

# Revenue Proposal Overview 2024–2028

31 January 2022



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## Welcome to ElectraNet's Revenue Proposal

### South Australia remains at the forefront of the global energy transformation.

Renewable electricity sources such as solar, wind, and batteries, and small-scale renewables in homes and businesses are displacing traditional generation and have grown to become the largest source of generation in South Australia – more than 60% of South Australia's annual electricity demand is met by these renewable sources.

As renewable energy uptake continues, South Australia's transmission network is playing an increasing role in managing two-way power flows and sharing power between regions to where and when it is needed. As renewable generation has grown, important system services provided by traditional generators have been lost, with the transmission network increasingly called upon to bridge the gap.

We have responded to these challenges by installing four synchronous condensers to meet inertia and system strength needs, thereby facilitating more renewable energy in our State. We are also building the Project EnergyConnect interconnector to connect South Australia and New South Wales. This will enable power transfer between the States, again enabling more renewable energy, and help drive down power prices while improving system security.

While these landmark investments lead to higher transmission costs from 2024, they deliver much greater expected reductions in customer electricity bills.

Moving forward we expect to return to a much smaller capital program focused on the ongoing challenges of keeping the existing ageing network going for longer.

Over half our capital program focuses on asset replacement needed to ensure ongoing reliability of customer supply, and targeted investments in security and technology.

Managing an increasingly complex power system also requires increasing investment in areas such as voltage control, emergency protection schemes, and additional specialised resources in network planning and operation. Added to this, our operating costs are under increasing pressure from other external factors such as insurance costs and growing cyber security risks and obligations.

Our Revenue Proposal addresses these challenges. It is the result of a program of early engagement undertaken with customers and wider stakeholders aimed at developing a well-tested set of proposals that are targeted to customer needs, and capable of both support by customers and acceptance by the Australian Energy Regulator.

This engagement has shaped the further developed of our forecast expenditure programs and the indicative expenditure forecasts included in our July 2021 Preliminary Revenue Proposal, resulting in the following changes from the indicative forecasts:

- a 12% reduction in proposed capital expenditure
- a 3% decrease in proposed operating expenditure
- a smaller increase in real customer prices of 0.8% in 2024 (down from 5% in our July forecast) with a stable outlook thereafter.

I thank all customers and stakeholders who have contributed to the development of our Revenue Proposal, and look forward to your ongoing engagement.

There can be no energy transition without transmission, and ElectraNet will continue to play its part in safely delivering South Australia's energy future.



**Rainer Korte**  
Interim Chief Executive

“ South Australia remains at the forefront of the global energy transformation ”

**Our Revenue Proposal delivers reliable and affordable electricity supply in a rapidly changing power system**

**Capital Expenditure\***

**↓47%**

drop in overall capex in 2024 - 2028 to \$742m

**↓18%**

drop in underlying capex (excluding AEMO's ISP projects) to \$683m



**Rate of Return**

**↓21%**

decrease in regulated rate of return from 5.43% to 4.29% based on current market data and parameters



**Transmission Revenue**

**↓1.7%**

real reduction in annual revenue in 2024 to \$342m and no real growth for the next four years

**Transmission Prices**

**↑0.8%**

increase in real transmission prices in 2024 to 3.2 c/kWh

**↑\$5 p.a.**

(\$nom) Increase in transmission component of household electricity bills in 2024, largely driven by RAB growth in the current period and ongoing falls in energy use

**Operating Expenditure\***

**↑9%**

increase in operating expenditure in 2024 to \$571m

**Regulated Asset Base**

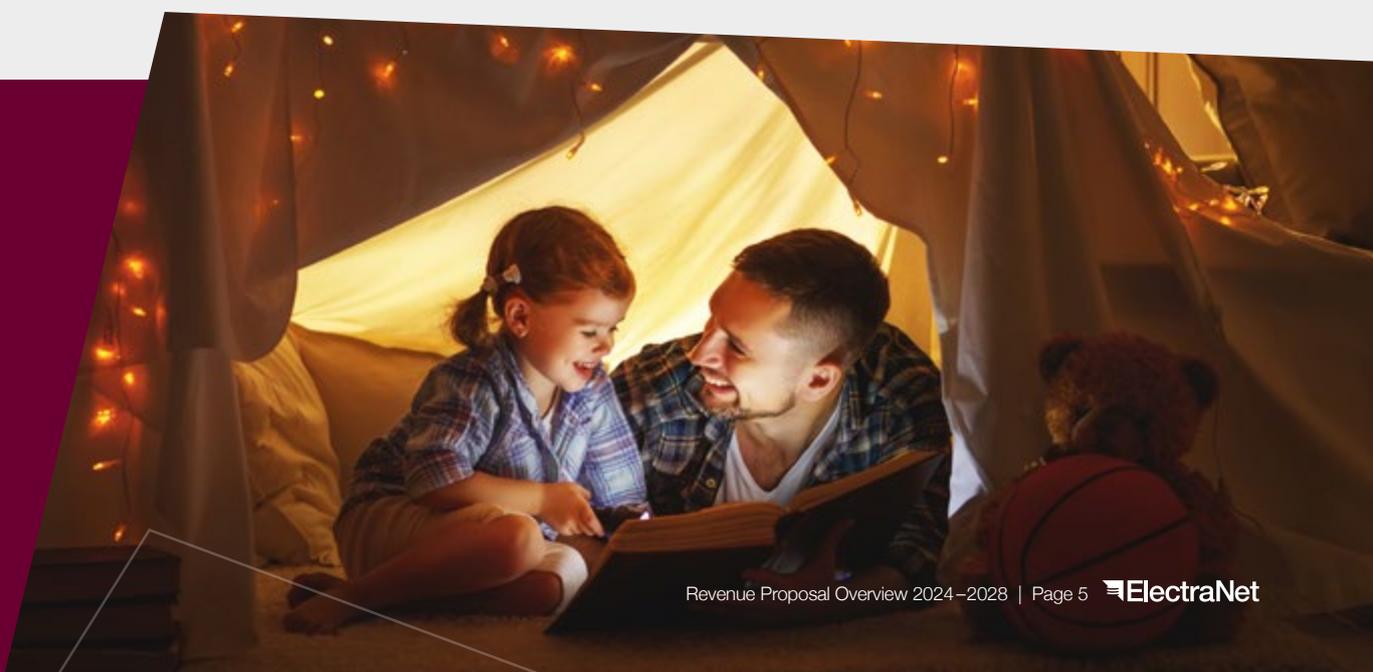
**↓1.6%**

real decrease in RAB over the five years to 2028 following an increase of 26.4% over the current regulatory period

**Changes shown from current regulatory period.**

*\*These figures exclude the impact of recent accounting treatment changes requiring us to report intangible assets as Opex. All figures in this document are presented in real terms as at June 2023 unless otherwise indicated. In contrast our Preliminary Revenue Proposal was presented in real terms as at December 2023. Relevant values from the PRP are converted to June terms in this document for comparison.*

*Tables may not add due to rounding.*

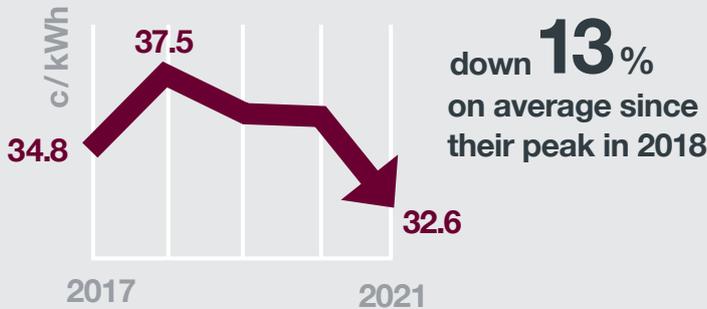


# South Australia's transforming power system

South Australia remains at the forefront of changes sweeping power systems worldwide.

