in a bit more detail...

## 3. RESILIENT NETWORK - RELIABILITY AND QUALITY (PAGE 4 – SINGLE DBS, PAGE 4, 6, 8 IN COMBINED DOC)

- What are your current impressions of reliability and quality in the network areas that CPPCUE serves – any differences in the past year across networks?
- Do you experience, or do you think you will experience, voltage or quality issues as a result of more renewables on the network?
- Would you be willing to accept lower reliability for a lower price?
- Looking now at the page titled 'resilient network' in the document (p4 in single DB's documents and pages 4, 6 or 8 in combined document). What is your feedback on the proposed projects to improve reliability in your location(s)?
- In terms of further projects and proposals, what do you see as 'low hanging' fruit, i.e. low cost ways that the DB could meet your needs for a reliable network?
- What about longer term investments for the future that could be made to improve reliability for your business?
- Now looking at page 5 (in single DBs documents or p9 in combined) – The networks are introducing a DVMS to manage voltage excursions on the high voltage network – what are your thoughts on this proposal?
- (POWERCOR ONLY) Do you know anything about Rapid Earth Fault Current Limiters (REFCLS)? (The technology works like a large safety switch, reducing the risk of fires starting from powerline faults). What have you heard about them? Do you know when they are switched on? Do they have any impact on your business? Any suggested improvements/change in how REFCLS has been rolling out? Only if they mention reliability issues with REFCLS - Would your business be willing to pay a bit more for ensuring reliability in REFCL areas?

#### 4. DIGITAL NETWORK (PAGE 6 IN SINGLE DBS DOCS OR PAGE 10 IN COMBINED)

- To what extent do you map/evaluate likely energy or grid capacity in planning physical site expansions? Do you liaise with Council, the DB or other parties as you shape expansion? Are you aware /tapped into RE roadmaps of LGAs?

Renewables:

- Has there been any shift in your proposed usage of renewables / planned adjustments to your business's energy mix and intent to export (if any) over the past year?
- What about in the coming 3 to 5 years? Any changes to plans regarding renewables?
- What are the key drivers or motives to shift towards renewables (cost vs environmental or other)? What would be the expected bottom line impacts? If not yet considering, what would be the main reasons the business would start considering shifting?
- What is the single most important thing the DB(s) can do to assist you as you further shape and adjust your energy mix and plans?
- Thinking now about renewables, what do you think of the overall pace of transition to renewables across the community/businesses in general?

IT:

- Looking at the proposal for a new IT platform. What is your response to this proposal from CPPCUE?

#### 5. AFFORDABILITY (PAGE 7 IN SINGLE DB DOC OR PAGE 11 IN COMBINED)

- What are your current views on energy affordability? What are your expectations about future energy affordability?
- Now looking at page 7 (or 11) in the document – affordability. What are your views regarding this proposed change outlined in the table?
- Are there any issues that will impact the overall success of this proposal? What is your business's likely ability to shift demand (plus overall megawatts)?
- What is your desired timeframe to transition to new tariff options?
- Are there any other changes you would like to see CPPCUE make in relation to pricing options?

## 6. NETWORK SAFETY

- The overall safety of the network – has it stayed the same, improved or weakened in the last year in your view?
- Do you have any comments about the distributor’s safety proposals from the draft proposal or short document?

## 7. CONNECTIONS

- Have you had any experience in connecting new premises to CPPCUE networks? How satisfied were you with the process/timeframe etc?
- Our last study found that most C&Is expect to factor in a long lead time for new connections linked to site expansion. What is your expectation of connection lead times for 2021-2026? How could E-Connect portal help/be improved? Any supplementary tools or supporting information needed (either online or via direct phone line)?

