

COVID-19 impacts

Customer Advisory Panel Pre-read

September/October 2020



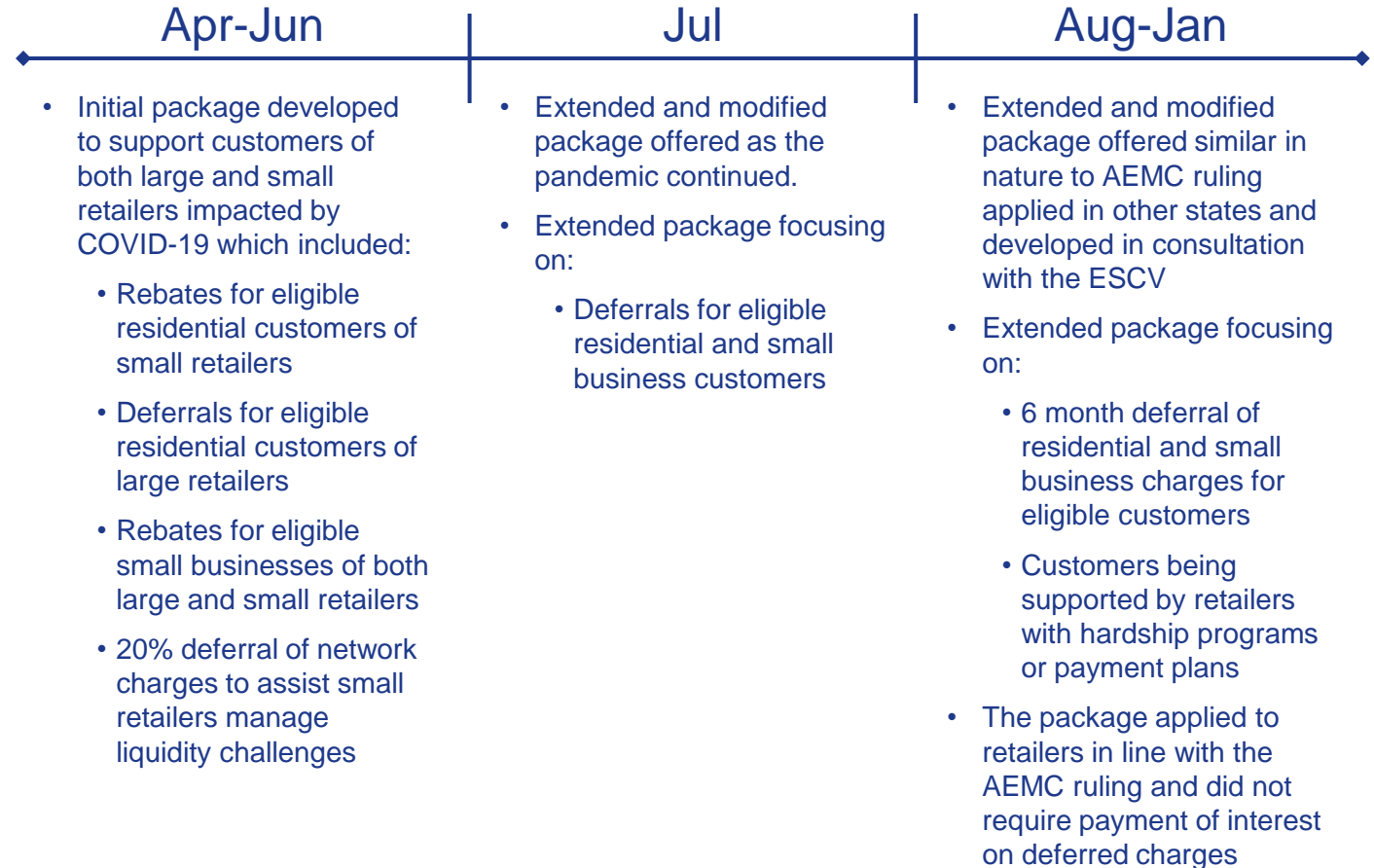
Network relief package

Network relief package – key details

We developed a proactive, voluntary relief package to assist our customers and their retailers impacted by COVID-19

Network Relief Package

- The networks came forward with a voluntary relief package without the need for rule changes
- The package had a range of objectives:
 - Provide immediate relief to small business customers that had ceased operations due to COVID-19
 - Provide network charge relief by rebates/deferrals for residential customers impacted by COVID-19
 - Provide specific support for small retailers
- The initial package was modified and adjusted with retailer feedback



The package components have been regularly reviewed and adjusted in line with new information and via consultation with key bodies e.g. ESC

Network relief package – outcomes and feedback

The network relief package has assisted a range of customers, and supported small retailers to manage liquidity issues

Outcomes

27,113

Small business customers provided with rebates between April and June 2020

>1,000

Residential customers receiving rebates on network charges between April and June 2020

19,622

Residential customers receiving deferrals between April and June 2020 – now continuing July-January

Feedback

Thank you for providing these relief payments...it demonstrates our joint commitment to collectively support our shared customers who have been impacted in these unprecedented times"

- AGL

"Thanks for your time...and for the pragmatic approach taken by the Vic distributors. It's appreciated."

- Energy Locals

"Thank you very much for your prompt assistance during these unprecedented times."

- CovaU

"We appreciate the collaborative approach adopted by the Victoria networks and look forward to our businesses continuing to work in a flexible way as we support our customers through this period."

- Origin

Retailers have commented the Victorian package has been easier to administer than in other states

Participation details

The Victorian networks have worked closely to simply and consistently implement the relief package. A consultative approach has been adopted with retailers, leading to participation from all retailers with eligible customers in Victoria

Non-eligible Retailers

Take-Up Not Applicable



- 7/32 retailer do not have any residential or small business customers in Victoria
 - Stanwell Corporation, Delta Electricity, Flow Power, Infigen, Macquarie Bank, Simec Zen Energy and WINconnect did not have any qualifying customers – most of these specialise in large customers outside of the scope of the relief package

Large Retailers

✓ 100% Take-Up



- 8/8 Large Retailers* have signed up to participate:
 - AGL, Simply Energy, Momentum Energy and ERM Power have signed up to participate in both small business rebates and residential customer deferrals
 - Origin, Energy Australia, Red Energy and Lumo Energy have opted to sign up for only the small business customer rebates component of the package

Small Retailers

✓ 100% Take-Up



- 17/17 Small Retailers* have signed up to participate:
 - Alinta Energy have opted to sign up for only the small business customer rebates and 20% deferral of residential network charges
 - All 16 other Small Retailers have signed up to participate in all of the small business customer rebates, residential customer rebates and the 20% deferral of residential network charges

Some retailers challenged the eligibility criteria, wanting the package to go further, sought ACCC approval to 'negotiate' collectively and even seeking to be able to write off our network charges without similar write-offs on the retail side, but ultimately all joined the scheme

Operational changes

We've heard...

Project delivery was negatively impacted, however, stakeholders were pleased with the transparency provided by networks in their communications

Many stakeholders mentioned that the **efficiency of capital works had diminished** as a result of the pandemic. This was seen to be a result of social distancing measures, delays in capital and equipment coming from overseas.

Despite the disruption to productivity that COVID-19 had reaped, stakeholders expressed **satisfaction that their relationships with the networks had improved since the beginning of the pandemic**. There was more transparency and regular contact to discuss issues despite a lack of face-to-face contact.

“There has been a changed responsiveness from distributors and a shared understanding of what the issue is [since the start of the pandemic].”

Workshop Stakeholder

On the 9th September 2020 we engaged with 25 industry stakeholders on the topic of COVID-19 and potential impacts on our communities and our businesses' planning for the future.

Throughout this pack we have included their feedback.

Our work practices have changed

But we remain focused on delivering a safe and reliable electricity supply to our customers

- We have implemented an information campaign on how best to prepare for planned outages when in lockdown. We are also working with our customers to find the best time to carry out planned outages to minimise impact
- We have mobilised our teams and are carrying out the necessary planning and preparation to help protect the health and safety of our people and the community, while we continue delivering essential services to our customers.
- The actions we have taken will ensure we are well positioned to respond to faults, critical maintenance and other activities
- Below we summarise the changes that have taken place in our work protocols as a result of COVID-19

General	Critical functions	Field-based work
<ul style="list-style-type: none">• Established COVID-19 Response Team• Developed escalation scenarios and prioritised action plans to ensure continuity of supply• Developed a protocol, including required communications, for a confirmed case of COVID-19• Provided an email inbox and phone contact line for staff with any queries or concerns regarding COVID-19• Provided remote working capability• Reception and front counters closed with no external visitors permitted• All international business travel suspended, strict protocols for domestic travel• Restricted staff travel between offices and depots to only essential movements,• Increased cleaning protocols and provided PPE at all offices and depots• Continually communicate good hygiene practices and social distancing• Breaking work programs down into smaller packages with shorter duration outages or using generators or network transfers to reduce duration or impact of planned outages• Provided a reimbursement to enable staff to purchase their own re-usable face mask	<ul style="list-style-type: none">• Critical functions (control room, dispatch, contact centre) split over 2 or 3 locations to minimise risk of infection• Tightened access to critical function areas (e.g. separate kitchen/bathroom facilities, separate lifts.)• Increased protocols for shared workspaces for critical functions (provision of individual keyboards and headsets, increased cleaning protocols etc.)• Managing staff rotations and shift handovers to minimise risk of transmission	<ul style="list-style-type: none">• Revised protocols implemented to protect our field crews when attending a site where a customer is in self-isolation due to COVID-19• Segregation of field crews to minimise risk of transmission• Limited one person per vehicle (normally the vehicle has two crew members)• Staggered start times and mobilisation from home (instead of depot) where possible to minimise risk of transmission• Minimised work group interaction within a depot (eg separate muster rooms)

Working under these conditions has led to some savings, such as closing office space, as well as higher costs including limited sharing of staff between depots and jobs and increased vehicle usage

We've heard...

Flexibility and transparency in operations were critical to mitigate these risks

In the short-term, **potential supply chain delays were expected to continue**, particularly for major capital expenditure requiring equipment or expertise from overseas. Manufacturing and delivery processes may need to be shifted as some Stakeholders suggested that there will be greater on-shore manufacturing in the medium to long-term in Australia as a result of the pandemic.

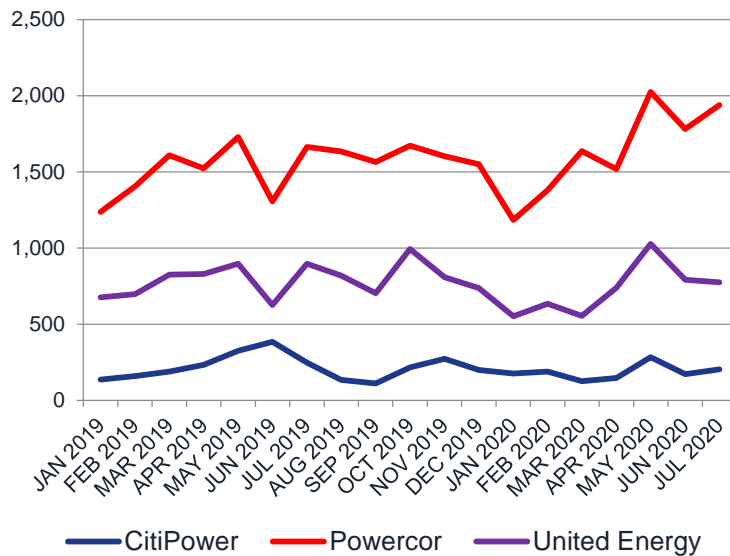
Capital works delivery was likely to be delayed by a slow-down in project approvals and delivery of works as a result of disruption to normal operations and work practice restrictions. This was expected to be short lived and may result in a delay in project timing.

Stakeholders asked for greater communication and transparency from the networks in communicating these operational challenges. Flexibility and innovation was proposed in the short-term to ensure that operations could continue business-as-usual.