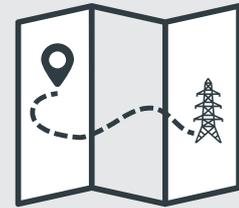
## Retail power prices

have decreased over the past 5 years



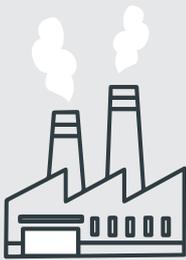
down **13%**  
on average since  
their peak in 2018

Source: ACCC



**First AEMO  
Integrated System Plan**  
June 2018

**2016**



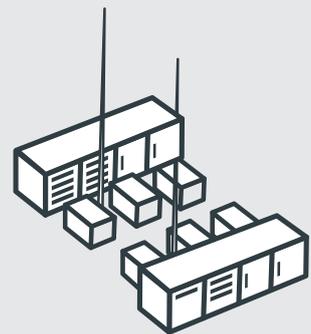
**Coal fired  
generation ceased**  
May 2016

**2017**



**Statewide blackout**  
September 2016

**2018**

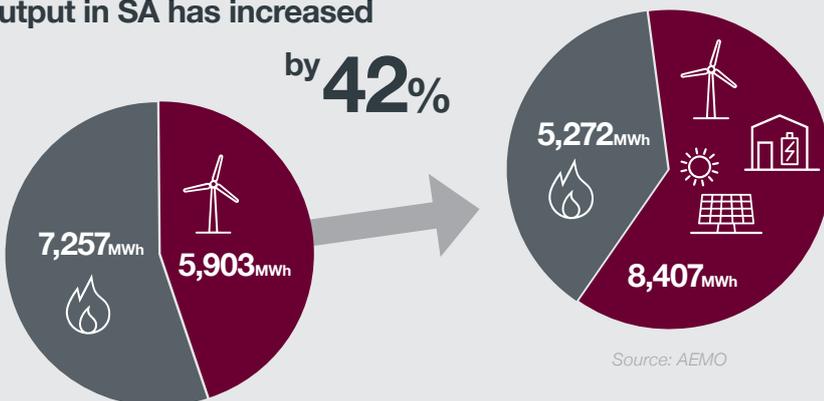


**World's largest battery  
Hornsedale Power  
Reserve connected**

## Renewables are replacing gas

Over the past 5 years renewables  
output in SA has increased

by **42%**

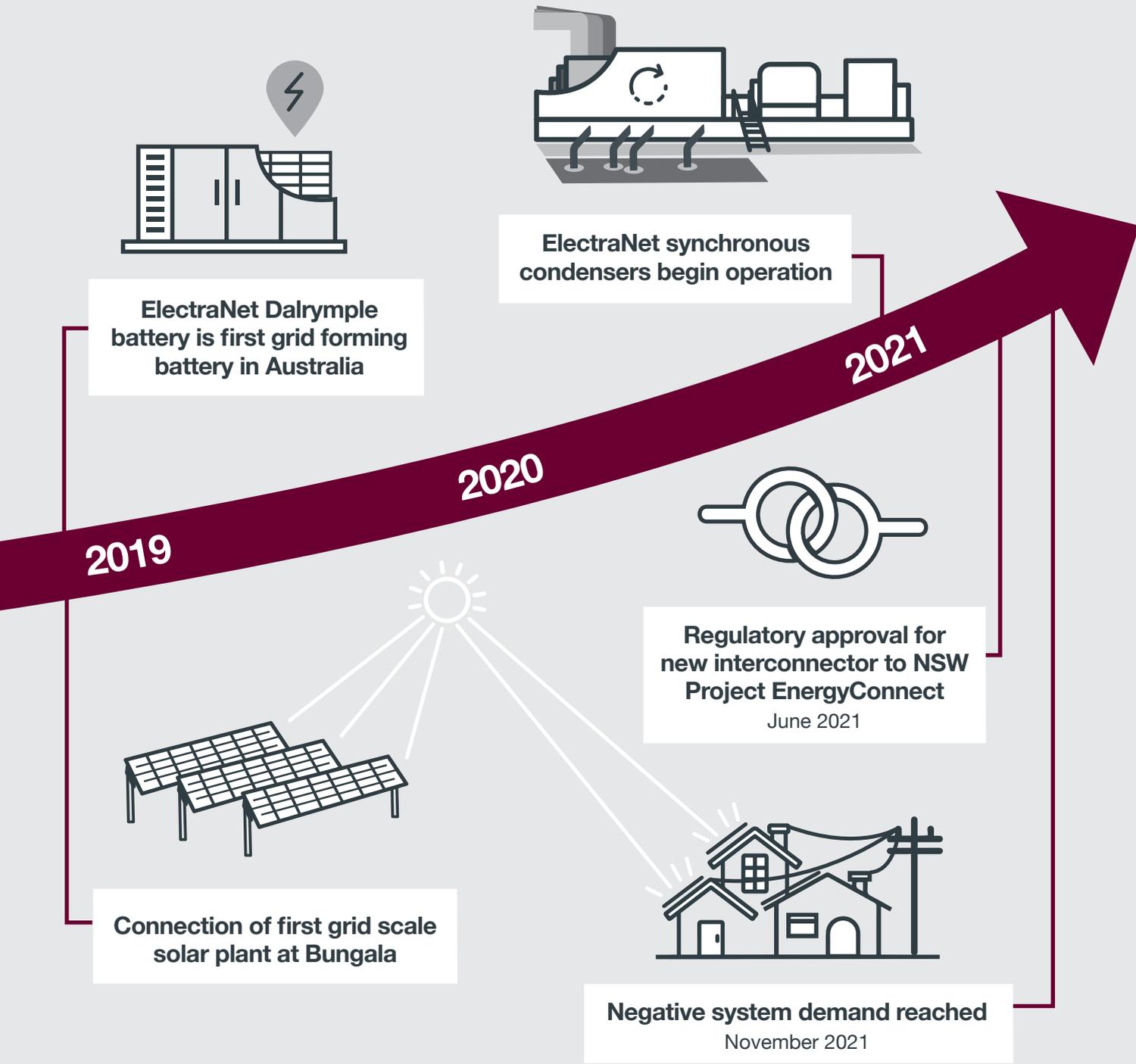


Source: AEMO

In just over  
15 years  
the State's  
renewable  
energy  
output has  
increased  
10 times from

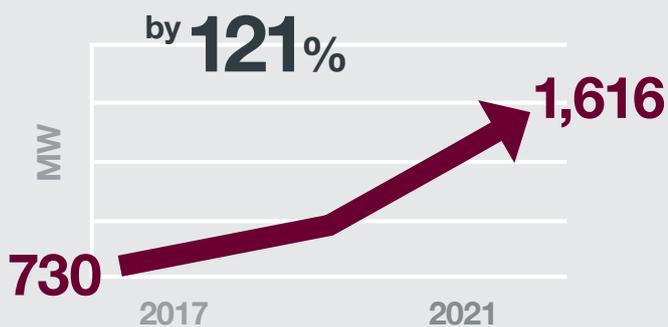
**61%**

**6%**



### A grid in transition

Rooftop PV installation has increased over the past 5 years



Source: AEMO

Minimum grid demand has decreased over the past 5 years

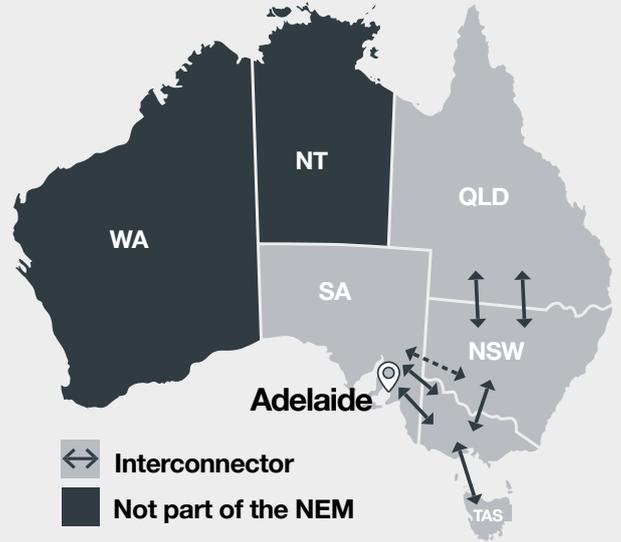


Source: AEMO

**ElectraNet powers people's lives by delivering safe, affordable, and reliable solutions to power homes, businesses, and the economy.**