## 8. CUSTOMER SERVICE/COMMUNICATION (PAGE 8 IN SINGLE DB DOC OR P12 IN COMBINED)

- How do you normally contact CPPCUE currently? In which situations/contexts? How does the DB contact you?
- Strengths/weaknesses of current approach?
- Where are the short-medium term opportunities for improved communication?
- What about outage specific communication (if this has not been covered already) – feedback, who generally contacts first (customer or DB)?
- Now looking at page 8 (or 12) of the document. What are your views on these proposals?
  - How favourably do you view the intent to have a dedicated phone line/outage map/online portal/relationship manager for improved communication with C&Is?

## 9. ENGAGEMENT

- Is there anything else you think CitiPower/ Powercor/ United Energy should be engaging with organisations such as yours about?

**CLOSE**

- Anything you think they should do differently or that could be improved about the Draft Proposal?
- Any final comments? Thank you for your time. No incentive.

## Appendix B: Pre-reading materials

# Energised 2021-2026 Draft Proposal

C&I customer interviews



## Network for the future

### Steady State

Electricity is managed and supplied in much the same way as it is today, considered as business-as-usual. There is a strong driver to reduce costs while maintaining network performance and ensuring security of supply.



Scenario 1

### Consumer Power

Electricity supply and demand is markedly impacted by consumers' uptake of new energy efficient appliances, electric vehicles and individuals' investment in renewable energy sources.



Scenario 2

### Green Power

The electricity network (and market) adapts to a greener future quickly, backed by more investment in alternative energy sources and policies that encourage more ambitious renewable energy targets.



Scenario 3

- We began our engagement by understanding what customers want for their energy future
- Our customers have a greener vision for the future, indicating Green Power was the preferred energy future
- The Consumer Power energy future was expected to present sooner than Green Power, and technology would be a key driver to achieving a greener outcome
- 75% of residential and small to medium businesses suggested the network should be upgraded faster than planned to accommodate more renewables
- Big businesses saw renewables being part of their energy mix, however the timeframes for investment were relatively unknown



## A snapshot of CitiPower's Draft Proposal

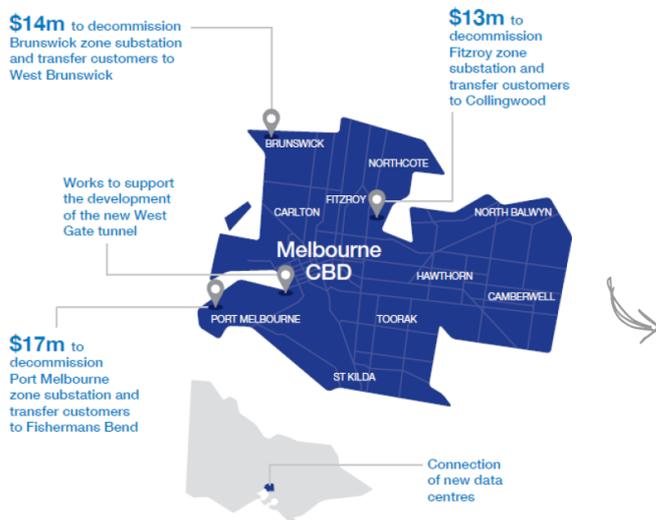
Modernising our network in the Brunswick and Port Melbourne areas	Replacing or reinforcing poles and lines at the highest risk of failure	Facilitating 30,500 new rooftop solar installations and 1,630 new batteries on the grid
Repairing old underground pits that provide access to electrical assets in Melbourne's CBD	Investing in smarter technology to enable new ways for customers to use, store and sell electricity	Enhancing the security of critical IT systems in response to a heightened threat environment
Supporting major infrastructure projects including Metro Rail, the West Gate tunnel and the Victoria Market redevelopment	Introducing a one stop shop for customers to access electricity usage data and connection requests	Providing more data to electricity market participants, in line with new obligations for 5 minute and global settlement

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3



## CitiPower - Resilient network



We're investing in our network to support future growth and the changing needs of customers and communities beyond the reset period.

Big businesses will benefit from upgrades to the network, as well as other capital projects we have planned on the High Voltage (HV) and Low Voltage (LV) network.