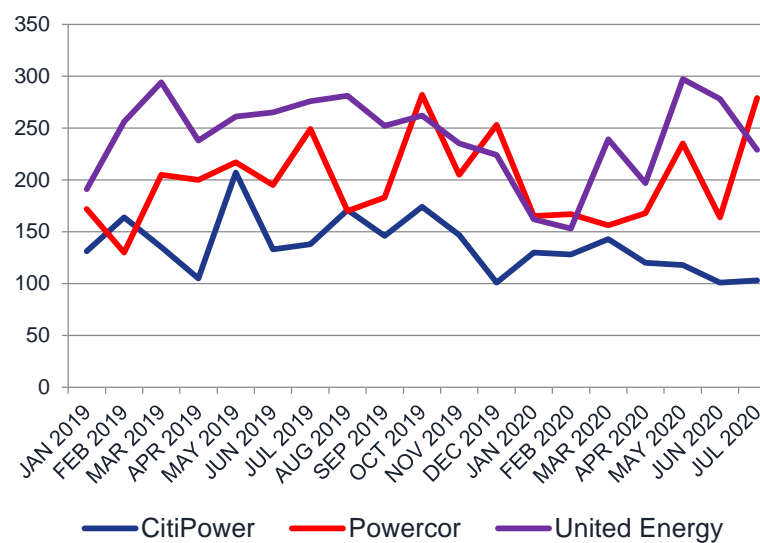
So far our works have been business as usual

- We have not seen a large reduction in network activity to date (e.g. connections data below)
- We have not paused or delayed any major projects
- Changes in our work practices have made it more challenging however it has not had a material impact on our works program

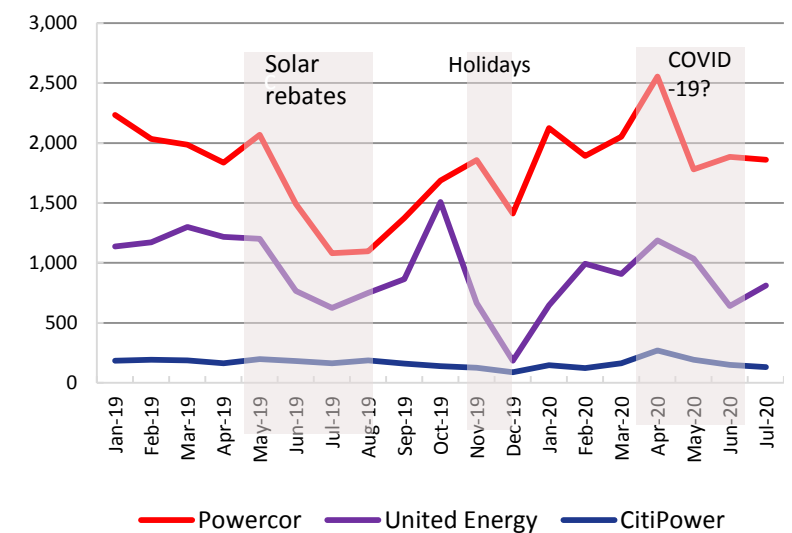
Residential connections per month



Non-residential connections per month



Solar PV connections



Despite COVID-19 it remains business as usual however it is unclear if this is a product of a lag in project deferrals

Changing usage profiles

We've heard...

Demand profiles were expected to continue to shift, with stakeholders expecting more customer data with greater granularity to manage these changes

Stakeholders generally thought that as a result of the pandemic, consumption of energy and demand for network capacity will vary by sector, and will drive changes in investment.

Residential

Residential consumption has increased in the short term as Australians are forced to stay at home. It was thought that the working from home trend would continue into the long-term and shift demand from commercial to residential.

Ensuring residential customers had greater agency was seen to be the key to ensuring positive customer/ networks outcomes. Stakeholders wanted to see more communication with residential customers to and a better utility of customer data to manage residential energy consumption, particularly during the day. This included optimising customer experience, particularly as it related to planned outages and load management.

Commercial

Commercial consumption and peak demand has been negatively impacted as retailers and the hospitality sector close and is not expected to reach pre-COVID levels in the next 5 years.

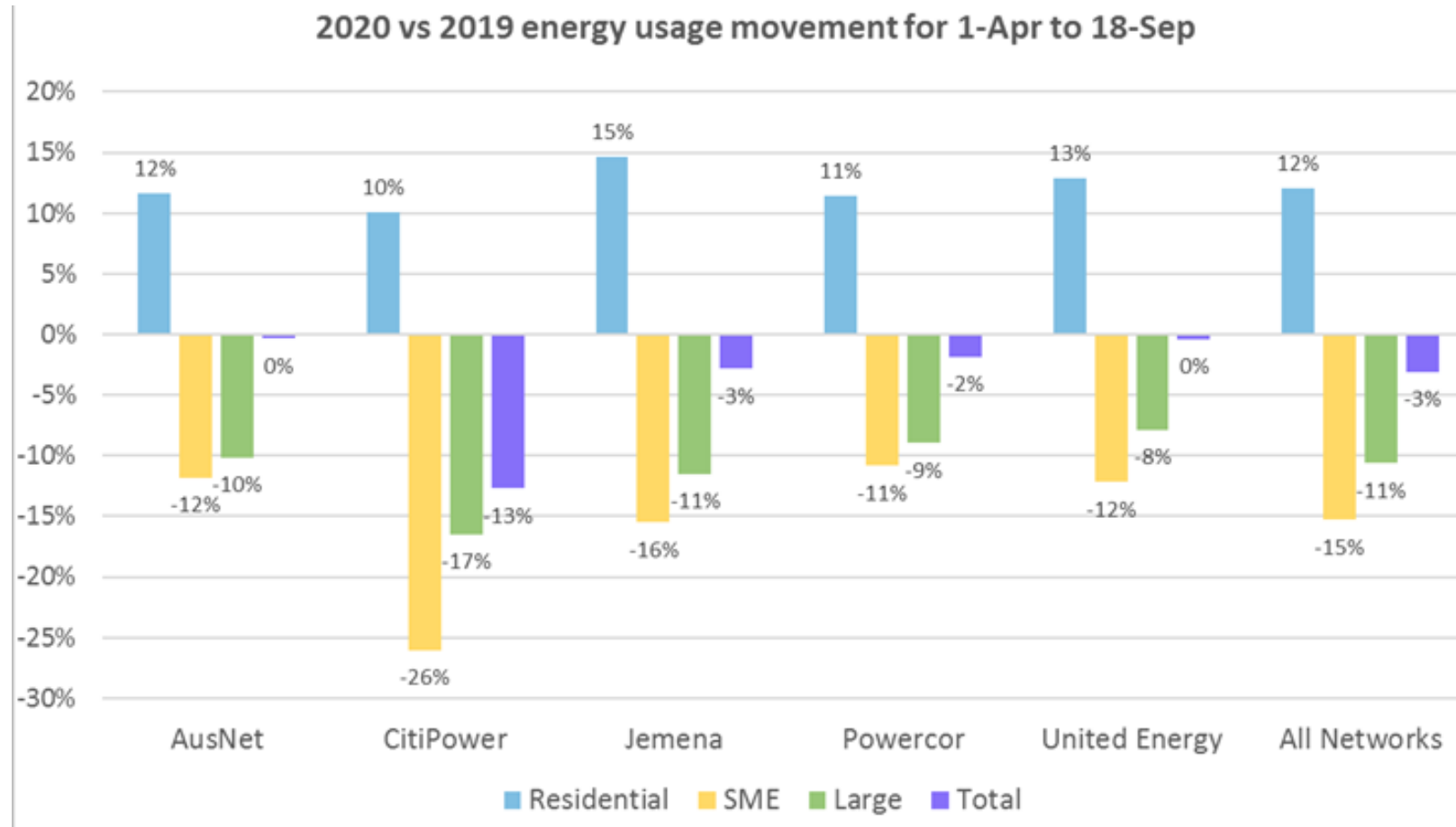
Ensuring commercial customers had access to financial support packages and were given confidence through thorough and predictable forecasts, was seen to be the main way to mitigate the impacts of the pandemic on their relationship with the networks.

Industrial

The industrial sector will also be negatively impacted as demand for goods slows. Similar to the commercial sector, a slower recovery to underlying levels was expected by stakeholders.

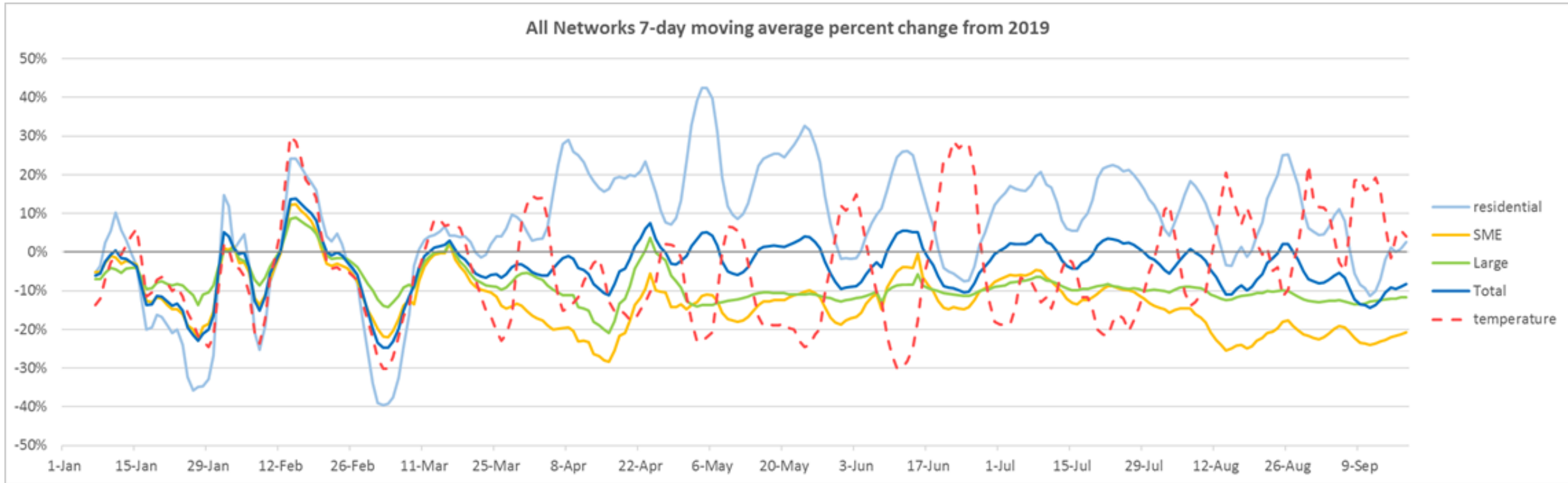
Despite this, there were some stakeholders who were optimistic about an increase in on-shore manufacturing in Australia.