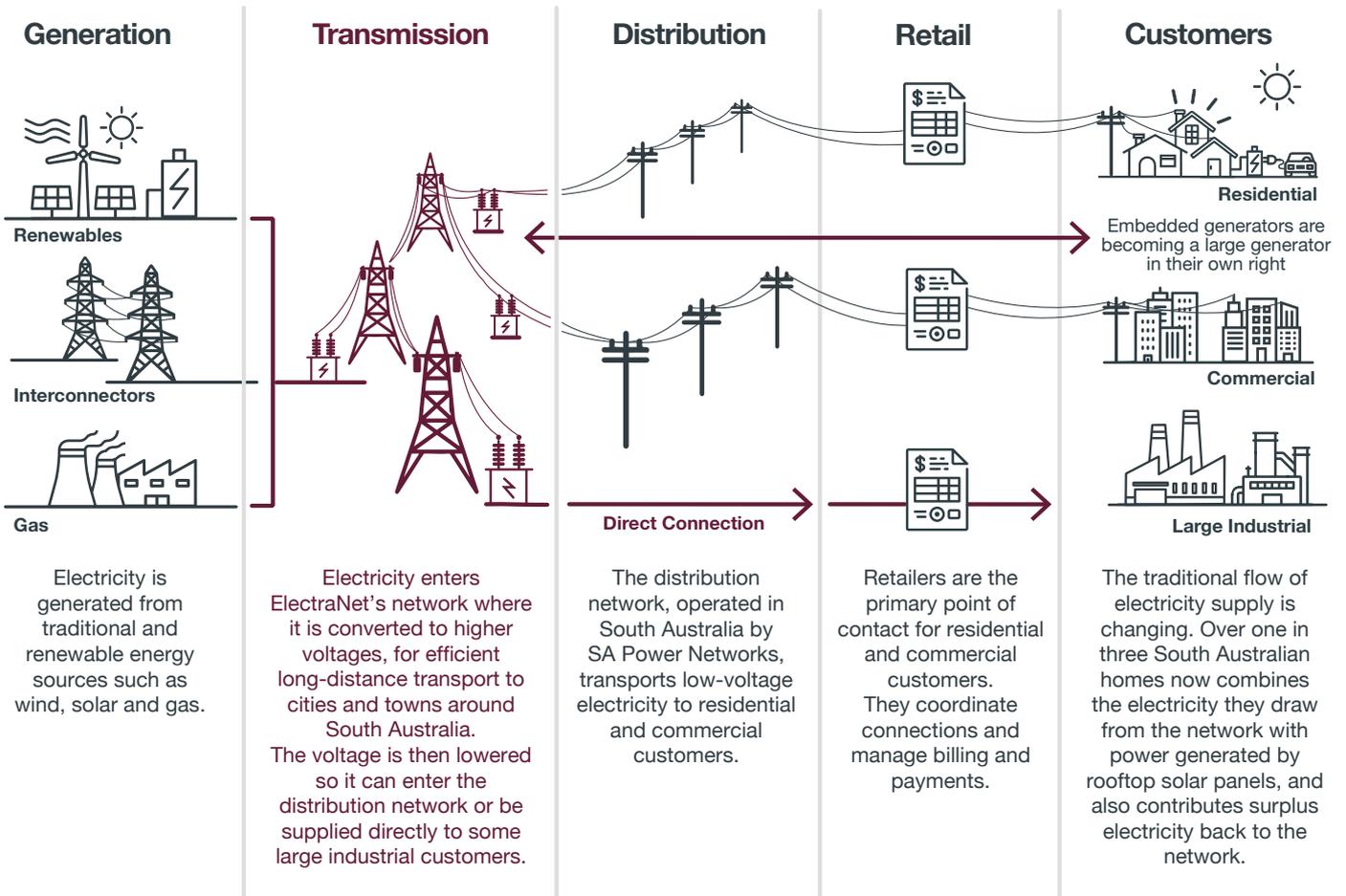
As the owner and operator of South Australia's electricity transmission network, ElectraNet plays a vital role in providing affordable and reliable power supply to the homes, businesses, and communities of South Australia.

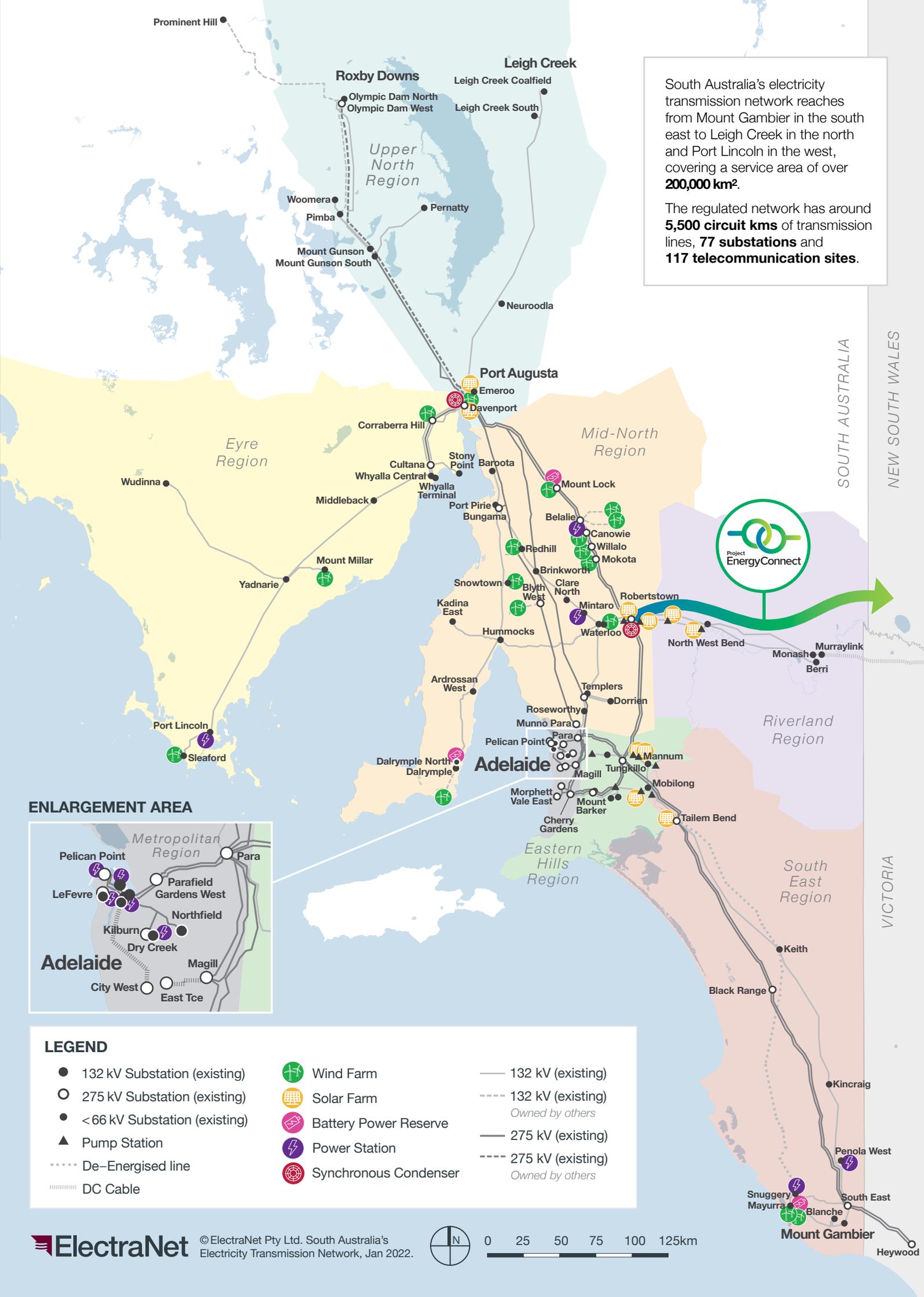
The transmission network transports energy from local and distant generation sources to where it is needed to serve electricity customers. It also provides system services such as system strength and inertia to support the growth in renewable energy. Increasingly the network is supporting the two-way flow of power from distributed sources such as rooftop solar PV to local and distant customers.



