

# Consumer Advisory Panel Meeting 27

Thursday, 27 October 2022

# Welcome

**Leanne Muffet**  
Independent Facilitator

# Acknowledgement of Country

We acknowledge the Traditional Owners of the land on which we meet and pay our respects to their Elders past and present. We extend that respect to other Aboriginal and Torres Strait Islander people who are present today.

# Agenda Outline

- Welcome
- Development of Revised Revenue Proposal:  
Key Issues Table
- Additional items for Revised Revenue Proposal
- CAP submission
- Next Steps

# Actions arising

Item	Action Item (Outcome to be achieved)	Responsible
1	ElectraNet to provide an industry response to claims made by IEEFA to CAP	CH
2	ElectraNet to provide the previous letter and history to the AER in relation to the CESS which shows the movements in the capex forecast as Project EnergyConnect was delayed and previously deferred projects were accelerated	JT/CH
3	ElectraNet to provide increased insurance costs and show how the increases exceed the 1% materiality threshold in the rules	JT/CH
4	Provide an update on the cyber security forecast based on updated advice from Deloitte	JT/CH
5	Provide regular updates to the CAP on cyber risk and how this is being managed by the business	CH
6	Provide a link to ElectraNet's Transmission Annual Planning Report (TAPR) when released on 31 October 2022	CH
7	Engage with the Panel on the development of Renewable Energy Zones (REZ) and the benefits to South Australian customers from transmission investments in the course of ElectraNet's annual network planning cycle	
8	Mark Henley and Leanne to finalise slides to present on behalf of the CAP to the AER Stakeholder Forum on 19 October 2022	Mark H / Leanne
9	CAP Members to review the information requested on the relevant issues above and advise on any further discussion required	CAP