Energy consumption changes across distributors, Apr to Sep 2020

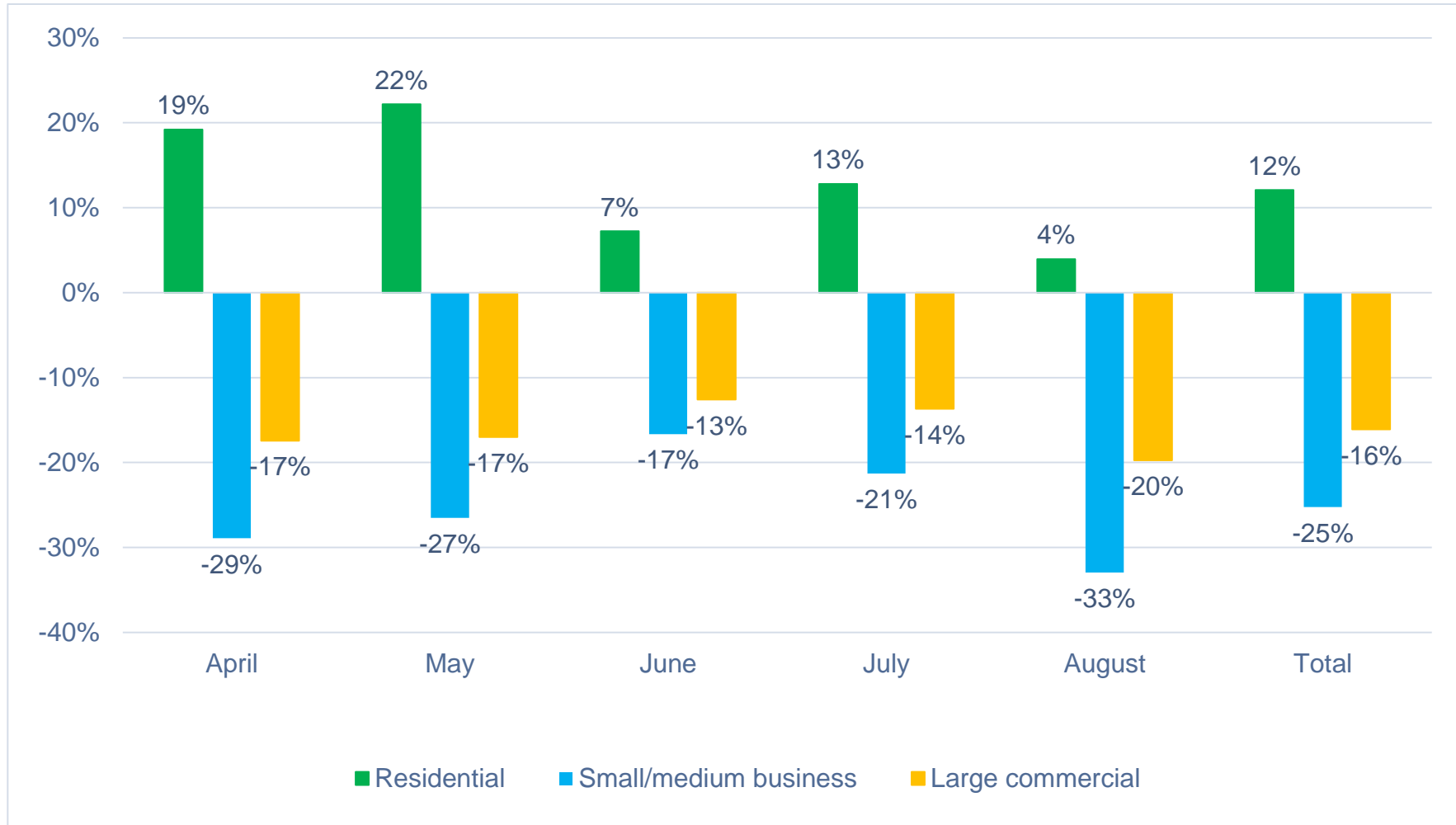


- Chart measures the period April to September 2020
- CitiPower has experienced the greatest decline in commercial usage compared to other Victorian networks
- The weather can also play a role in year on year comparison, with significant weather deviations resulting in up to 10% difference in usage
- On slides 20 to 22 we compare usage during a week where the weather was similar in 2019 and 2020

7-day moving average percentage change for all distributors

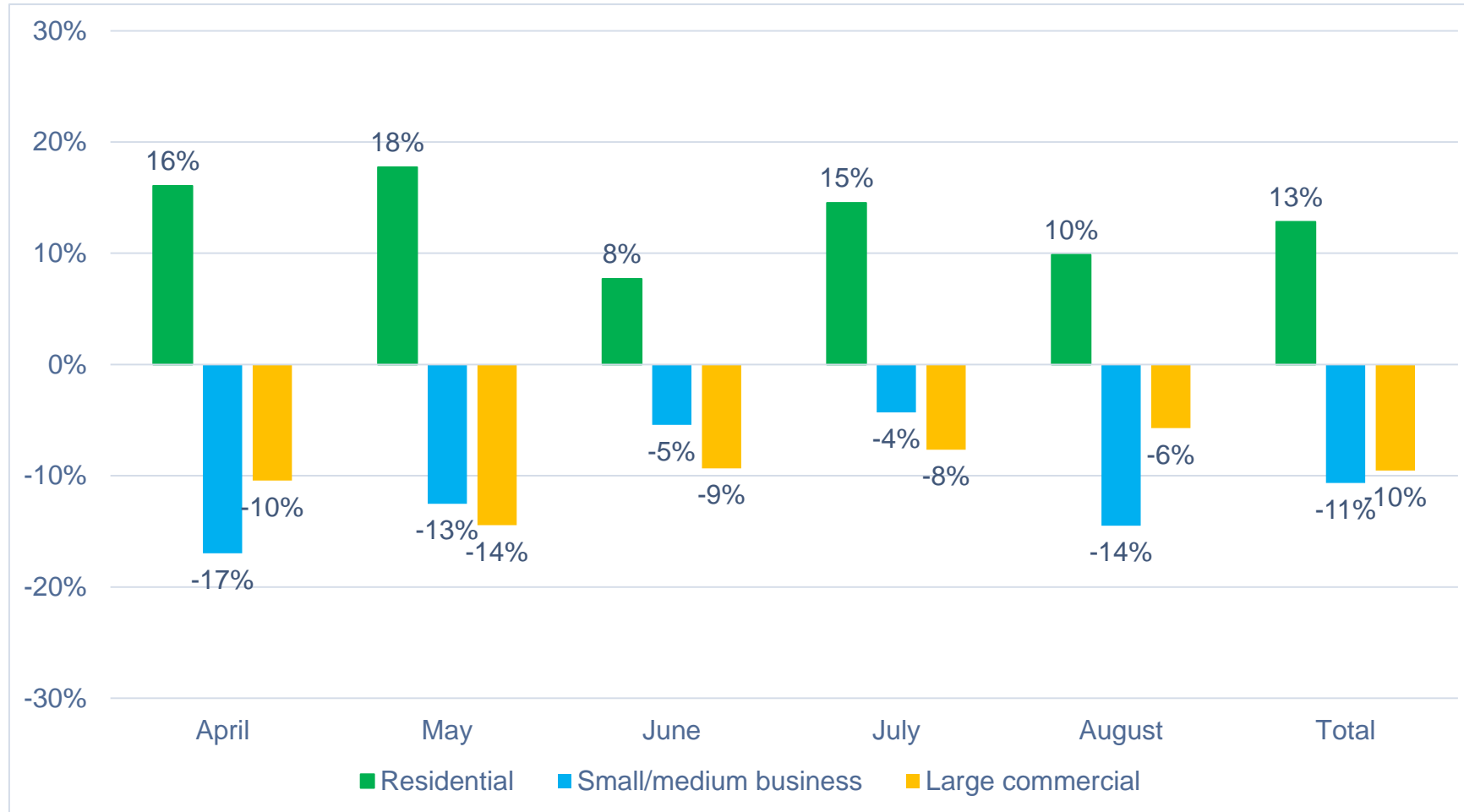


Impact of COVID-19 on consumption in CitiPower



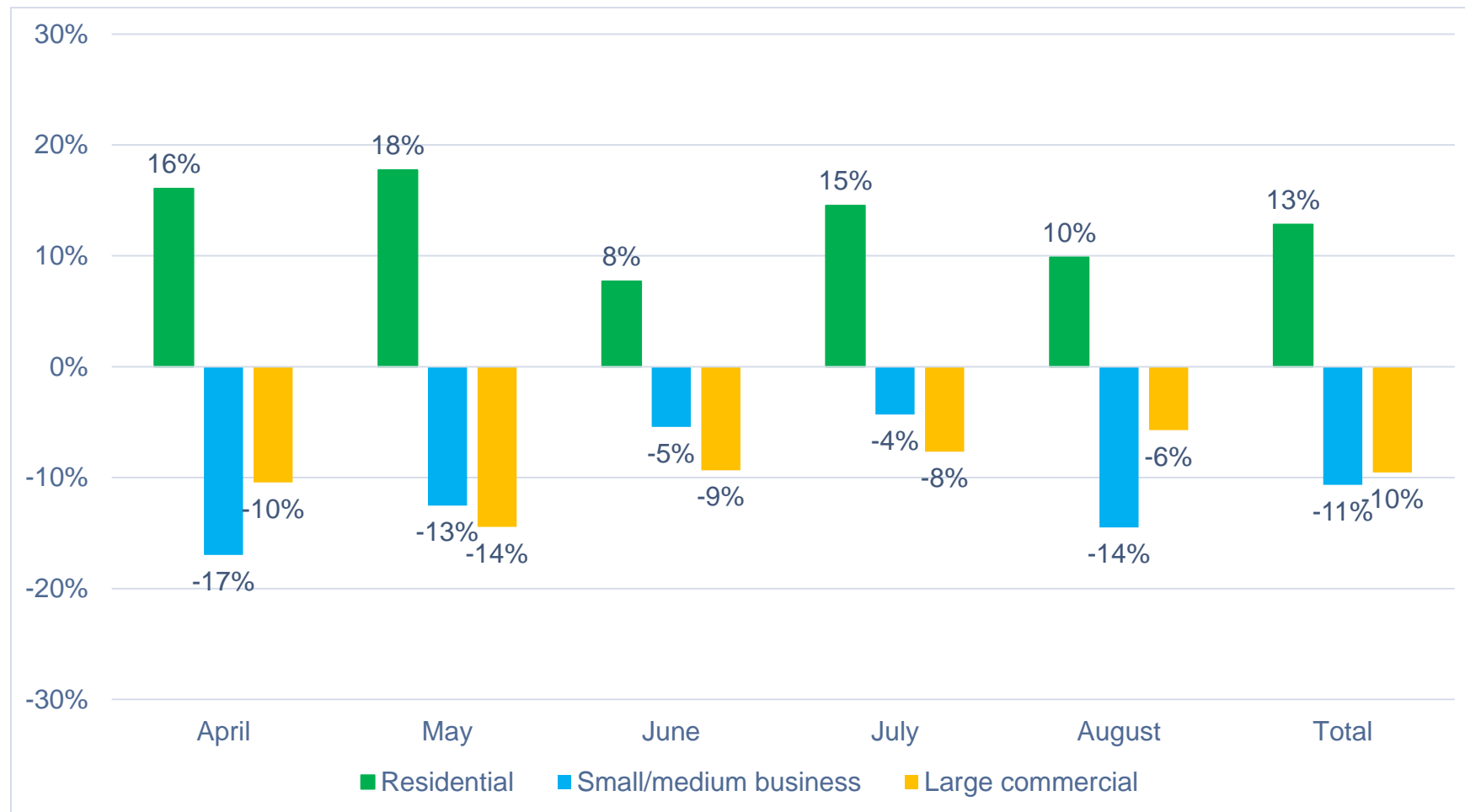
- Chart measures the period April to August 2020
- CitiPower has experienced the greatest decline in commercial usage compared to other Victorian networks
- There was an overall 12% reduction in consumption over this five month period
- We estimate CitiPower will under recover around 5% of its 2020 revenue due to COVID-19

Impact of COVID-19 on consumption in Powercor



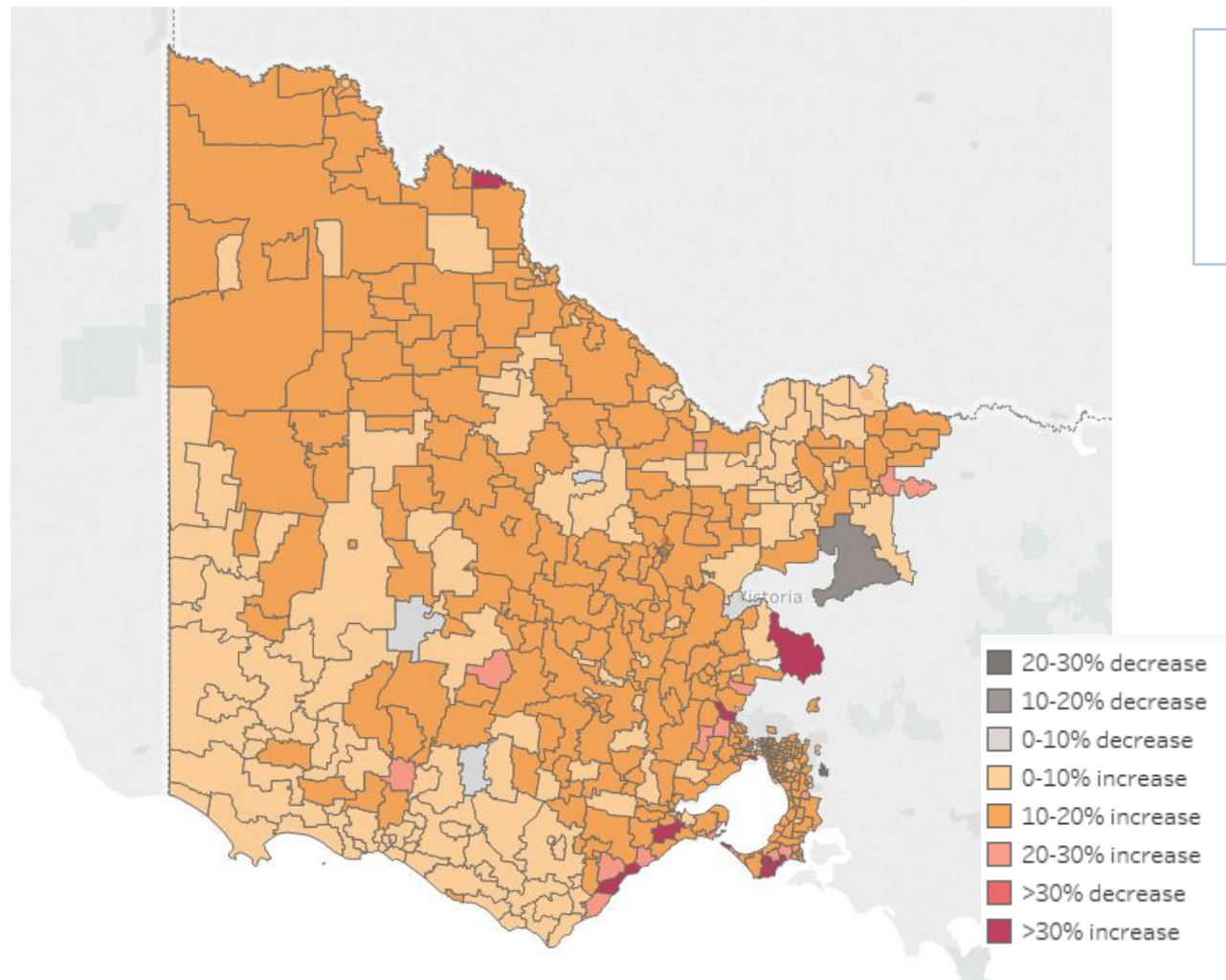
- Chart measures the period April to August 2020
- Powercor has a larger residential customer base compared to CitiPower.
- Overall consumption has remained relatively flat over the five month period
- We estimate Powercor will over recover around 1% of its 2020 revenue due to COVID-19