South Australia's electricity transmission network forms part of the interconnected grid spanning the eastern and southern States of Australia which operates within the National Electricity Market (NEM).

## The role of ElectraNet





South Australia's electricity transmission network reaches from Mount Gambier in the south east to Leigh Creek in the north and Port Lincoln in the west, covering a service area of over **200,000 km<sup>2</sup>**.

The regulated network has around **5,500 circuit kms** of transmission lines, **77 substations** and **117 telecommunication sites**.



**ENLARGEMENT AREA**



**LEGEND**

- 132 kV Substation (existing)
- 275 kV Substation (existing)
- <66 kV Substation (existing)
- ▲ Pump Station
- ⋯ De-Energised line
- ▬ DC Cable
- 🌬 Wind Farm
- ☀ Solar Farm
- 🔋 Battery Power Reserve
- ⚡ Power Station
- 🔄 Synchronous Condenser
- 132 kV (existing)
- - - 132 kV (existing) *Owned by others*
- 275 kV (existing)
- - - 275 kV (existing) *Owned by others*



SOUTH AUSTRALIA

NEW SOUTH WALES

VICTORIA



## Chapter 1

# Our Energy Future

# Transmission is unlocking an energy future of lower power prices and lower emissions

## South Australia remains at the forefront of changes sweeping electricity systems worldwide

In South Australia, renewable electricity sources such as solar, wind, and batteries have substantially displaced thermal generation such as coal and gas. As Australia works to reduce greenhouse gas emissions, their role will only continue to increase.

The growth in renewable generation in South Australia has significantly exceeded growth in energy demand.

These changes present new challenges to reliability, affordability and system security. To manage them we have recently augmented South Australia's transmission network by installing four synchronous condensers. These will provide essential system strength and inertia services and, by so doing, reduce wholesale electricity costs by allowing greater use of the renewable generators currently in place and allowing more renewable generators to be built in future.

We are currently completing a new interconnector with New South Wales known as Project EnergyConnect to support the energy transformation and maintain reliable and affordable supply for customers.

**20%**  
drop in wholesale prices with new SA-NSW interconnector leading to a

**\$100**  
fall in annual household electricity bills<sup>1</sup>

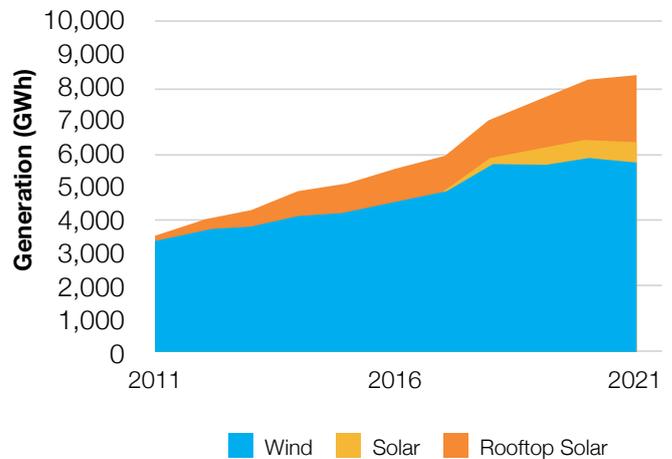
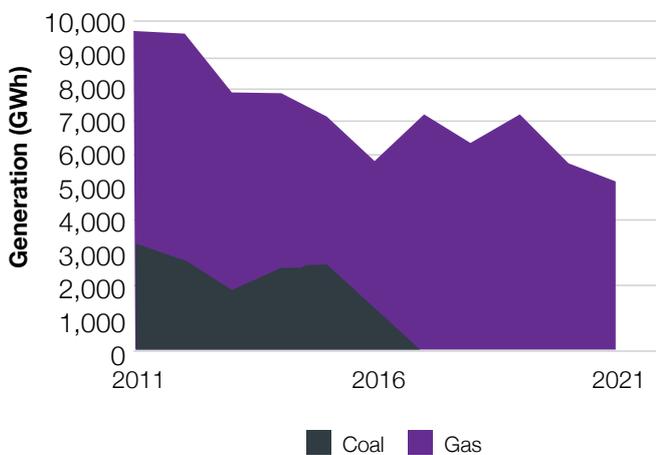


These strategic projects are driven by AEMO's Integrated System Plan. While these investments add to transmission costs, they are forecast to drive greater overall savings to customers through lower electricity bills by unlocking cheaper renewable energy.

This positions us well for the coming period, where we will return to lower investment levels focused on managing an ageing and increasingly complex network to maintain the services customers expect, in a rapidly changing power system.

While transmission is a small part of the overall cost of electricity – around 10 per cent – the network will continue to play an increasing role in supporting the ongoing transformation of the power system.

### Renewable energy is replacing traditional generation



**...the Government has an ambition to achieve 100% net renewable energy generation by 2030.**

— SA Government Climate Action Plan 2021-2025



<sup>1</sup> ACIL Allen Consulting, September 2020, available here.



### Our transforming power system

The rise in renewable generation has created greater variability in electricity generation and demand.

The transmission network was once used to ‘deliver’ electricity from large remote generators to customers. Now, it is increasingly being used to move electricity between regions and local areas as both grid scale renewable output and customer demand and solar PV output levels vary.

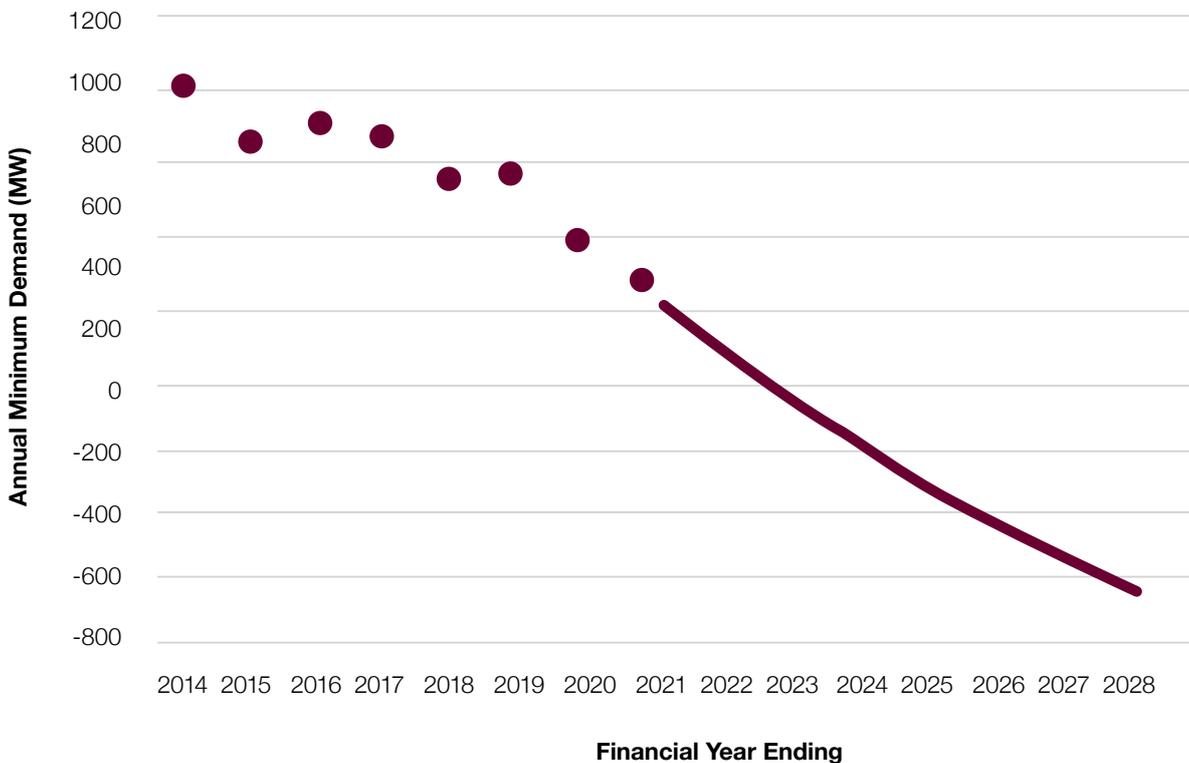
In doing this it must manage negative grid demand and reverse power flows, making network planning and operations far more complex than they have previously been.