# Development of ElectraNet's Revised Revenue Proposal

**Leanne Muffet**

Independent Facilitator

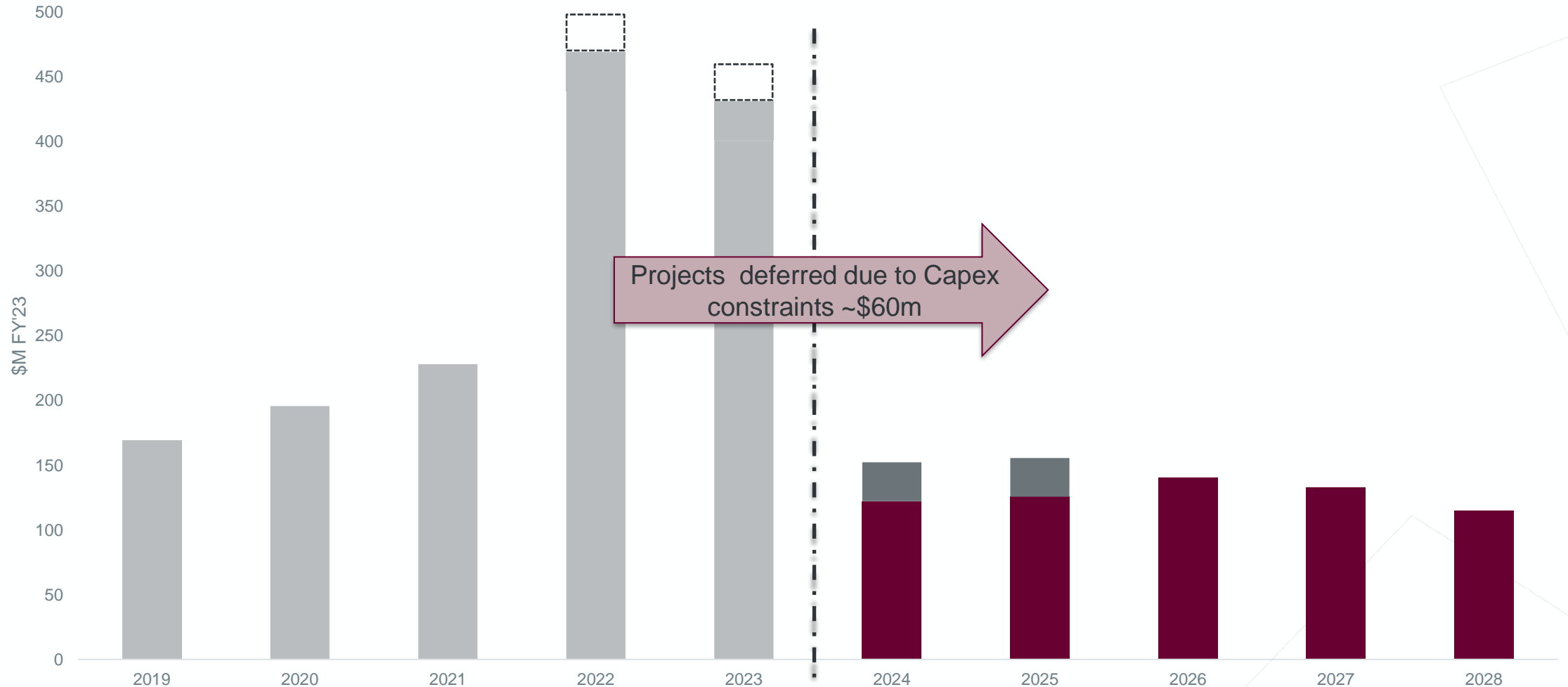
**Jeremy Tustin**

Regulation and Investment Planning Manager

Issue	The risk	\$\$	CAPs suggestions
<p><b>1. Price impact/ Contingent Projects</b></p> <ul style="list-style-type: none"> <li>Higher interest rates and inflation have increased required revenue beyond AER Draft Decision expenditure cuts</li> </ul> <p><i>NOTE: as ElectraNet can't influence the Rate of Return, which is the biggest driver of the revenue increase, little can be done by ElectraNet or the CAP to influence price</i></p>	Extent of compensating expenditure cuts required would raise concerns about increased reliability and security risks		<ul style="list-style-type: none"> <li>ElectraNet to consider options to mitigate the impact for customers such as: <ul style="list-style-type: none"> <li>Innovations to reduce capex costs without reducing the quality of supply</li> <li>Whether a more rigorous target can be set on opex productivity</li> <li>Is there a transition possibility where the full rate of return impact is not applied up front but is delayed?</li> </ul> </li> <li>Need to consider regional businesses' sensitivity to reliable supply – consistency of supply can be more important than price relief.</li> </ul>
<p><b>2. Capital Expenditure Sharing Scheme (CESS)</b></p> <ul style="list-style-type: none"> <li>Some SA-NSW interconnector project (PEC) capex was delayed into next regulatory period</li> <li>ElectraNet reprioritised previously deferred capital projects to 'fill the gap' left by this deferral</li> <li>ElectraNet's reprioritisation means that there is no windfall gain from the PEC capex deferral</li> <li>ElectraNet strongly believes that AER Guideline conditions for making a capex deferral adjustment have not been met</li> </ul>	Distortion of CESS incentive sets undesirable precedent likely to drive inefficient behaviours in future	Either ~\$3m penalty or ~\$22m penalty	<ul style="list-style-type: none"> <li>Given timing there was limited engagement on this topic with the previous CAP.</li> <li>This warrants consideration of the new CAP prior to the Revised Revenue Proposal being lodged.</li> <li>CAP sought additional information to enable it to identify next steps for engagement</li> <li>ElectraNet has provided its letter to the AER of May 2022 and response to the AER of Aug 2022 on this issue.</li> </ul>
<p><b>3. Insurance costs</b></p> <ul style="list-style-type: none"> <li>AER cut ElectraNet's proposed step change by ~\$15m over the regulatory period</li> <li>This cut will be reduced in Final Decision following conversation between ElectraNet and AER staff once ElectraNet's higher FY23 insurance costs are considered</li> </ul> <p><i>NOTE: under the cost pass through mechanism if insurance costs exceed forecasts materially the extra can be 'passed through' to customers.</i></p>	Allowing less than efficient costs increases risk	~\$-	<ul style="list-style-type: none"> <li>Insurance and cyber security were subject to consumer scrutiny by the previous CAP.</li> <li>The AER Draft Decision focused on what was prudent, so the CAP is comfortable with the AER and ElectraNet coming to an outcome</li> <li>ElectraNet has provided information on the costs of insurance to date in the current regulatory period relative to the 1% pass through threshold.</li> </ul>