Impact of COVID-19 on consumption in United Energy



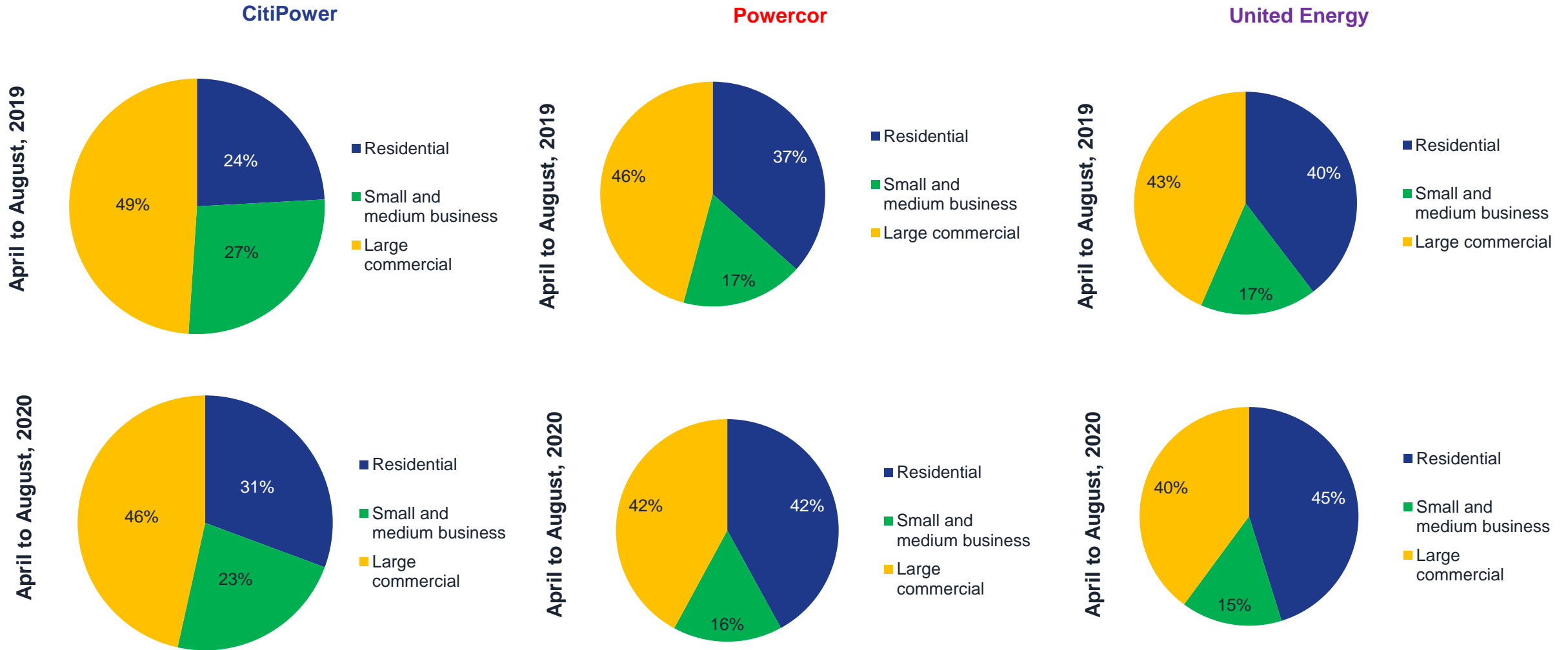
- Chart measures the period April to August 2020
- United Energy's overall consumption was around 0.5% higher over the five month period
- Overall, we estimate United Energy will over recover around 0.6% of its 2020 revenue in 2020 due to COVID-19, based on an overall 1% increase in consumption

Percentage increase in residential use across all networks



- Across our three networks, electricity consumption from the residential sector has increased while the small business and large commercial sector usage has fallen since March 2020

Changing consumption between residential and commercial



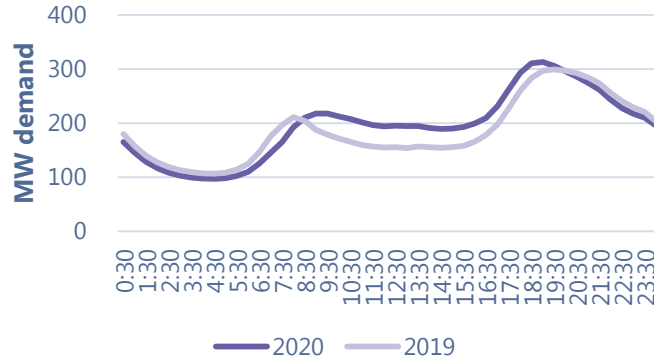
Load profile comparison in CitiPower

- The daily comparisons assume similar weather
- The load curves are relatively similar

Weekday profile

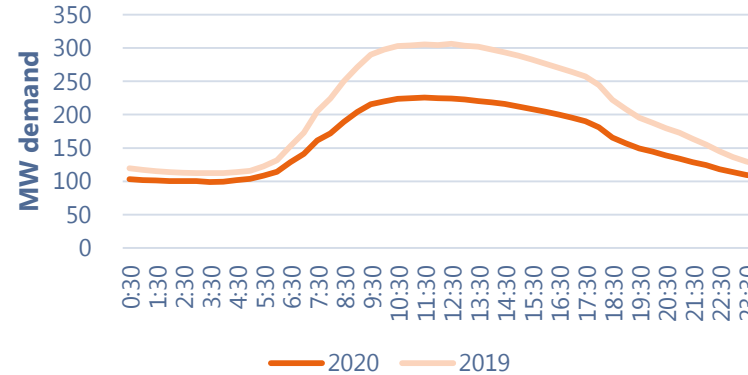
Residential

CitiPower residential average weekday profile
Week ended 5 Jun 2020 v. 2019



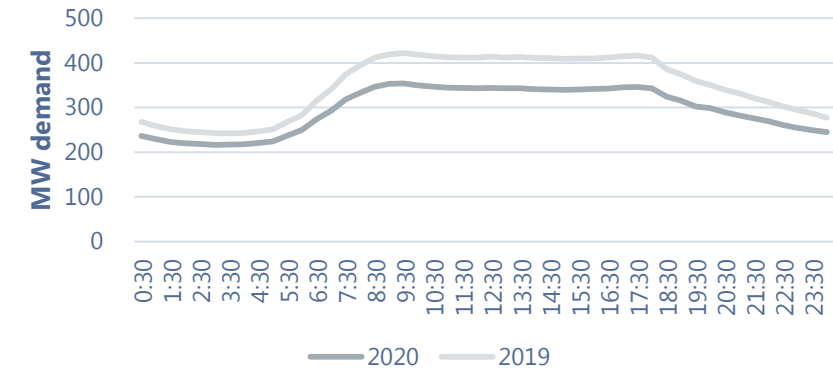
Small and medium business

CitiPower SME average weekday profile
Week ended 5 Jun 2020 v. 2019



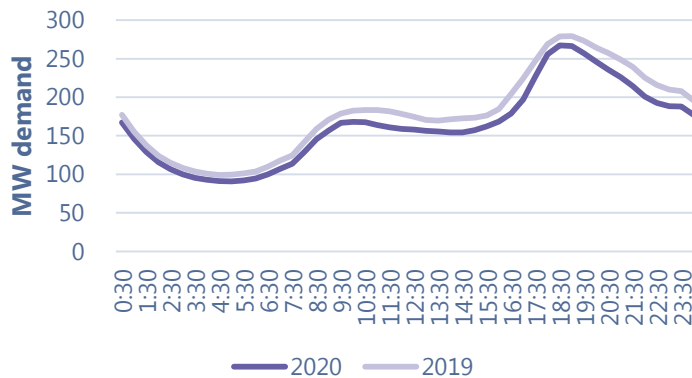
Large business

CitiPower large business average weekday profile
Week ended 5 Jun 2020 v. 2019

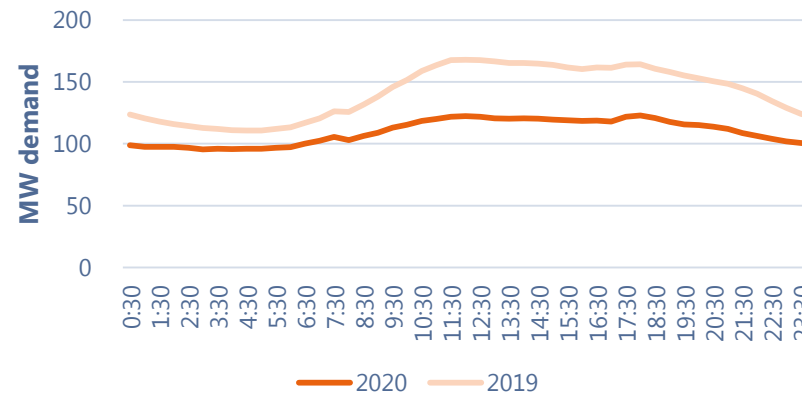


Weekend profile

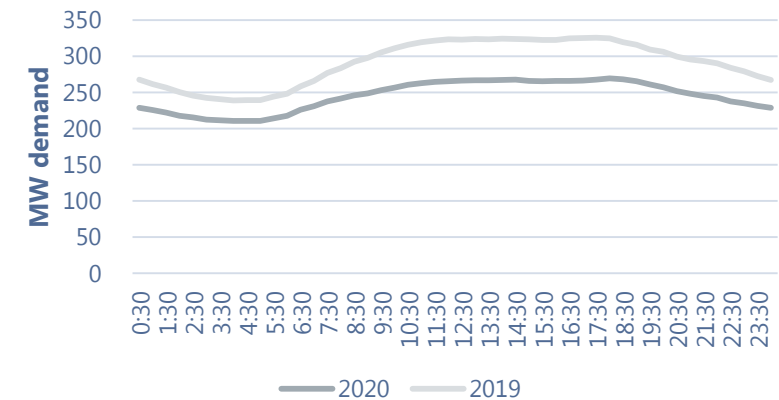
CitiPower residential average weekend profile
Week ended 5 Jun 2020 v. 2019