Minimum demand has now reached zero levels on the grid in South Australia – a first for a power system of this size – creating an increasingly complex operating environment.

Demand on the network increases when our customers use more electricity. It decreases when they use less and also when they produce their own electricity from solar panels and battery storage.

In the past, increasing maximum demand drove investment in the electricity network. More recently, declining minimum demand is presenting new challenges.

South Australia's minimum demand is falling



Source: AEMO



“

**South Australia had negative electricity demand on Sunday for several five-minute trading intervals, which is a first for the NEM. This happened because the combined volume of surplus rooftop solar PV and non-scheduled solar and wind generation was greater than electricity consumed in South Australia.**

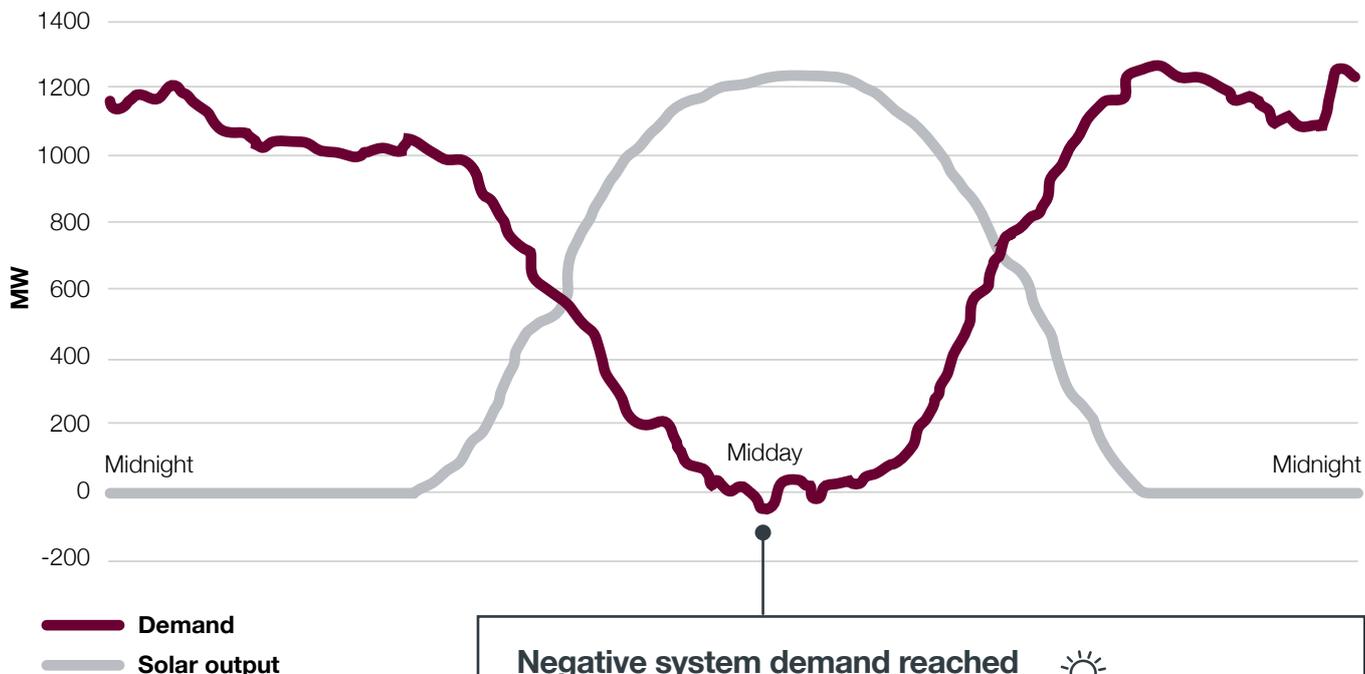
– AEMO Executive General Manager Operations, Michael Gatt

”

When the weather is mild, South Australia’s solar panels and wind farms are able to generate more electricity than we use, so demand can become negative. This happened for the first time on 21 November 2021.

When demand is negative, the power system needs to ‘operate in reverse’, which is now possible, but rapid changes in how much electricity is being transferred and the direction make today’s power system much more complex than it was only a few years ago. As more and more customers use solar and battery systems the system will continue to become more and more challenging to manage.

South Australia's electricity demand - 21 November 2021



**Negative system demand reached**  
21 November 2021

Solar output drives the power system into reverse on occasion which increases the complexity of managing and operating the system.

## Implementing our Network Vision

**Our Network Vision is that South Australia's electricity transmission network will support customer choice and deliver affordable and reliable power supplies for a sustainable future.**

The Network Vision considers the changes and influences impacting on the delivery of electricity transmission services in South Australia, and sets out key directions and priorities for the transmission network.

Our Revenue Proposal is guided by our Network Vision which we reviewed and updated with stakeholders in 2020 and early 2021.

Through this engagement customers have told us they see an important ongoing role for the transmission network in driving affordable and reliable electricity supply, while harnessing the benefits of new services and technology.

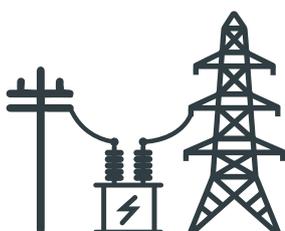
The Network Vision directions and priorities guide the expenditure plans and programs in our Revenue Proposal.

Our primary objective is to achieve the National Electricity Objective (NEO), which is to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity with respect to:

- ✓ The reliability, safety, and security of the national electricity system
- ✓ Price, quality, safety and reliability and security of supply of electricity

### THEME 1

**The network will continue to provide an important role into the future**



**Maximum demand**

**↑ 140 MW**

**is forecast to increase by 140 MW to 3,492 MW by 2030**

We will continue to maintain the existing network through a risk-based framework focused on asset management objectives agreed with our customers.

The focus of our programs remains on asset replacement and refurbishment driven by the need to manage safety, security and reliability across an ageing network.

We are pursuing targeted investments in technology that deliver value for customers to maintain and improve key capabilities and working to identify a broader role for distributed energy resources in meeting future supply needs.

## THEME 2

The ongoing uptake of distributed energy resources by customers is changing the role of the network



### Rooftop PV

**3,950 MW**

rooftop PV to exceed 3,950 MW by 2030



### Electric Vehicles

**3%**

electric vehicles to consume 500 GWh of energy by 2030 adding more than 3% to demand

We are working in partnership with SA Power Networks to manage the growing challenges of reverse power flows and falling minimum demand levels.

This includes targeted investments in voltage control and power quality investigation, and implementing a wide area monitoring scheme to provide network performance information and maximise our ability to accommodate distributed generation on the network.

## THEME 3

The generation mix is changing, creating ongoing challenges for the operation of the grid



### Renewables

**100%** by 2030

Renewables displacing fossil fuels with SA Government targeting net 100% renewables by 2030

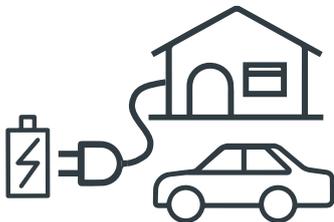
### Grid Scale Storage

**473 MW**

Grid scale storage to reach 473 MW by 2030

## THEME 4

New technologies are creating opportunities to change the way network services can be delivered



### Virtual Power Plants

**397 MW**

Virtual power plants to reach 397 MW by 2030

We will continue to work with AEMO to maintain a secure power system, including implementing special protection and control schemes and delivering system services such as system strength and inertia to maintain secure and reliable operation of an increasingly complex power system.