# Capital Expenditure Sharing Scheme

At the time of Preliminary Revenue Proposal - June 2021

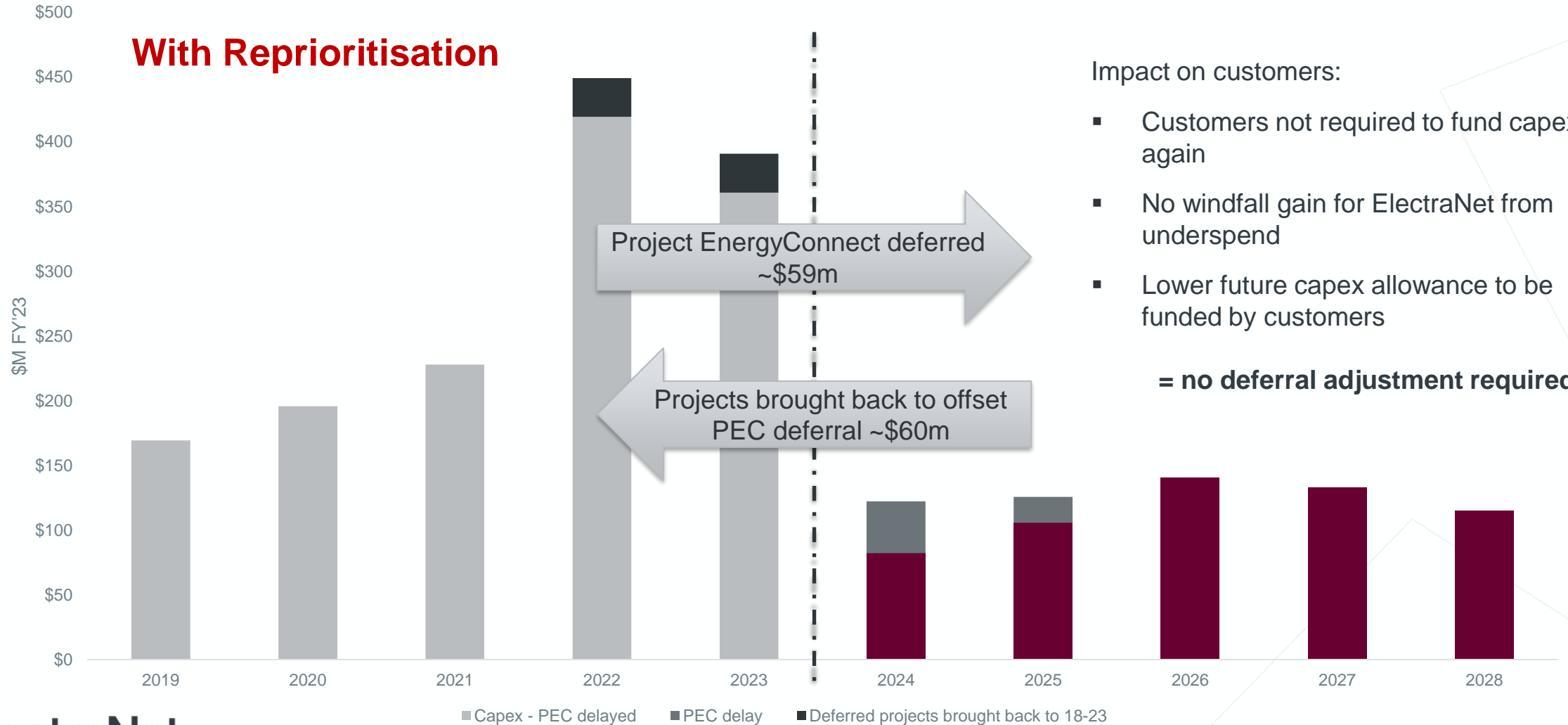


Projects deferred due to Capex constraints ~\$60m



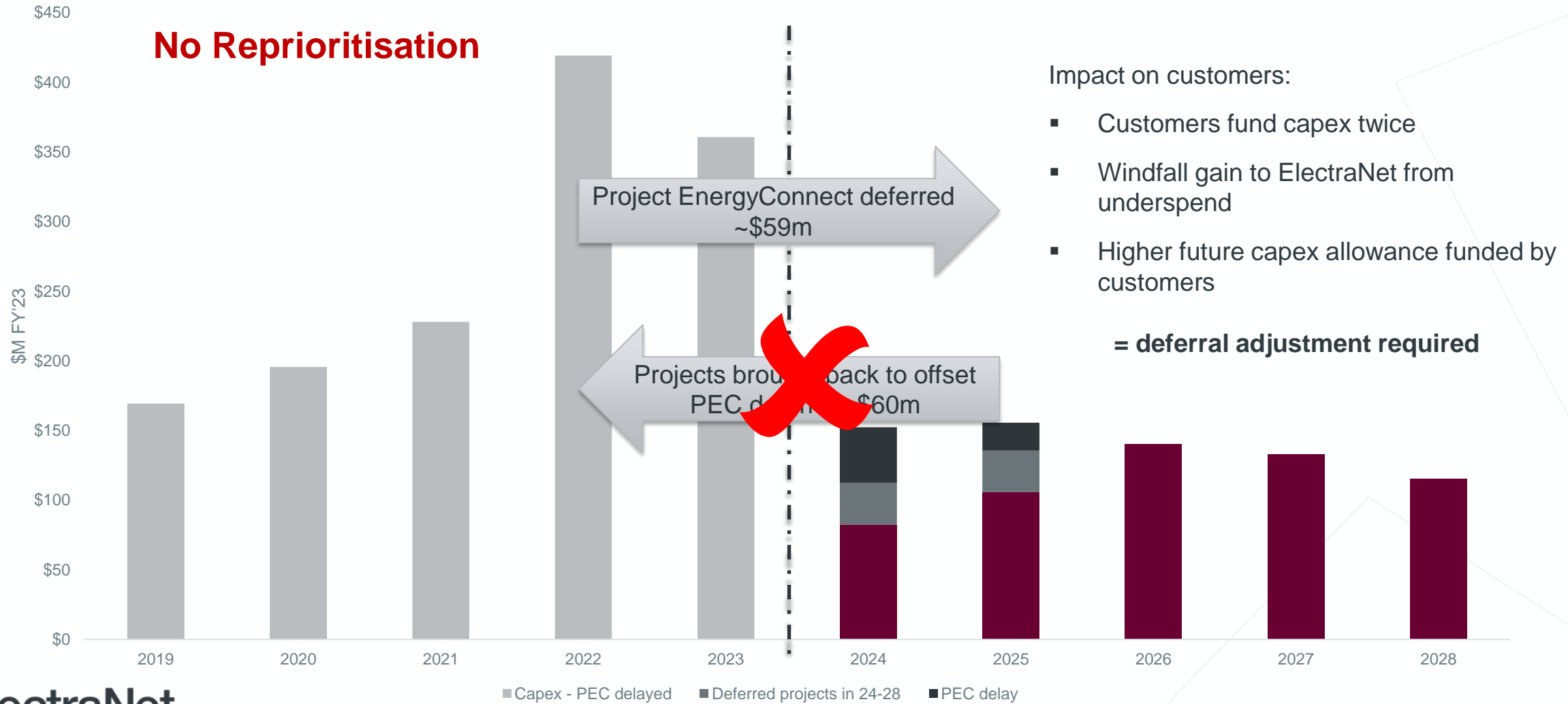
# Capital Expenditure Sharing Scheme

At the time of Revenue Proposal - January 2022



# Capital Expenditure Sharing Scheme

At the time of Revenue Proposal - January 2022



# Updates to Revised Revenue Proposal

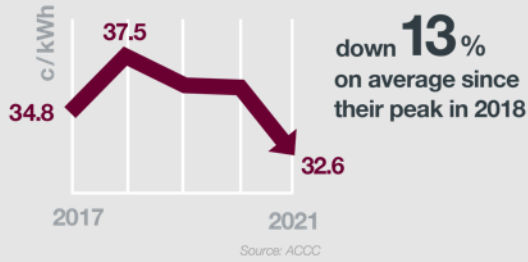
**Jeremy Tustin**

Regulated Investment Manager