CitiPower SME average weekend profile
Week ended 5 Jun 2020 v. 2019



CitiPower large business average weekend profile
Week ended 5 Jun 2020 v. 2019

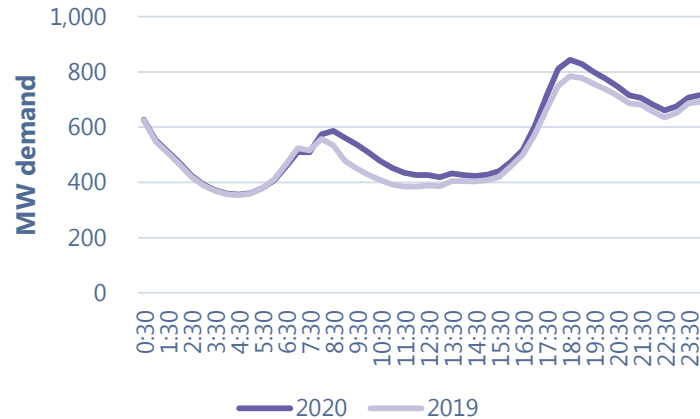


Load profile comparison in Powercor

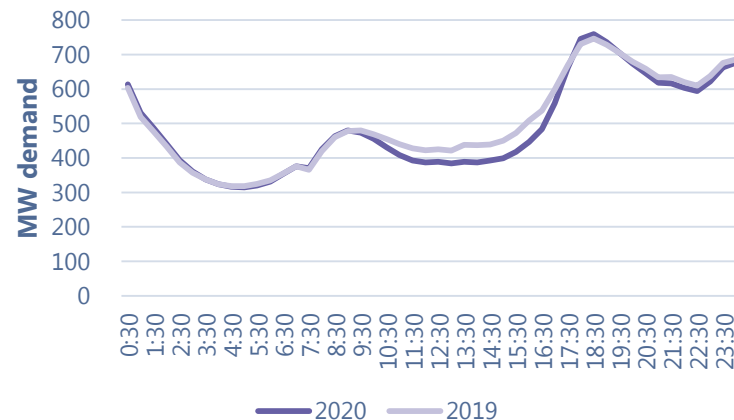
- The daily comparisons assume similar weather
- The load curves are relatively similar

Residential

Powercor residential average weekday profile
Week ended 5 Jun 2020 v. 2019

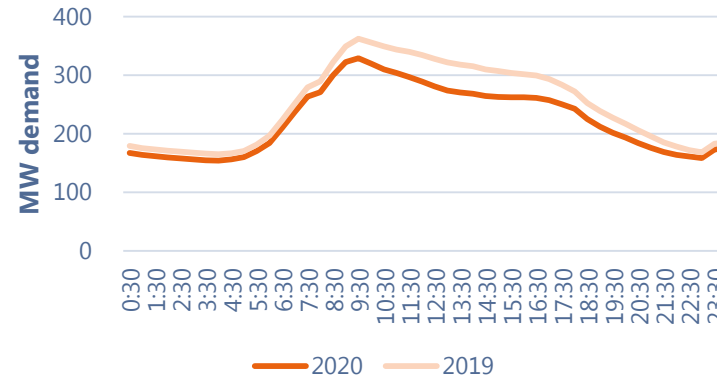


Powercor residential average weekend profile
Week ended 5 Jun 2020 v. 2019

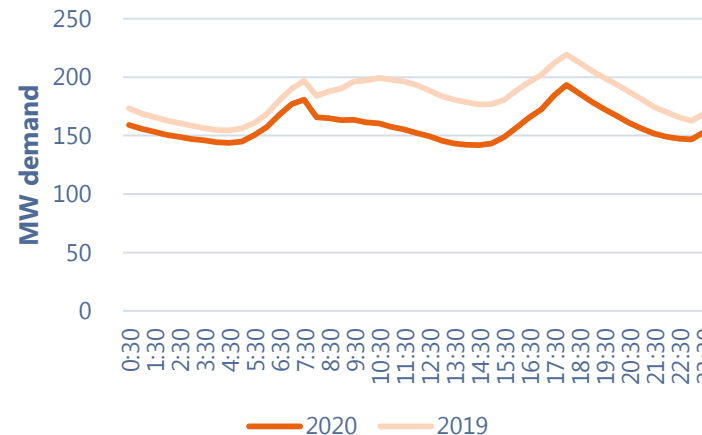


Small and medium business

Powercor SME average weekday profile
Week ended 5 Jun 2020 v. 2019

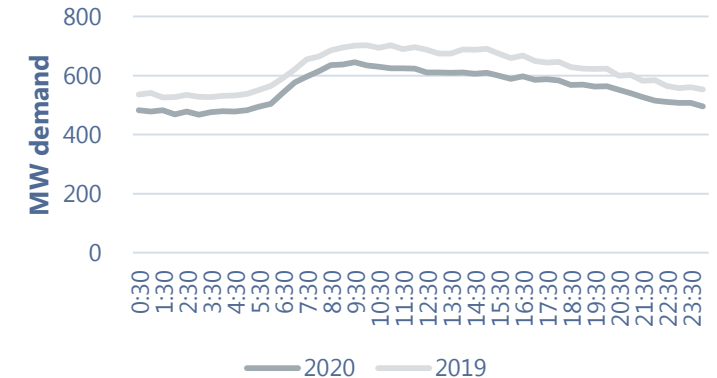


Powercor SME average weekend profile
Week ended 5 Jun 2020 v. 2019

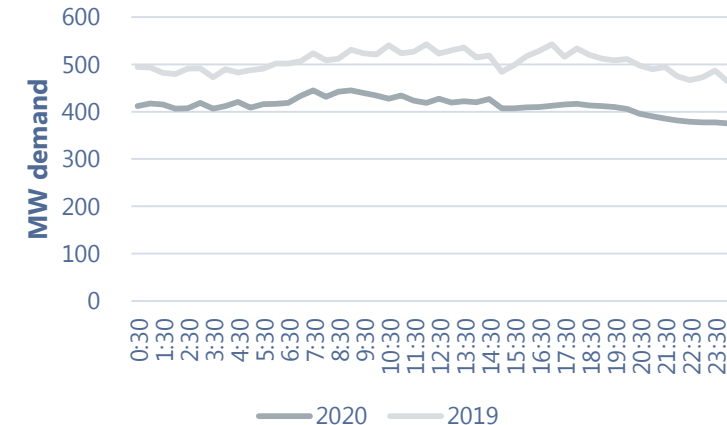


Large business

Powercor large business average weekday profile
Week ended 5 Jun 2020 v. 2019



Powercor large business average weekend profile
Week ended 5 Jun 2020 v. 2019

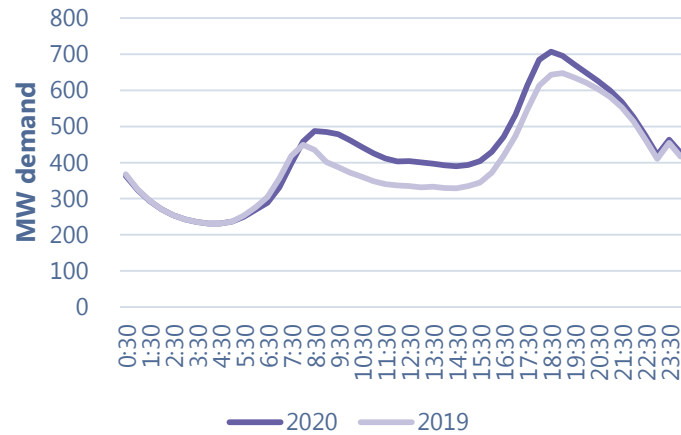


Load profile comparison in United Energy

- The daily comparisons assume similar weather
- The load curves are relatively similar

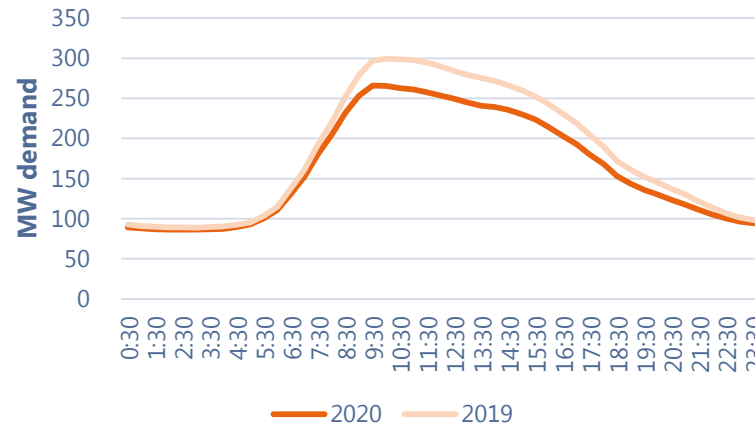
Residential

United Energy residential average weekday profile
Week ended 5 Jun 2020 v. 2019



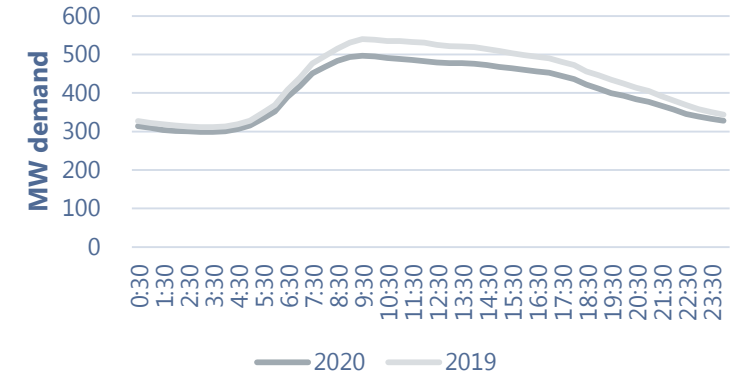
Small and medium business

United Energy SME average weekday profile
Week ended 5 Jun 2020 v. 2019

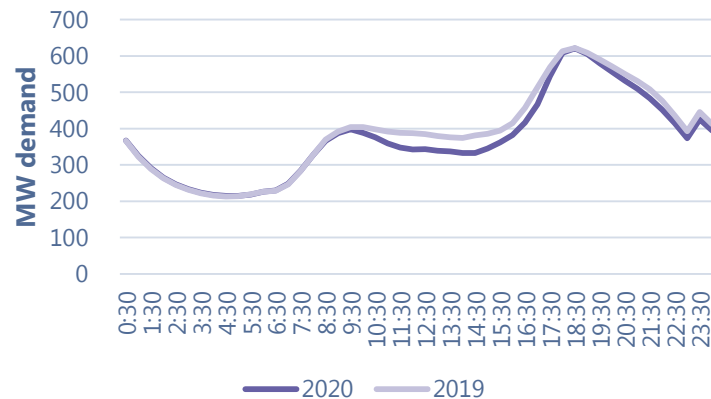


Large business

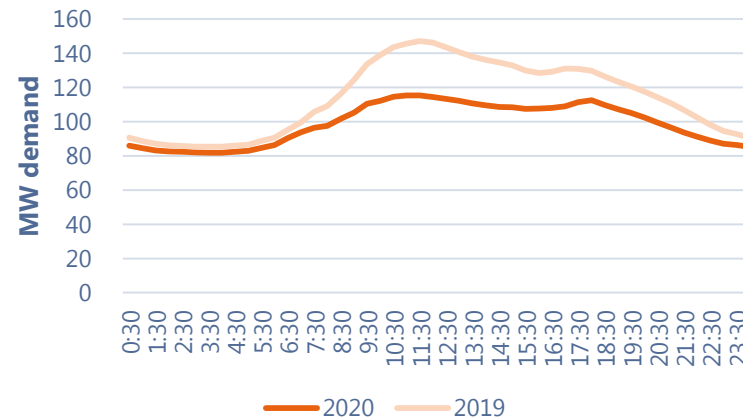
United Energy large business average weekday profile
Week ended 5 Jun 2020 v. 2019



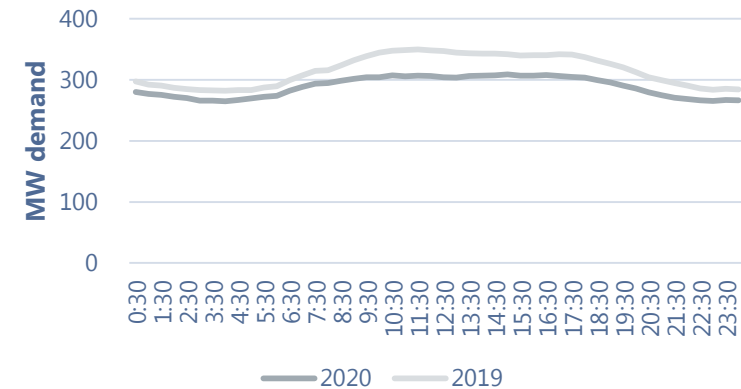
United Energy residential average weekend profile
Week ended 5 Jun 2020 v. 2019



United Energy SME average weekend profile
Week ended 5 Jun 2020 v. 2019



United Energy large business average weekend profile
Week ended 5 Jun 2020 v. 2019



Weekday profile

Weekend profile

Planning for summer 2020-21

- The largest risk arising from COVID-19 for summer is an increase in residential air-conditioning load
- This could impact demand in areas where our network is heavily residential and already constrained
- To manage these areas, we are developing a model based on AMI data to analyse changes in usage patterns for residential customers at two heavily residential zone substations, Laverton (LV) and Werribee (WBE). We will use those results to predict changes in demand for those customers if there is still a “work from home if you can direction”
- Based on the results we will extrapolate the methodology to all areas of the network
- Initial results show that overall consumption is expected to decrease but peak demand is expected to increase. We expect that load at risk will increase at these substations and at other highly residential substations

Demand response

- We are already planning a demand response campaign to implement in those areas as the most efficient and fast solution. However, we do expect some challenges as participants will be asked to reduce their air conditioner use which could be challenging should they still be prevented from visiting the beach, shopping centres or theatres
- It is likely our solution will be mix of feeder transfers and demand response

We are prepared for a hot summer with potential for significant growth in residential demand

Forecasting for COVID-19 impacts

We've heard...