## The unique challenges of South Australia's transmission network

South Australia's electricity transmission network is the oldest on the mainland. The vast majority of the current network (as measured by its length) was already in place when South Australia was first interconnected with Victoria and New South Wales in 1990. By comparison, the transmission network in fast growing Queensland has roughly doubled since then.

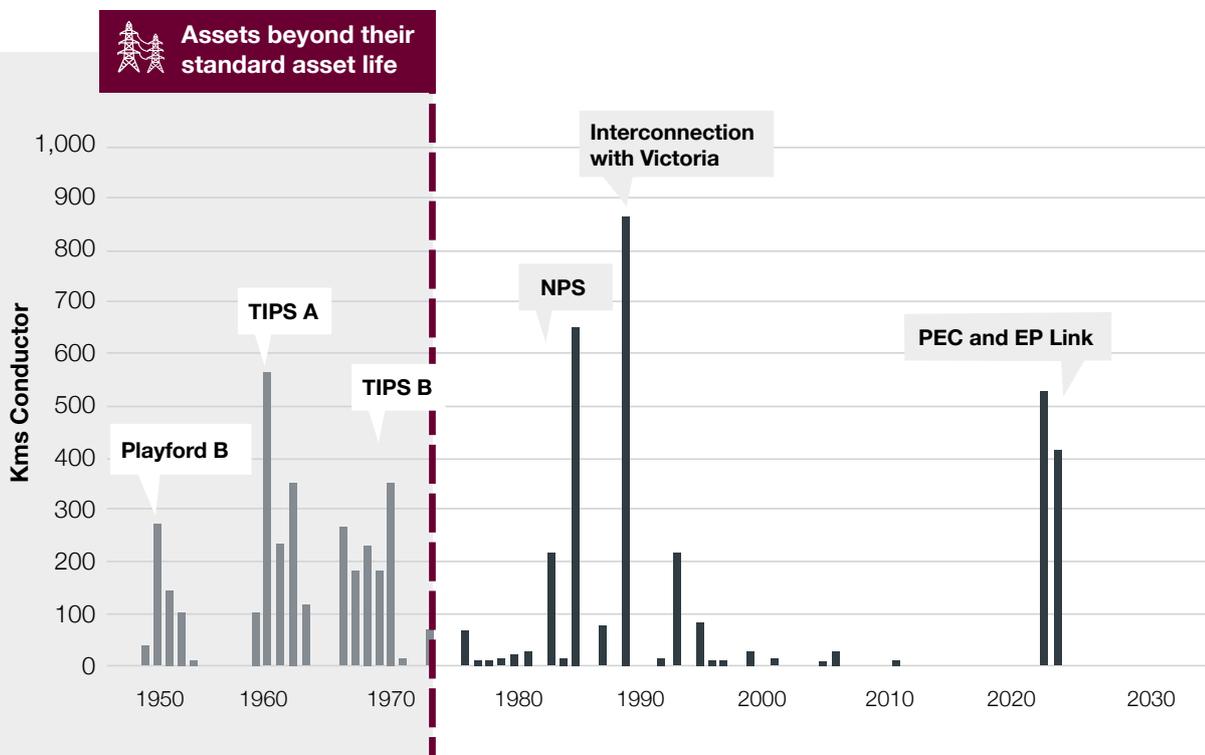
As well as being the oldest in mainland Australia, South Australia's transmission network is:

- the most sparsely populated and extends over a vast area to serve one of the least densely populated areas of the country
- smaller than those of the Eastern States, which means less opportunity for economies of scale
- characterised by the 'peakiest' demand in the country due to both South Australia's climate and the ongoing uptake of distributed energy resources.

Another key difference is that the boundary between the high voltage transmission network and lower voltage distribution network is different across the NEM. South Australia's transmission network includes assets that would be considered distribution elsewhere.

When combined, these unique factors mean that we need more network to deliver each unit of electricity in South Australia than our counterparts in the more densely populated parts of Australia.

### Age Profile of South Australia's Electricity Transmission Lines



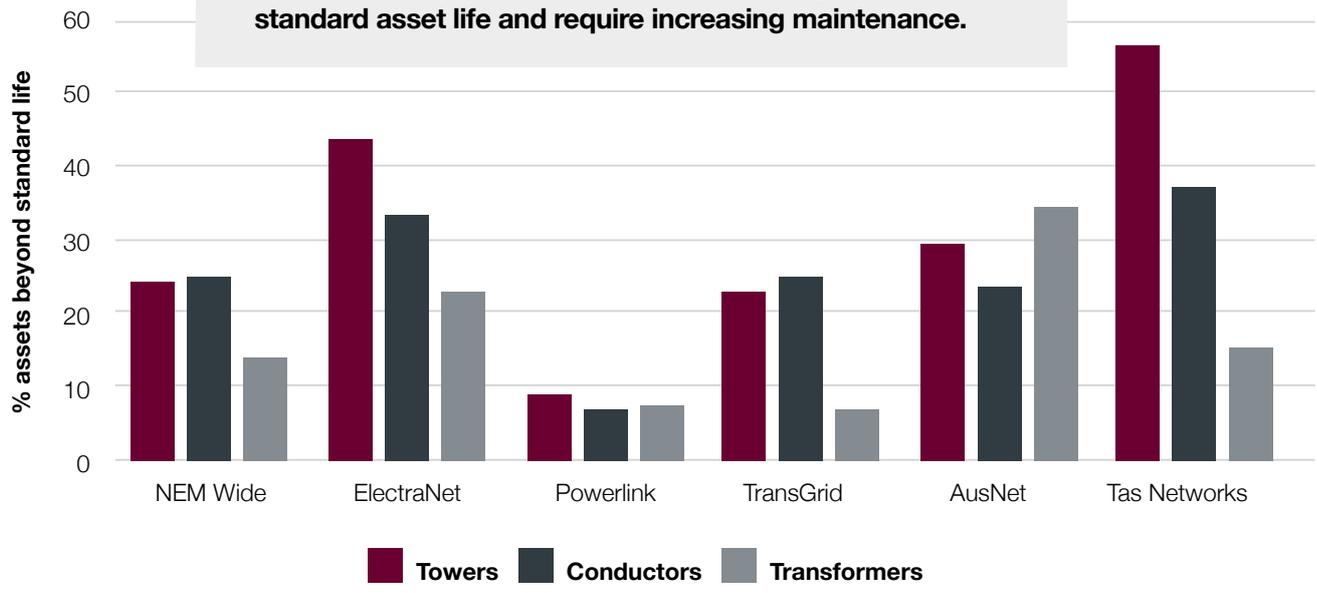
### Did you know?

**The standard life of a transmission line in South Australia is 55 years.**

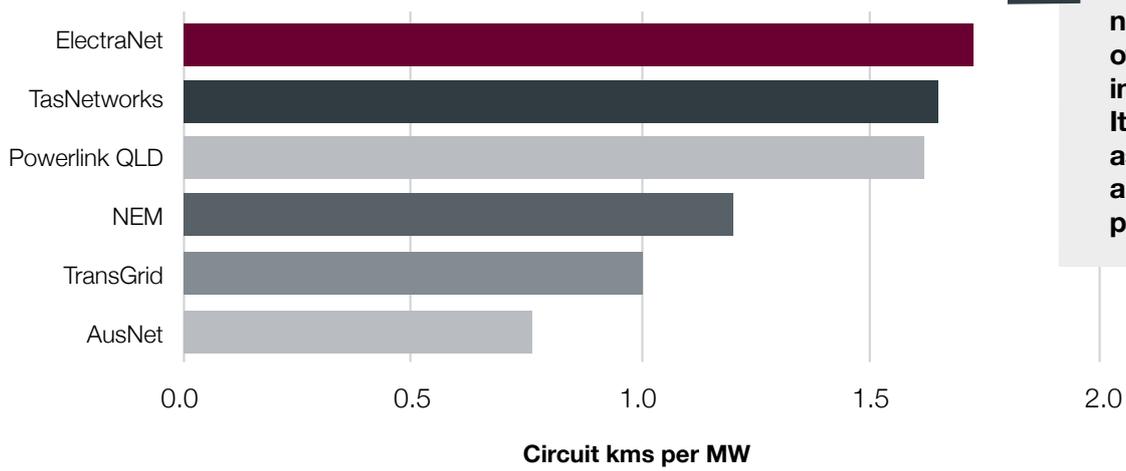
By the end of the coming regulatory period, nearly two thirds of South Australia's existing transmission lines will have exceeded their standard life.