# South Australia's transforming power system

## Retail power prices

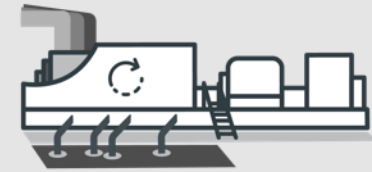
have decreased over the past 5 years



First AEMO Integrated System Plan  
June 2018



ElectraNet Dalrymple battery is first grid forming battery in Australia



ElectraNet synchronous condensers begin operation

2021

2020

2019

2018

2017

2016



Coal fired generation ceased  
May 2016



Statewide blackout  
September 2016



World's largest battery Hornsdale Power



Connection of first grid scale solar plant at Bungala



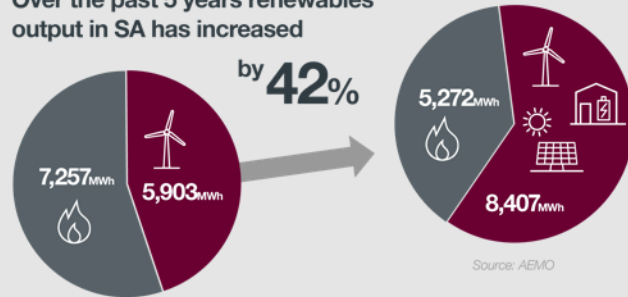
Negative system demand reached  
November 2021