Forecast integrity and granularity	Changing consumers trends and potential innovations	Government changes and policy risks	Potential Changes to productivity and revenue
<ul style="list-style-type: none"> There was some confusion that the proposal focussed too heavily on macro-trends rather than micro-trends. Many saw the forecasts to be high-level and did not take into account the impact of the pandemic on a more granular level. This included giving forecasts that were industry- based, age-based, geography-based and included elasticities in age groups and elasticities in energy. There was no consideration of customers moving to regional centres from Melbourne and the impact that this would have on demand forecasts for the three networks. <div data-bbox="155 1065 631 1253"> <p><i>"Where is it based from? Is it triangulated with data from real-estate agents and appliance manufacturers and retailers?"</i> Workshop Stakeholder</p> </div>	<ul style="list-style-type: none"> Some stakeholders mentioned that the forecasts did not factor in potential increases in gas and hydrogen use in the future. This also included potential innovations in solar enablement such as a greater rollout of community battery and other changes to the grid. Disruptions to solar uptake / not enough information was seen to be accounted for, within forecasts. This included reduction to solar uptake in growth belts. <div data-bbox="657 972 1128 1108"> <p><i>"Solar has mainly been in the growth belt. Are we taking into consideration mortgage deferrals in these areas?"</i> Workshop Stakeholder</p> </div> <div data-bbox="657 1139 1128 1275"> <p><i>"The proposal was rear-vision focussed. It's not anticipating potential future impacts of COVID."</i> Workshop Stakeholder</p> </div>	<ul style="list-style-type: none"> Many thought that the forecasts should have taken greater consideration of potential infrastructure policy that could be implementation as a result of the pandemic. If Victoria chose to invest in infrastructure programs, it could increase project delivery. Stakeholders wanted to understand the extent potential changes in State and/ or Federal Government would have on infrastructure and renewable project spend. Some were conscious that Labor may lose power at the next Victorian State Election and this was expected to be taken into account within the forecasts. <div data-bbox="1156 1086 1628 1282"> <p><i>"What if there's a change in government? Where's the contingency there?"</i> Workshop Stakeholder</p> </div>	<ul style="list-style-type: none"> Some stakeholders thought that the forecast did not factor in the changes in productivity on major projects and the delays in manufacturing and shipping that have been experienced. This was seen important as they relate to changes in the cost of equipment. <div data-bbox="1656 701 2137 896"> <p><i>"How has COVID impacted the cost of business on their operations? Half-crews, low productivity."</i> Workshop Stakeholder</p> </div>

We've heard...

Stakeholders expected more communication, granularity of data and support packages to manage the economic and financial impacts of the pandemic

Due to the disproportionate impact of COVID-19 on different customers, there was an expectation that **a greater provision of data and communication to stakeholders was the best method to understand customer behaviour**. This included more detailed and granular data to predict the behaviour of certain customer types and help build agency and affordability.

Macroeconomic factors such as population, economic and wage growth decline were also discussed, with the expectation that forecasts should be changed to take into consideration slower population and load growth in Victoria.

For the networks, there was an expectation that there would be a loss of revenue from business customers who were shutting down and vulnerable customers pooling more resources that would impact their bottom line. It was expected that this be factored into forecasts.

We've heard...

Certain government subsidies were seen to mitigate short-term impacts on customer numbers, however, long-term impacts were not seen to be fully mitigated.

Large connections, particularly those driven by government spending were thought to be less impacted by COVID-19 as Governments will be incentivised to drive economic activity through investment in infrastructure.

JobKeeper and JobSeeker were seen to be suitable short-term solutions as stakeholders were conscious that the pace of economic recovery would dictate customer numbers. The bigger question for many stakeholders was - how long these support packages will last.

Home builder was not seen to be a sufficient program to reduce the impact of the pandemic on connections in the short or long-term.

There were some stakeholders who proposed that there were different drivers for new connections, solar uptake and consumption levels and these should be taken into account within the forecasts.

For some stakeholders, **population and migration increases were the most likely to lead recovery, not government subsidies.**

Scenario modelling

GSP, population and customer numbers

- Typically we commission a single set of forecasts for customer growth, connections, energy consumption and demand
- However given COVID-19, we commissioned **three forecasts**:
 - Victorian GSP and population
 - Customer numbers / new connections
- We also obtained three scenarios for each forecast (base, high, and low)
- The forecasts were acquired in August 2020. There was general reluctance by forecasters to produce scenarios given the fluid nature of restrictions, hence they preferred to not make bold assumptions about structural changes

The table over the page illustrates the key differences in **assumptions for forecasting purposes**. The results are shown in the later slides.

Demand forecasting

- We are also conducting scenario modelling for demand forecasts. However, demand forecasts are more difficult to obtain and will only be ready later in October 2020. GSP and population are inputs into the demand forecasts, which is how different scenarios are obtained.

Scenario modelling (cont.)

Table: Key differences in assumptions for forecasting purposes

	BIS Oxford Base	BIS Oxford High	BIS Oxford Low	Macro-monitor Base	Macro-monitor High	Macro-monitor Low	NIEIR Base	NIEIR High	NIEIR Low
Successful vaccine	End-2021	End-2021	End-2021	2021	2021	2021	Early-2021	Mid-2021	Early-2023
Borders open	Start-2022	Mid-2021	Mid-2022	Early-2022	Early-2022	Early-2022	Mid-2021	Late-2021	Early-2022
Net overseas migration returns to normal	Mid-2024	Mid-2023	Late-2024	Peak in mid-2026	Peak in mid-2025	Peak in mid-2027	Post 2025-26	Post 2025-26	Post 2025-26
Net interstate migration (when expected to increase and settle)	5,000 by 2024	5,000 by 2024	5,000 by 2024	4,500 by 2024	4,500 by 2024	4,500 by 2024	N/A	N/A	N/A
End of strict lockdown	Q4 2020	Q4 2020	Q4 2020	Q3 2020	Q3 2020	Q1 2021	Q4 2020	Q4 2020	Q4 2020
Employment recovery	Mid-2022	Start-2022	Late-2022	Mid-2022	Start-2022	Mid-2023	Mid-2023	Mid-2022	2030
Economy to pre-COVID levels	Mid-2022	Start-2022	Mid-2022	Mid-2022	Start-2022	Mid-2023	Mid-2023	Mid-2022	2030

There is no silver bullet for forecasting COVID-19. Scenario modelling helps address uncertainty.

The federal and state governments' stimuli

Since we obtained the scenario modelling, there have been a number of significant steps taken by the state and federal governments to reduce the impact of COVID-19:

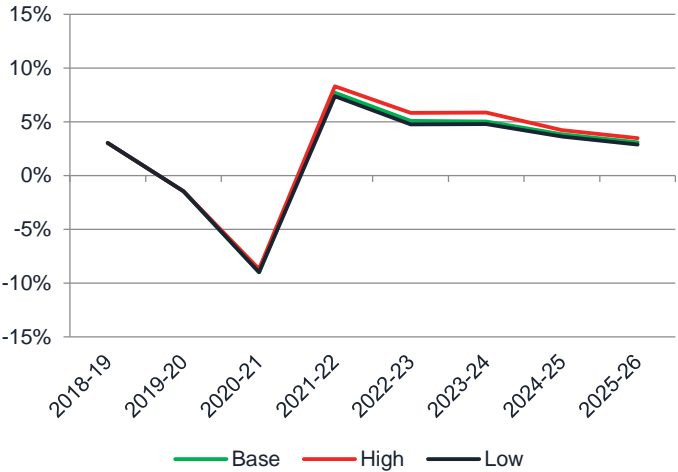
- The Victorian government announced its roadmap to COVID normal, which for the first time indicated its goal of virus elimination
 - While this has led to a longer lockdown, it allows for a faster opening of state borders and potential travel bubbles
 - There was now also potential for faster restriction removal due to lower than expected community transmission
 - Regional Victoria's restriction were lifted sooner than expected, which is most of Powercor's network
- The Victorian government announced its \$3 billion business support package to help businesses recover faster
- The Federal Government will announce its 2020-2021 budget on 6 October 2020, which is expected to have the largest ever stimulus package to help the economy recover from COVID-19, with a Victoria-specific program
- Conversely, the Job Keeper and Job Seeker subsidies are expected to be reduced or removed
- It is yet unclear to what extent these stimuli will affect the short term and long term economy, however they are significant changes since we obtained our forecasts that should be taken into account
 - We will continue to assess the economic forecasts and consider the most appropriate combination of scenarios for our modelling

Without sufficient time to obtain new forecasts or update forecasts frequently, scenario modelling allows us apply the most appropriate scenario at the time of decision making

- On the next few slides we outline the results of the scenario modelling we have obtained to date

Victorian Gross State Product (GSP) forecasts

BIS Oxford



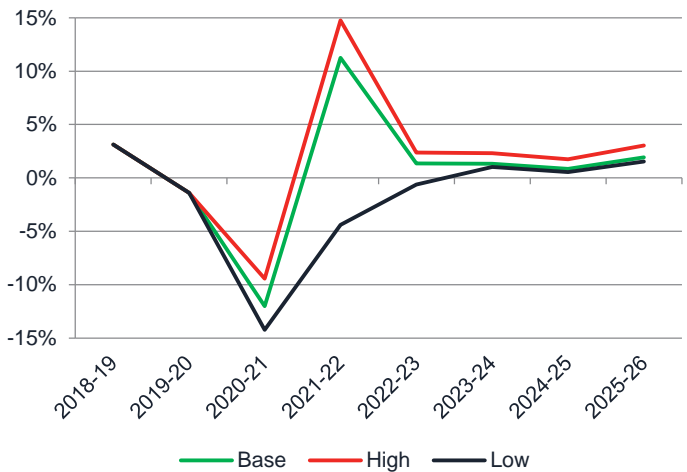
Average	Base	High	Low
2020-2026	2.6%	3.2%	2.4%

Macromonitor



Average	Base	High	Low
2020-2026	2.4%	2.4%	2.2%

NIEIR

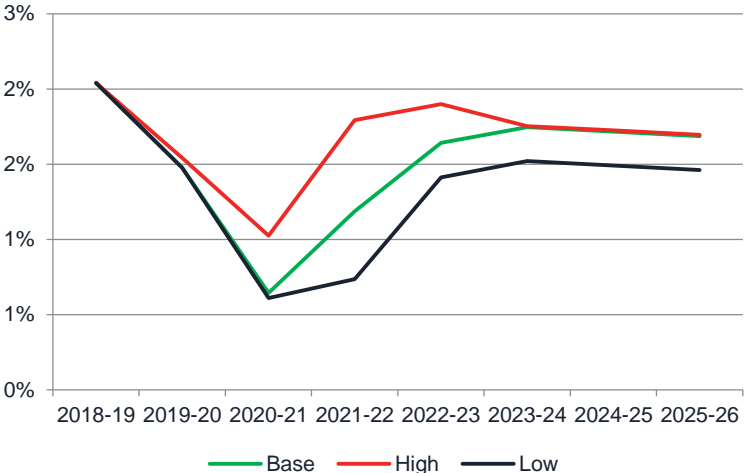


Average	Base	High	Low
2020-2026	0.8%	2.5%	-2.7%

- GSP forecasts are an input into our modelling for customer numbers, connections, energy and demand
- These forecasts impact the rate of change for operating expenditure, connections and augmentation capital expenditure
- Our experience, and the expectations of stakeholders, is demand for renewables is largely indifferent to GSP growth
- The variance in the forecasts demonstrate the level of uncertainty at present