Replacing old with new towers on the Eyre Peninsula

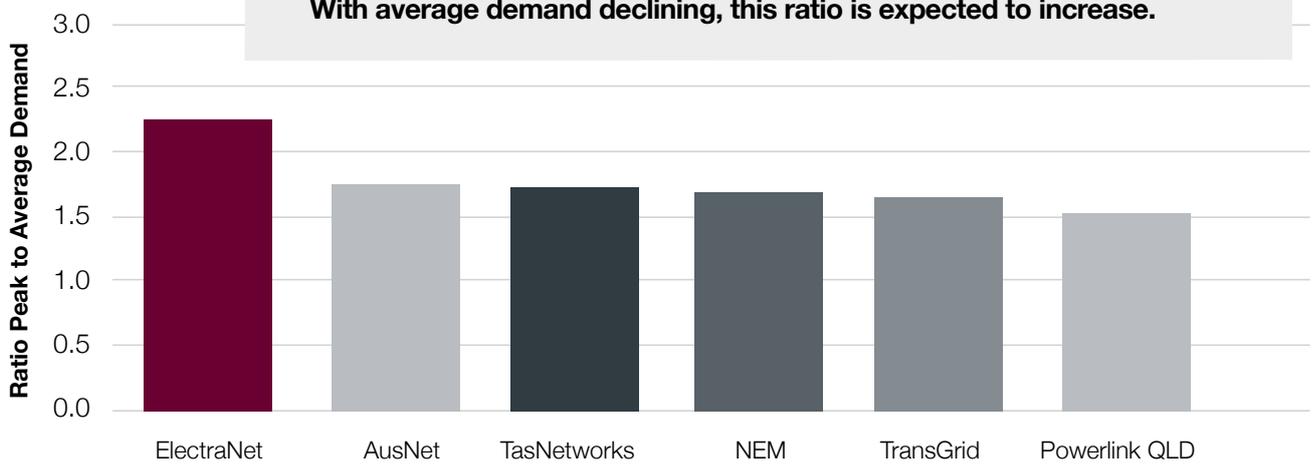
**1** South Australia has one of the oldest transmission networks in the NEM. Over 40% of transmission towers, 30% of conductors and 20% of transformers are beyond their standard asset life and require increasing maintenance.



**2** South Australia has the longest network per unit of peak demand in the NEM. It requires more assets to supply a thinly spread population.



**3** South Australia has the highest ratio of peak demand to average demand in the NEM. This leads to higher costs per unit of energy transmitted. With average demand declining, this ratio is expected to increase.



## We are efficient despite the challenges of the South Australian network

Despite the challenging characteristics of the South Australian network, the AER's productivity analysis shows that we have been the most efficient transmission business on the mainland since reporting began in 2006. All mainland transmission businesses have shown a decline in total factor productivity over that time, which reflects increased investment in the networks initially in response to demand growth and reliability concerns and more recently the challenges associated with energy transformation across the NEM.

Our strong productivity performance gives confidence our total costs are efficient.

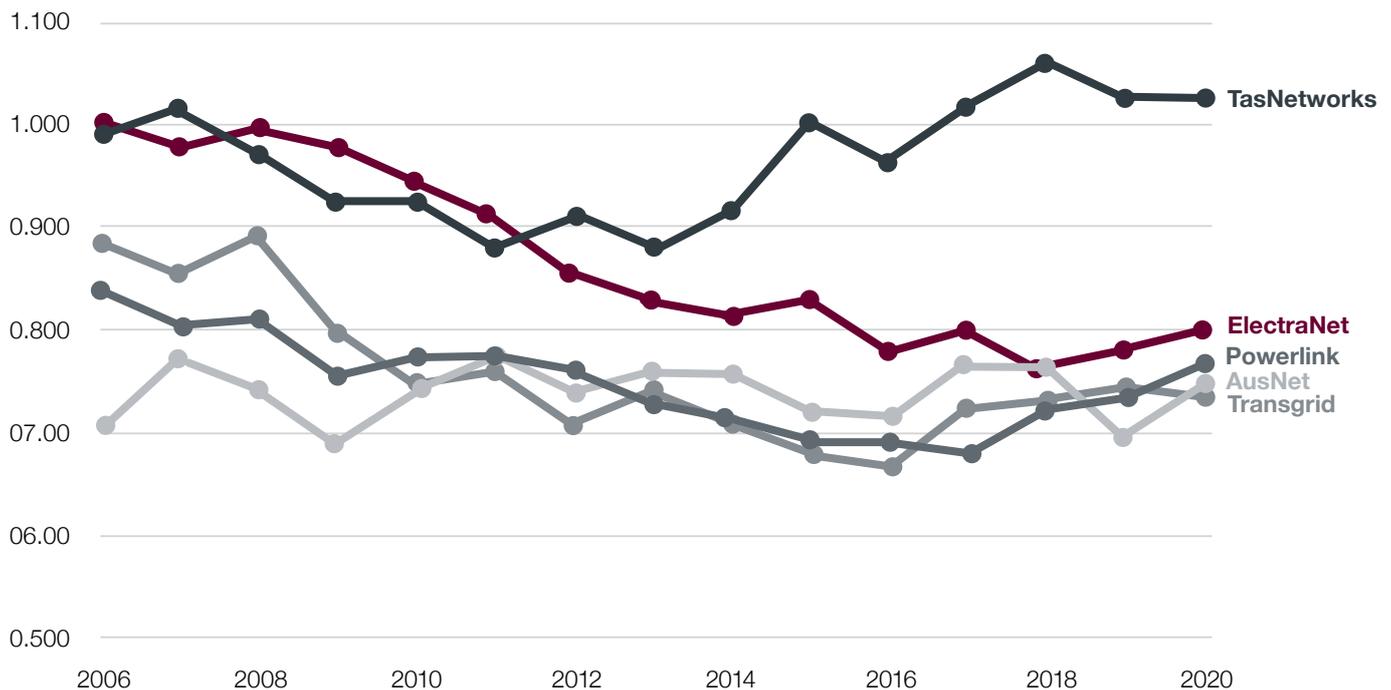
When considered in partial terms, under the benchmarks we perform strongly in capital expenditure, but less so in operating expenditure. This is to be expected given the age and composition of South Australia's transmission network and the ongoing cost of maintaining it and the fact that, as a relatively small transmission business, we do not have access to the same economies of scale available to other transmission businesses.

Further, South Australia's transmission network operates at voltages that would be considered distribution in other jurisdictions. This increases our headline costs.

These and other differences between ElectraNet and our peers and the growing role of transmission make meaningful benchmarking of transmission networks very difficult.

The key point is the total. Acknowledging the limitations of transmission benchmarking, when our output is measured using the AER's preferred combination of measures, our total cost of service to customers per unit is less than most of our peers.

**Transmission Multilateral Total Factor Productivity**



Source: AER, Annual Benchmarking Report, Electricity Transmission Network Service Providers, Nov 2021.