Capex	Value
HV feeder upgrades (improves voltage issues)	\$27m
Continuing our program to decommission zone substations connected to our 80 year old sub-transmission network in the Port Melbourne and Brunswick areas (easier for big businesses to connect)	\$46m
CBD security of supply	\$14m
LV power quality works (benefits all customers, and some flow-on improvements for HV)	\$8m

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4



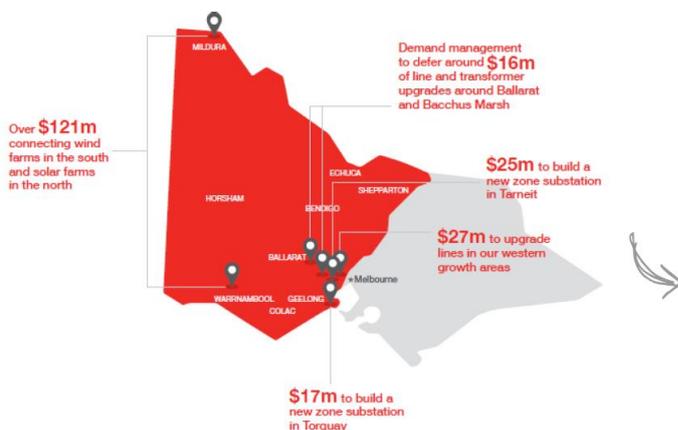
## A snapshot of Powercor's draft proposal

Connecting more than 110,000 new customers across Western Victoria	Replacing or reinforcing poles and lines at the highest risk of failure	Facilitating 180,000 new rooftop solar installations and 4,000 new batteries on the network
Investing \$150m across our network to help manage bushfire risk	Investing in smarter technology to enable new ways for customers to use, store and sell electricity	Enhance the security of critical IT systems in response to a heightened threat environment
Adding capacity in Tarnet, Torquay and Western Melbourne to support residential growth	Supporting the Victorian Government's 40% renewable electricity target by connecting solar and wind farms across southern and northern Victoria	Introducing a one stop shop for customers to access electricity usage data and connection requests

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## Powercor - Resilient network



We're investing in our network to support future growth and the changing needs of customers and communities beyond the reset period.

Big businesses will benefit from upgrades to the network, as well as other capital projects we have planned on the High Voltage (HV) and Low Voltage (LV) network.

Capex	Value
HV feeder upgrades (improves voltage issues)	\$64m
LV power quality works (benefits all customers, and some flow-on improvements for HV)	\$11m

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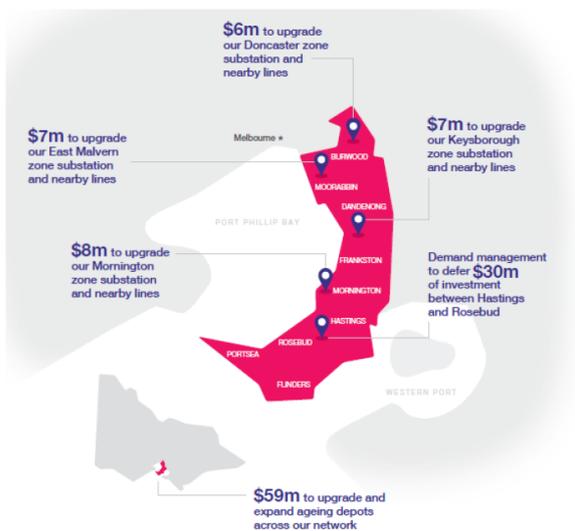
## A snapshot of United Energy's draft proposal

Connecting more than 75,000 new customers across south east Melbourne and the Mornington Peninsula	Replacing or reinforcing poles and lines at the highest risk of failure	Facilitating 50,720 new rooftop solar installations and 2,040 new batteries on the network
Upgrades at East Malvern, Mornington, Doncaster and Keysborough zone substations for new customers and to reduce supply risk	Investing in smarter technology to enable new ways for customers to use, store and sell electricity	Enhancing the security of critical IT systems in response to a heightened threat environment
Supporting major infrastructure projects that will help the Victorian economy such as North East link	Introducing an online eConnect portal for new connections to make connection easier for you and your electrician	Providing more data to electricity market participants, in line with new obligations for 5 minute and global settlement

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## United Energy - Resilient network



We're investing in our network to support future growth and the changing needs of customers and communities beyond the reset period.