Regulatory approval for new interconnector to NSW Project EnergyConnect  
June 2021

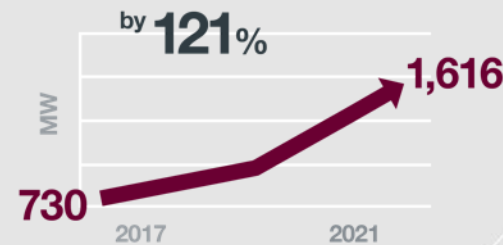
## Renewables are replacing gas

Over the past 5 years renewables output in SA has increased



## A grid in transition

Rooftop PV installation has increased over the past 5 years

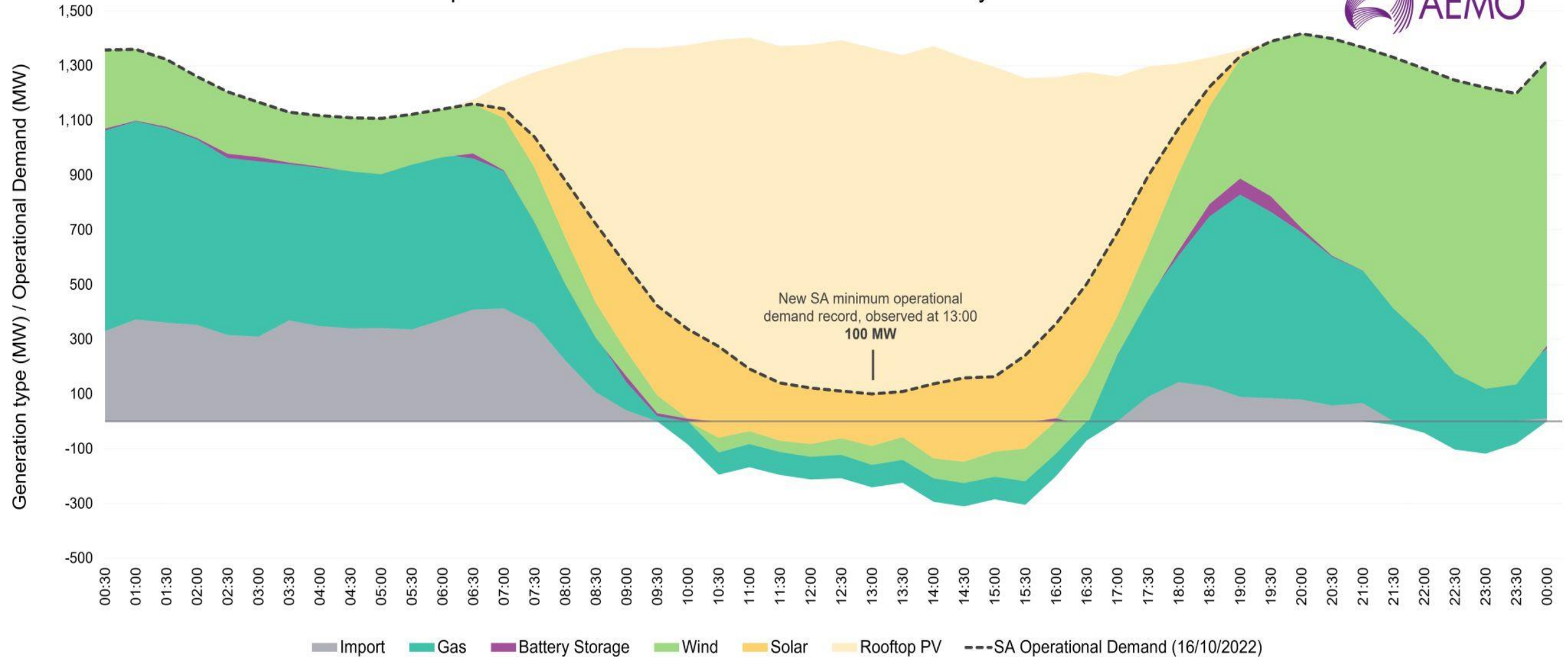


Minimum grid demand has decreased over the past 5 years

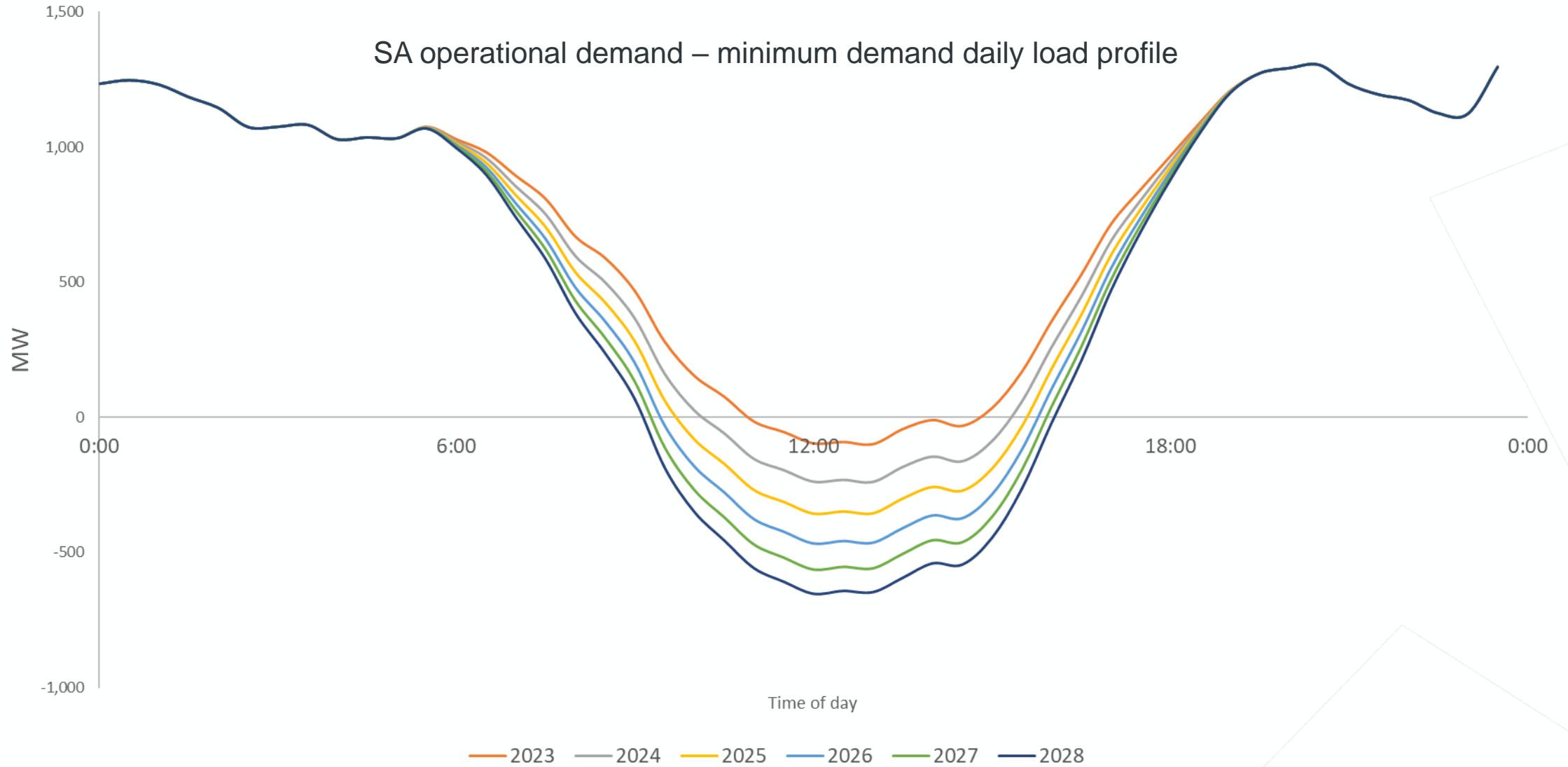


# The present

## SA Operational Demand and Generation Mix on Sunday 16 October 2022



# The future



# Increasing system complexity & risk

## We are seeing early warning signs of increased risk of system disturbances

### South Australia's electricity transmission network

- Designed for at least 1,000 MW of demand
  - Below 1,000 MW all reactive reserves and operational dynamic reserves are deployed
  - Below 500 MW emergency procedures for voltage stability are implemented