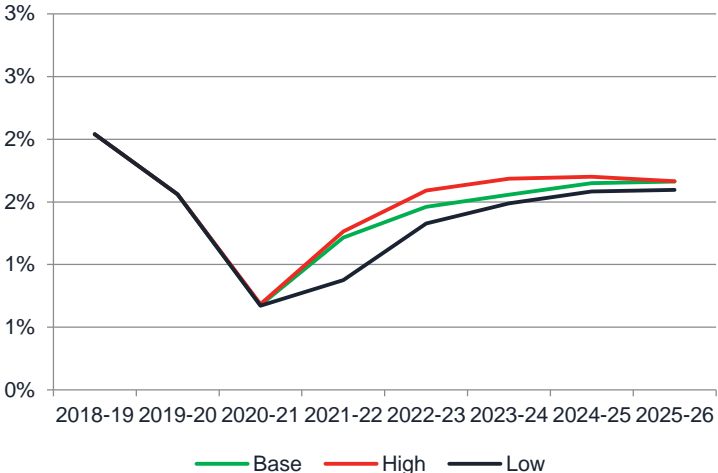
Victorian population forecasts

BIS Oxford



Average	Base	High	Low
2021-2026	1.4%	1.6%	1.2%

Macromonitor



Average	Base	High	Low
2021-2026	1.4%	1.4%	1.3%

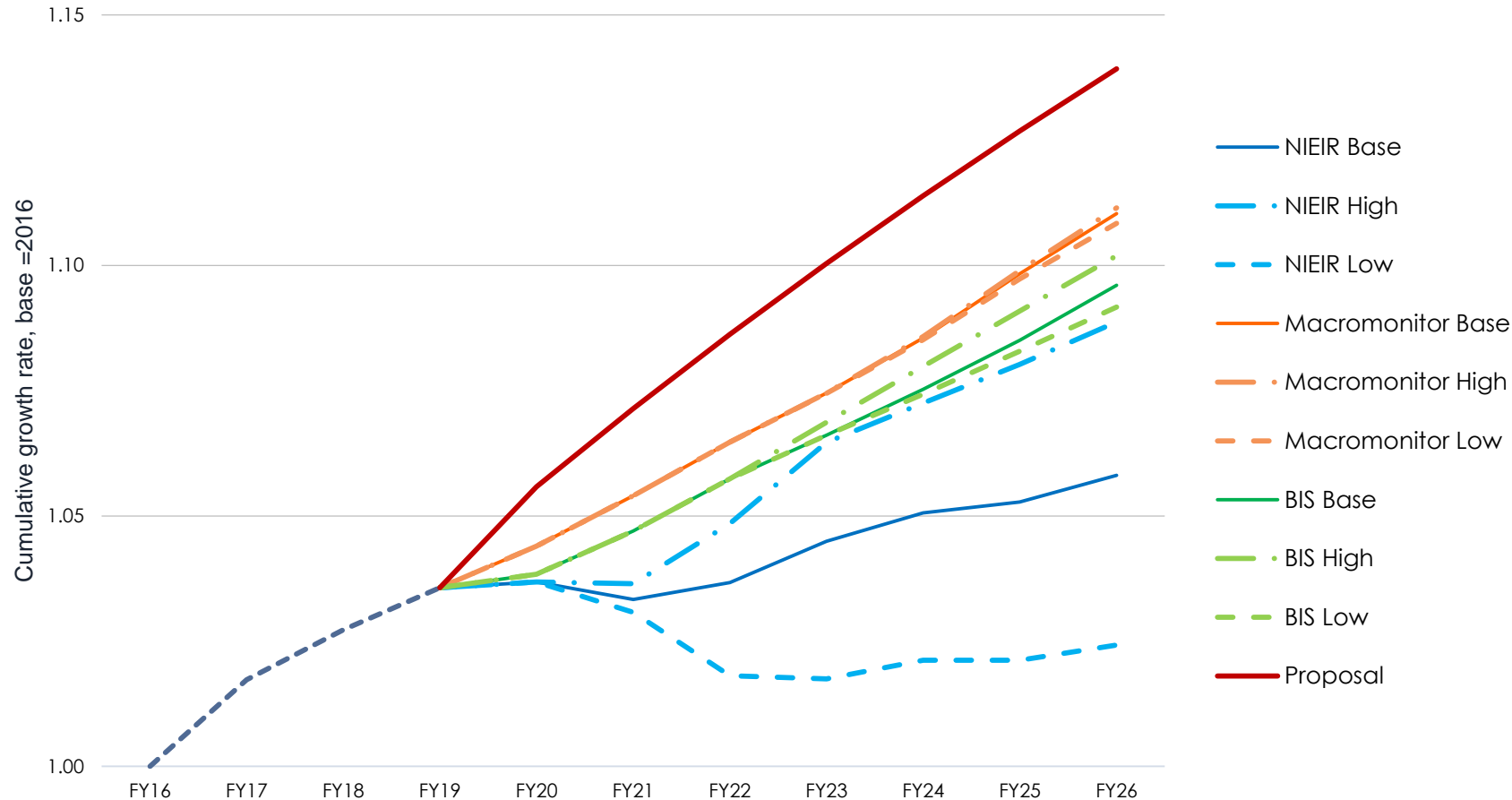
NIEIR



Average	Base	High	Low
2020-2026	1.0%	1.4%	0.7%

- Population forecasts are an important input and the strongest driver of customer numbers, connections, energy and demand
- As such, population forecasts have a significant impact on our operating and capital expenditure forecasts
- Our population forecasts are obtained at local government area to capture growth pockets and applied to determine localised demand forecasts
- Customer numbers, connections and energy are only forecast at a network level

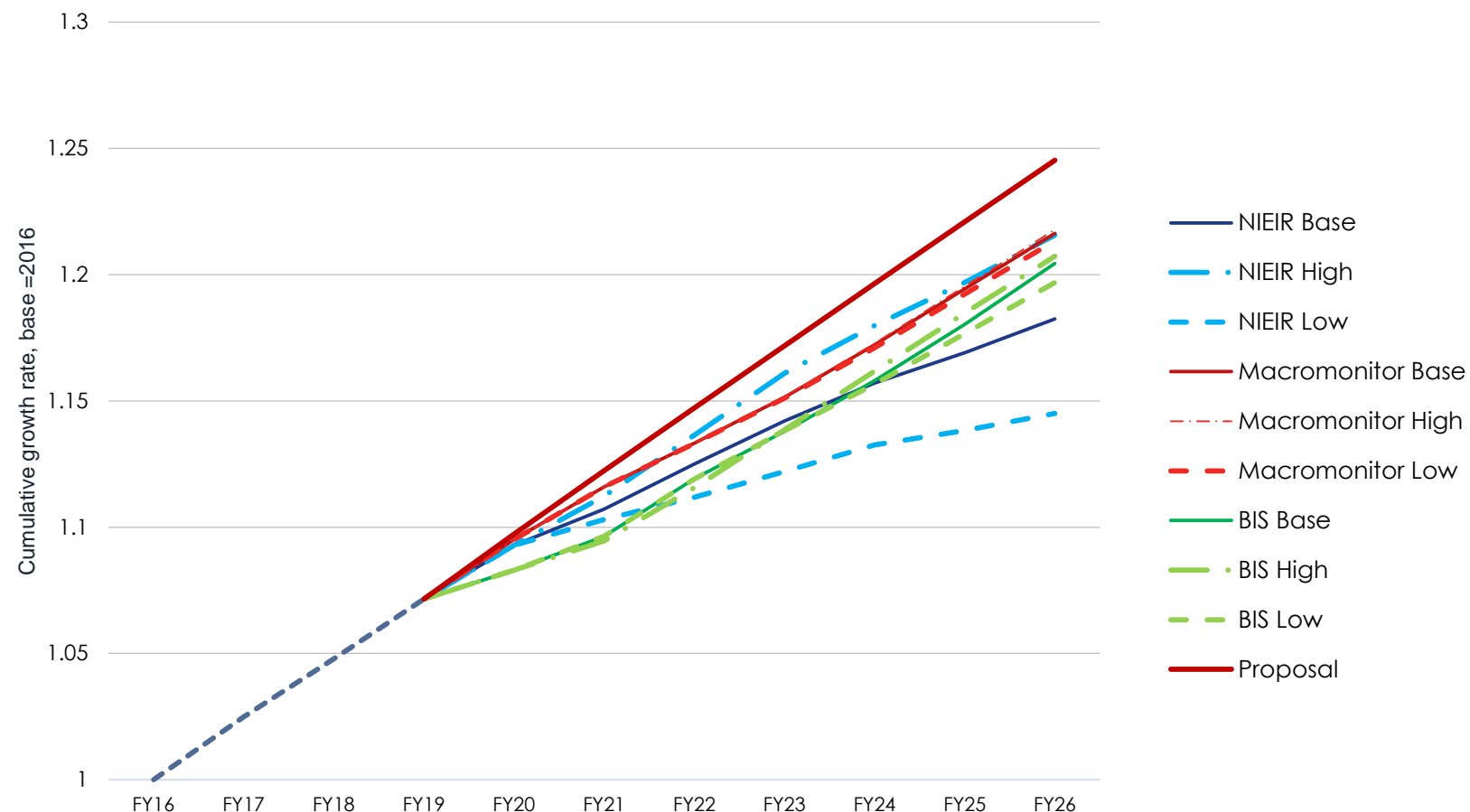
CitiPower customer number scenario modelling



Average % growth for 2021-2026	Base	High	Low
BIS Oxford	0.9%	1.0%	0.8%
Macromonitor	1.0%	1.1%	1.0%
NIEIR	0.5%	1.0%	-0.1%
Our original proposal	1.2%	N/A	N/A

- All scenarios are lower than our original proposal
- The difference between the scenarios is larger than for Powercor and United Energy as CitiPower has a large commercial customer base

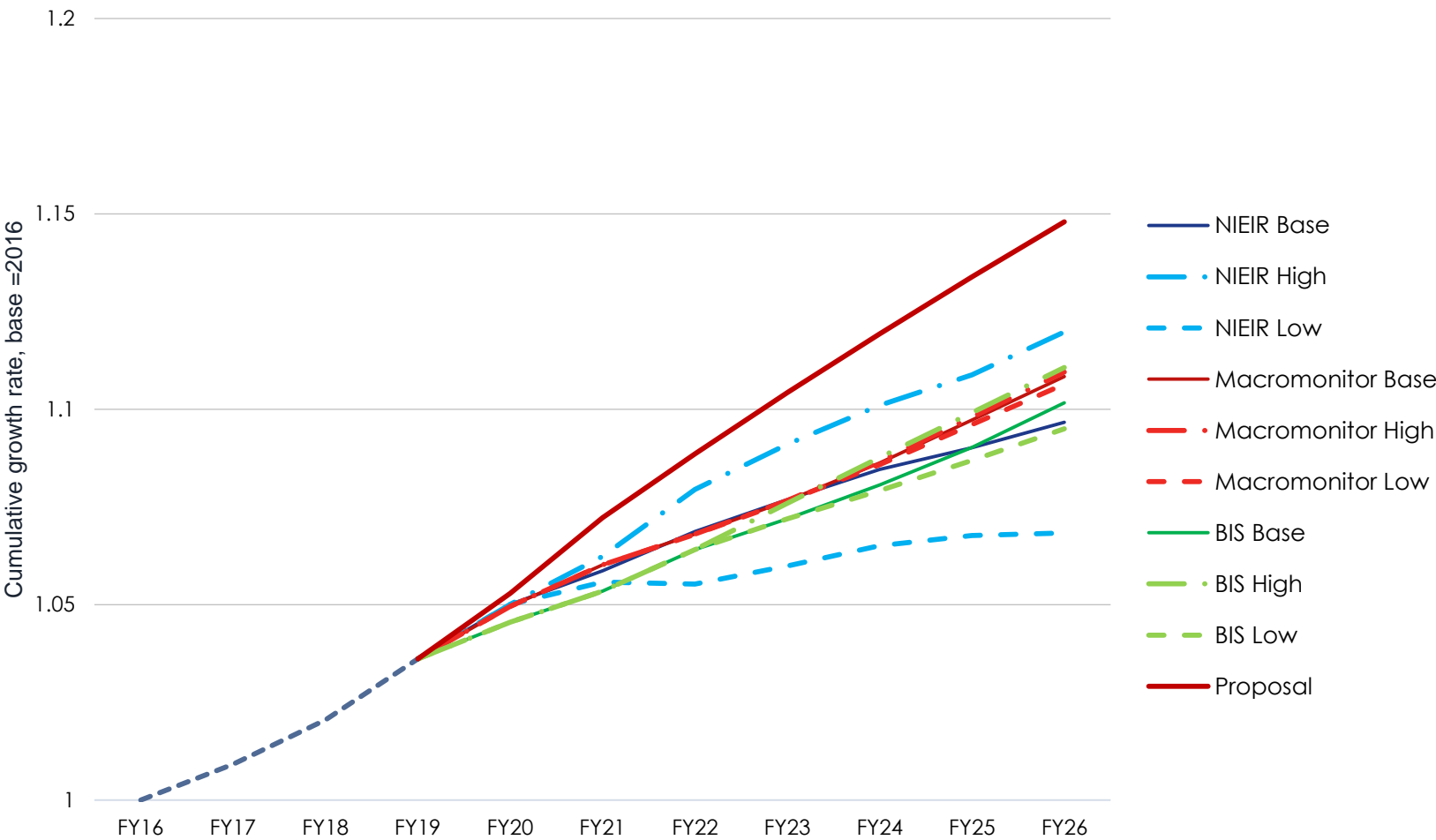
Powercor customer number scenario modelling