Big businesses will benefit from upgrades to the network, as well as other capital projects we have planned on the High Voltage (HV) and Low Voltage (LV) network.

Capex	Value
HV feeder upgrades (improves voltage issues)	\$22.8m
ZSS upgrades to sure up capacity and improve voltage	\$23.6m

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## All networks - we're investing in programs that will support big businesses

- Introduction of a Dynamic Voltage Management System (DVMS) which will manage voltage excursions on the high voltage network. This program will provide the most benefit to C&I customers, especially those connected on the High Voltage network
- HV feeder upgrades will benefit C&I customers connected to these feeders which are mainly located in north west Melbourne and the Geelong area.
- Funding to continuously address localised power quality issues as they occur through re-conductoring of feeders, augmenting transformers and where possible tapping existing transformers
- C&I customer on the LV network will benefit from our solar enablement program as they will indirectly benefit through the lowering of voltage across the LV network

## What flexible network means for big businesses

We are proposing to invest in a new IT platform and roll out more devices, including to HV customers, in order to provide greater visibility of the LV network.

The IT platform will:

- provide greater LV phase identification and rebalancing, which will reduce the risk of fuses overblowing and enhance asset utilisation
- reduce non-technical losses (e.g. through electricity theft), by improving the accuracy in the way we measure electricity usage across the network
- construct more effective cost reflective pricing through greater insights into customer usage
- optimise the way Electric Vehicle charging occurs, through improving our ability to monitor and control the impact of EVs on our network
- optimise customer load (e.g. hot water charging) to reduce evening peaks, through improving our ability to monitor our network

### What this means for big business

Devices being rolled out to HV customers will be wired to the metering test block, which works in parallel with the HV meter.

There will be no interruption to supply when the device is installed.

HV customers may have access to this data once the full installation program is complete (in the next reset period).

## Pricing for an affordable network

CitiPower and Powercor are proposing to change the way network charges are calculated to provide customers with the opportunity to use more power at off-peak times. Using more power in off-peak times increases the utilisation of network assets which lowers charges for all customers, and shifting demand from peak to off-peak times will defer the need for network augmentation in constrained parts of the network.

The following table indicates that it is proposed that maximum demand is not measured over nights, weekends and public holidays and lower off-peak energy charges will apply at these times.

Large LV, HV and sub-transmission network tariffs		
	Current	Proposed from 1 July 2021
<b>Maximum demand</b>	Maximum 15-minute demand measured 24/7 over the prior 12 months	Maximum 15-minute demand measured between 8am and 8pm on workdays only over the prior 12 months
<b>Peak energy</b>	7am to 11pm all days	8am to 8pm workdays
<b>Off-peak energy</b>	Outside peak energy times	Outside peak energy times

These changes will provide customers with a financial incentive to use more power in off-peak times or transfer demand from peak to off-peak times.

Customers still need to ensure that their maximum demand does not exceed their contractual supply capacity.

## Improved customer service for big businesses

We're investing in a one-stop-shop to give you access to all the information you need in one place. Big business will be able to access:

- myEnergy portal for customer energy data from their smart meters, updated every 24 hours
- mySupply portal for application and tracking of jobs that require alterations or extensions to the existing network
- eConnect portal for online lodgement and tracking of connections that do not require alterations and extensions to the existing network
- Outages View tool that provides real-time updates on outages on our network
- online tool for reporting of street light faults.

We're also investigating a phone line dedicated to big business. Meaning, you'll have access to the part of our call centre that knows the issues and concerns you need support with.