### Voltage oscillations on SA transmission network – June 2022

- Observed throughout the network
- At another time and under different circumstances outcome could have been very different

## We need solutions for managing increased complexity and mitigating risk including through improved systems and capabilities

### Recent increases in solar PV have seen...

- Growing need to implement emergency procedures for voltage stability:
  - 2020 two events
  - 2021 three events
  - 2022 eight events thus far ...
- Increase in average length of time the network spends below 500 MW (critical zone)
  - One hour typical in 2019
  - Eight hours typical in 2022

# Opex step change - Rule changes (1)

The expanding role of transmission in the changing power system is driving a range of new and emerging regulatory obligations and additional resource requirements on ElectraNet that cannot be absorbed

New Obligations	Resource Requirements	Cost Impact pa (\$m FY23)
Renewable Energy Zone (REZ) Planning Rules (13 May 2021)	Obligations for planning the staged development of REZs identified in AEMO's Integrated System Plan (ISP)	0.2
General Power System Risk Review Rules (3 June 2021)	Comprehensive annual review to be undertaken by AEMO requiring additional input, analysis and information from TNSPs	0.6
Connection to Dedicated Connection Assets Rule (8 July 2021)	Additional information publication and potentially other prescribed service obligations	0.1
Efficient Management of System Strength Rule (21 October 2021)	New obligations for forward looking planning for and provision of system strength services by TNSPs, subject to detailed RIT-T assessment	0.1



# Opex step change – Rule changes (2)

The energy transformation continues to drive increasing operational complexity in managing a changing power system, including the challenges of managing minimum/ negative demand

New Requirement	Resource Requirements
REZ Design Reports	Development and consultation on 2 to 6 REZ Design Reports required by AEMO in future ISPs
Increasing outage complexity	Requirement for additional security analysis and constraint preparation to manage planned network outages, as evidenced by the growing difficulty and duration of outages and number and complexity of outage constraints
Network planning	Increased rate of change on the network and the resolution at which modelling and analysis must be done requires additional network planning resources, including more 'what if' analysis to be conducted over a much wider set of operating conditions
Integrated power system management	Development and operation of integrated tools for management of an increasingly complex power system will require additional SCADA engineers to develop, implement and maintain tools for voltage and contingency analysis
Dynamic modelling capability	Increased complexity will require network models to reflect more scenarios and to be conducted in greater resolution (8,760 hours per year rather than just maximum and minimum demand conditions). This will require dedicated resources for network model management to improve data governance and control and enable increased scenario analysis

# Opex step change – Rule changes (3)

New Requirement	Resource Requirements
Dynamic monitoring	Greater usage and analysis of PMU data for power system management through monitoring, alarms, analytics and updating real time models and tools
Alarm analytics	Develop and implement methods for more sophisticated analysis of alarms to identify and diagnose network problems as they emerge
Asset condition monitoring	Enhanced ability for monitoring, modelling and analysis of real time asset condition information, including predictive analytics
System disturbances	Increased focus on analysing system disturbances given reduced 'safety margins' in high renewables system
Control room	The increasing complexity of the power system places greater demands on Transmission System Operators in the control room requiring additional higher level engineering resources and training

- The overall capability uplift required drives an indicative need for 10-20 FTEs across various system planning and operational functions