Average % growth for 2021-2026	Base	High	Low
BIS Oxford	1.9%	2.0%	1.8%
Macromonitor	1.7%	1.8%	1.7%
NIEIR	1.3%	1.8%	0.8%
Our original proposal	2.1%	N/A	N/A

- All scenarios are lower than our original proposal
- The differences between the scenarios are smaller as even with a reduction in population growth, Powercor's network is expected to continue to grow faster than CitiPower and United Energy

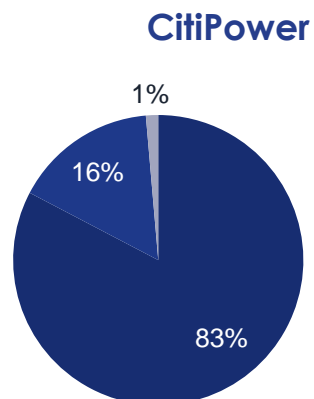
United Energy customer number scenario modelling



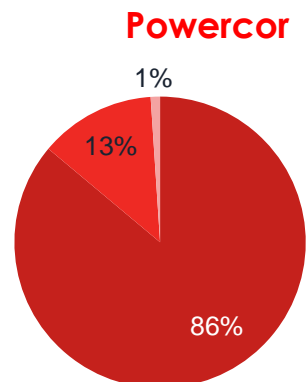
Average % growth for 2021-2026	Base	High	Low
BIS Oxford	0.9%	1.1%	0.8%
Macromonitor	0.9%	0.9%	0.9%
NIEIR	0.7%	1.1%	0.2%
Our original proposal	1.4%	N/A	N/A

- All scenarios are lower than our original proposal
- There is some variability in the scenario modelling, but less so than for CitiPower

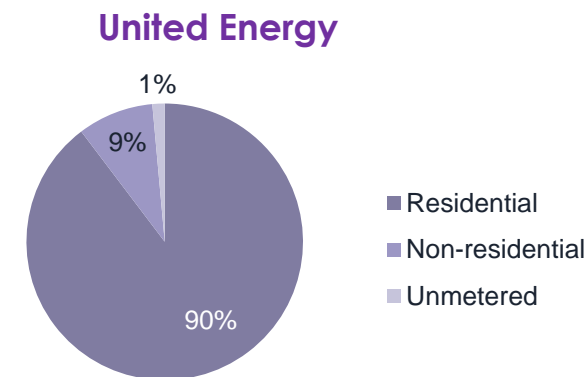
Customer evolution from 2019 to 2025/26



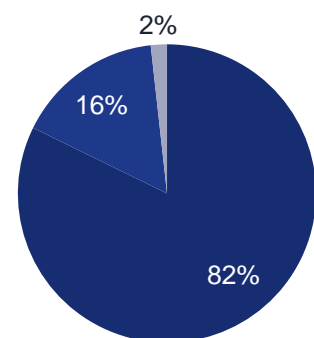
2019, 345k customers



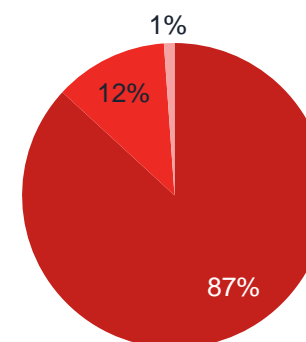
2019, 854k customers



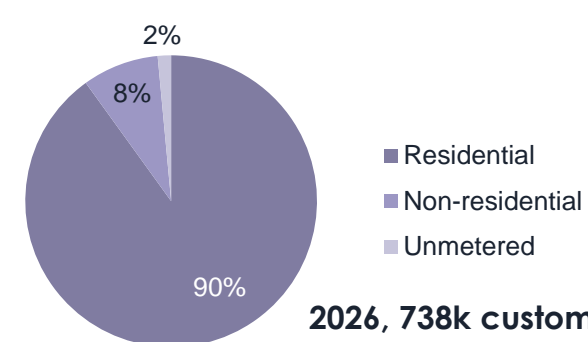
2019, 698k customers



2026, 362k customers



2026, 953k customers



2026, 738k customers

- Using an average of the three base scenarios, there is no significant structural change in customer types across the networks
- In CitiPower, unmetered supplies (i.e. telecommunications devices) are expected to grow slightly faster than other segments
- In Powercor and United Energy, residential customers are expected to grow slightly faster than other segments

We've heard...

There was seen to be a clear short-term impact on network demand as a result of the pandemic with a potential for smoothing long-term trends

The clear trend for changes in energy demand relate to the shift from commercial to residential with key changes to :

- time of peak demand; and
- volume of energy used

However, many speculated that there would be further reduction in small business demand, outweighing any residential demand increase.

Whilst *working from home* was thought to become a long-term trend, there was uncertainty as to what this would mean during summer months, with more air-conditioning being used for those working and studying from home.

An increase in on-shore manufacturing may also impact demand as an increase in certain industries isolated to the Powercor network (such as agribusiness) and more Melbournians moving to the regions.

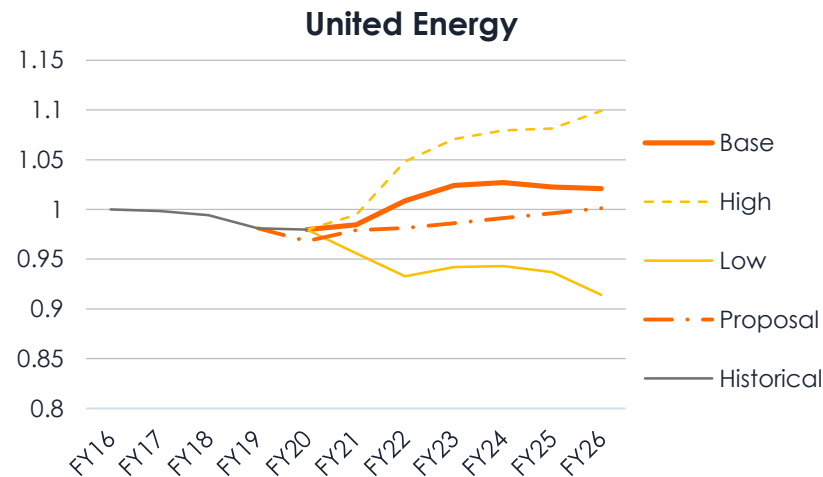
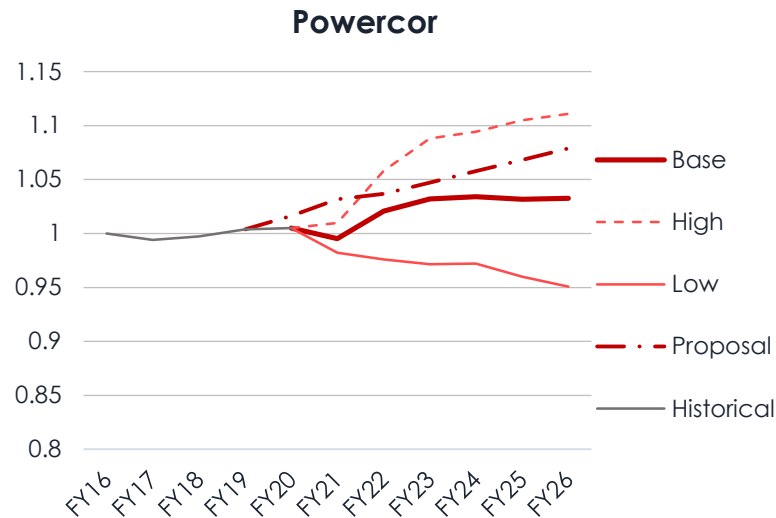
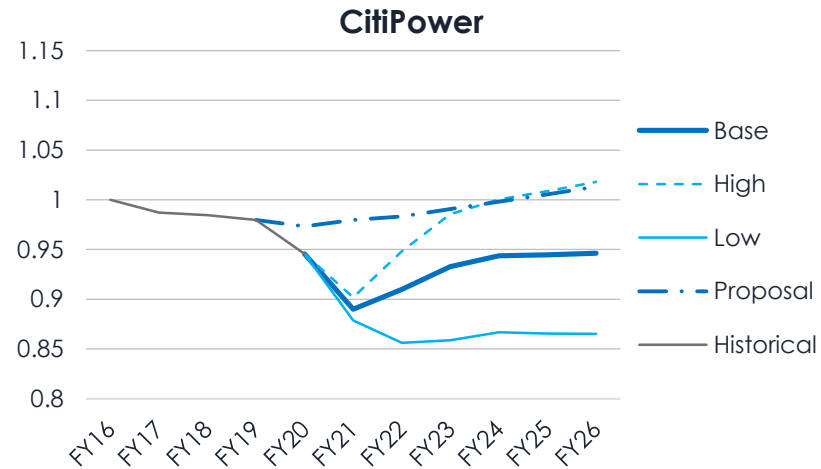
“Working from home has been brought forward permanently. This may shift demand curve permanently.”

Workshop Stakeholder

Energy consumption scenario modelling

- NIEIR has provided our energy forecasting scenarios
- Forecasting energy requires complex regression modelling which made sourcing various forecasters not feasible in time for the revised proposal
- Energy is forecast by customer type, at a regional level considering many factors such as GSP, employment, income and electricity prices
- NIEIR's model has not assumed any structural short or long term shift in residential or commercial energy usage
- Any changes to energy consumption patterns need to be applied outside the model as a 'post model adjustment'
- Whilst we forecast energy per customer type for calculating network tariffs, only the total energy consumption forecast at a network level is used for setting operating expenditure allowances. Energy consumption accounts for around 1% of the rate of change

Energy scenario modelling



- FY21 year will see the worst impact from COVID-19
- Growth rates from FY22 will increase based on a return to COVID normal and government financial stimulus

Average % growth for 2021-2026	Base	High	Low	Average scenarios
CITIPOWER				
Our original proposal	0.7%	N/A	N/A	N/A
NIEIR	1.2%	2.5%	-0.3%	1.1%
Average % growth for 2021-2026	Base	High	Low	Average scenarios
POWERCOR				
Our original proposal	0.9%	N/A	N/A	N/A
NIEIR	0.7%	1.9%	-0.7%	0.7%
Average % growth for 2021-2026	Base	High	Low	Average scenarios
UNITED ENERGY				
Our original proposal	0.5%	N/A	N/A	N/A
NIEIR	0.7%	2.0%	-0.9%	0.6%

The forecasts do not include all possible scenarios

- Stakeholders have raised with us a large number of issues in modeling for COVID-19, some which can be accommodated, others not possible for our revised proposals

Switch to and away from other energy sources

New government in 2022 and changing priorities

Changing dwelling compositions based on people having to share homes/moving in with parents

Permanent move from Victoria with business losing confidence

Drift to regional areas

Ban of embedded networks

Greater sensitivity to energy prices given declining economic conditions could reduce consumption