# Submission on Draft Decision / Revised Revenue Proposal

**Leanne Muffet**  
Independent Facilitator

# Revenue determination timetable: key dates

30 Sept: AER released Draft Decision



Late Sept – Late Oct: 4 x CAP meetings



19 Oct: AER Public Forum



02 Dec: ElectraNet to lodge revised proposal

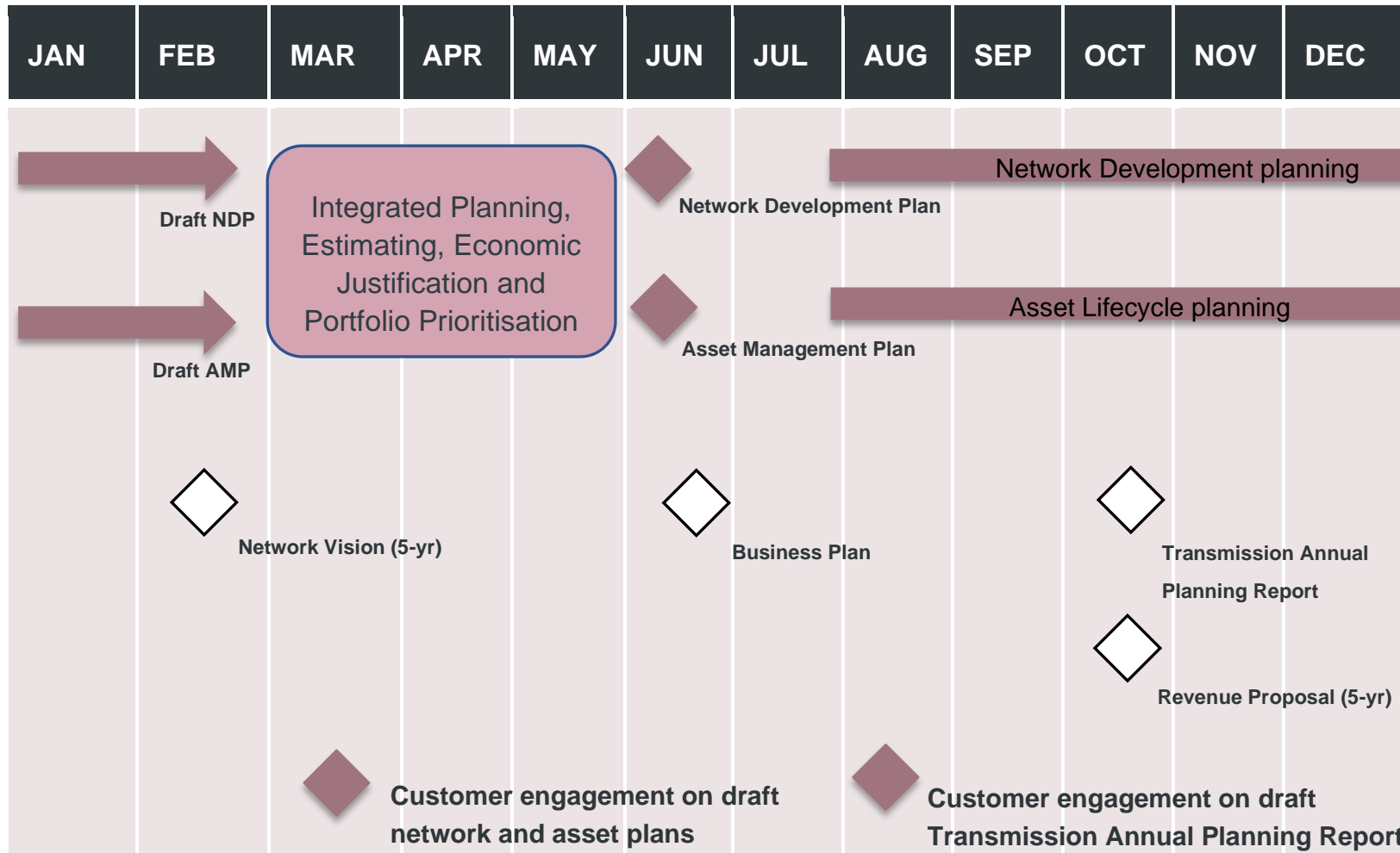


20 Jan '23: Submissions due before AER final decision Apr

# Wrap up + next steps

**Chris Hanna**  
**Government and Stakeholder Relations Adviser**

# Annual Planning Cycle



- We intend to engage with the CAP on an ongoing basis and ‘bring you on the journey’ through the course of our annual planning cycle

# CAP 2023 – Indicative Meeting Schedule

## 23 February 2023

- Engagement on development of annual network and asset management plans
- REZ development
- Development of CAP success criteria & key topics of interest

## 25 May 2023

- Site Visit (e.g. Riverland/ mid-North)
- Regional engagement
- Interconnector update

## August/September 2023

- Outcomes of annual network development & and asset management planning
- Engagement on Transmission Annual Planning Report

## November 2023

- Consideration of DMIAM initiatives
- CAP Annual Report on consumer issues to ElectraNet Board

*Forward agenda to be guided by issues nominated by the CAP*