## Chapter 2

# Customer Engagement

## Customer engagement has shaped our Revenue Proposal

In 2016, we co-designed and developed our early engagement approach in partnership with our Consumer Advisory Panel (CAP). This involved the first publication of a Preliminary Revenue Proposal, which we used to support early engagement with customer representatives, the Australian Energy Regulator (AER), and other stakeholders on expenditure plans for the next regulatory period prior to commencement of the formal regulatory process with submission of a Revenue Proposal.

Since then, the CAP and its broad range of customer representatives has been the primary focus of our customer engagement. Building on our ongoing relationships with our direct connect customers, we wrote to each of them providing a copy of the PRP and inviting them to participate in individual or group meetings to discuss our Revenue Proposal.

In preparing this Revenue Proposal we built on our approach to reflect recent developments. The aim was to develop a well-tested set of proposals that are targeted to the needs of customers, and capable of support by customers and acceptance by the AER. It reflects the AER's Framework for considering public engagement. More recently this was incorporated into the AER's *Better Resets Handbook: Towards Consumer Centric Network Proposals*.

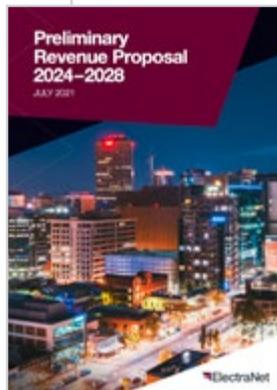
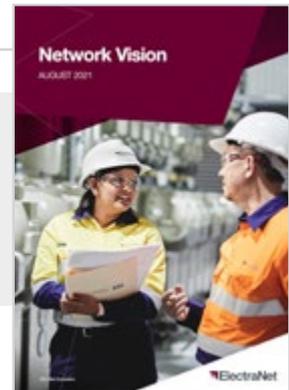
This section of the Revenue Proposal overview describes our engagement journey, which began for the Revenue Proposal in November 2020. It also provides a summary of how engagement with our customers influenced the indicative forecasts set out in our Preliminary Revenue Proposal and shaped the forecasts in this Revenue Proposal.

Finally, this section gives our self assessment of this engagement exercise and identifies refinements for the future. Our overall approach is summarised below.

### Summary of approach

#### Network Vision

The Network Vision is developed in collaboration with our customers and stakeholders to help shape our directions and priorities for the transmission network.



#### Preliminary Revenue Proposal

The purpose of the Preliminary Revenue Proposal is to give our stakeholders the information they need to make meaningful contributions to our Revenue Proposal.

#### Revenue Proposal

Our final expenditure plans and priorities shaped by stakeholder input.



## Our engagement journey

Our approach to customer engagement has been developed over many years. In 2016 we pioneered the use of a Preliminary Revenue Proposal as the basis for engaging with our customers as we develop our Revenue Proposal and the associated plans and forecasts. That approach was subsequently followed by other transmission businesses.



### Engagement Approach developed

The CAP was engaged to develop a proposed Revenue Reset customer engagement approach, building on the approach co-designed with the CAP for our previous Revenue Proposal with refinements based on a review of Consumer Engagement Practices by electricity networks undertaken since then.

Nov  
2020



### Directions and priorities identified

Consultation concluded on the Network Vision and working with the CAP, the input and feedback from stakeholders was considered, the overall themes were confirmed and the key directions and priorities for the transmission network were identified.

Mar-Apr  
2021



### Working Group formed

In a session attended by ElectraNet's Chairman and Chief Executive the CAP agreed to form a Working Group for intensive engagement on the Preliminary Revenue Proposal through a series of workshops including participation by the AER.

July  
2021

Feb  
2021



### Network Vision stakeholder forum held

We launched our Network Vision discussion paper and held a public forum to obtain input on the changes and influences impacting on the electricity system, and to help shape the directions and priorities for the transmission network over a 5-10 year planning horizon, which in turn drive our expenditure plans and programs for managing the network.



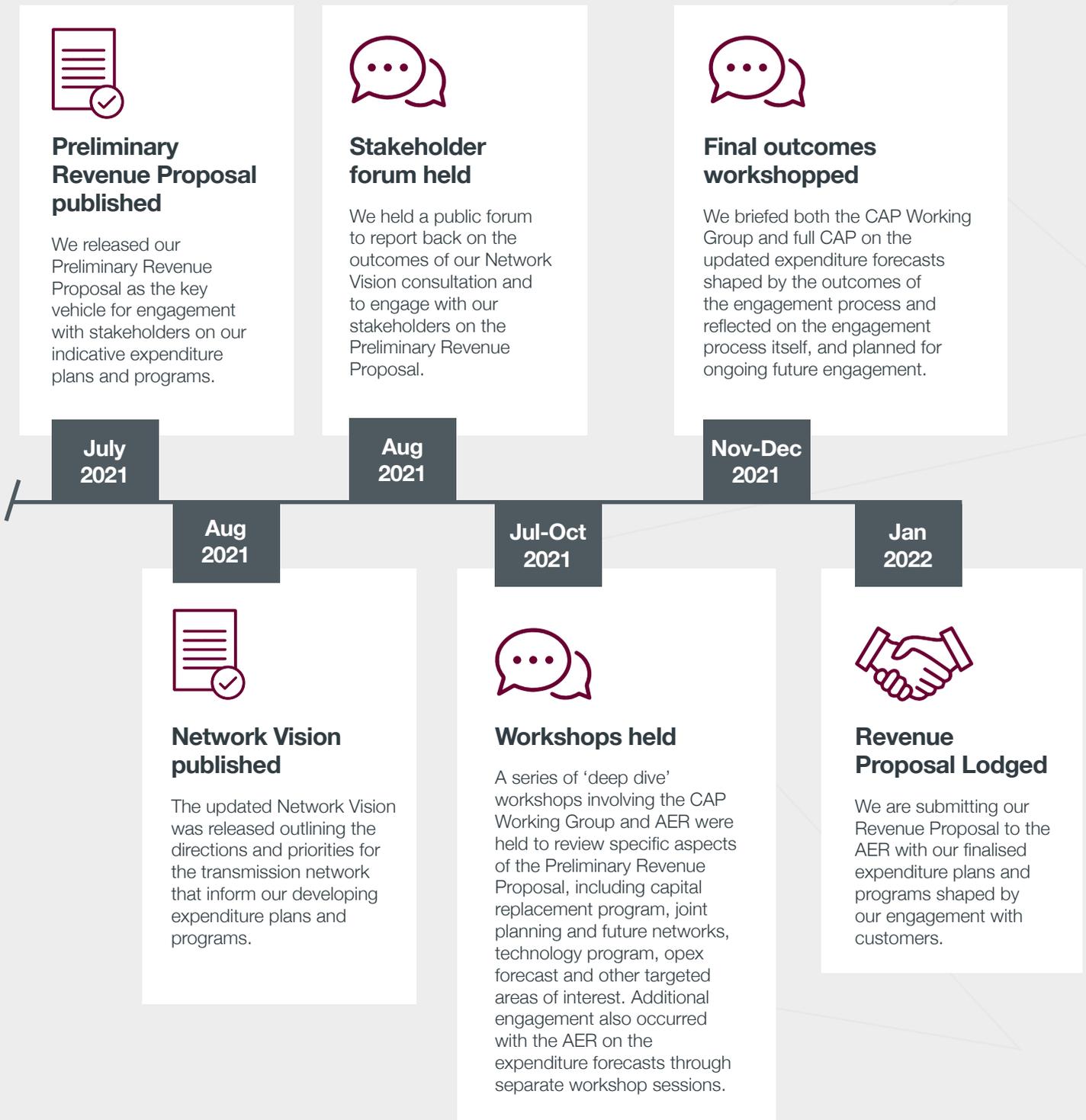
### Indicative forecasts developed

We briefed the CAP on the development of our indicative expenditure forecasts and worked to formalise our early engagement approach with the AER, including the proposed engagement schedule and key topics of likely interest, and shared a copy of our draft Preliminary Revenue Proposal prior to publication.

May-Jun  
2021

Following the successful engagement process on our previous Revenue Proposal we entered a phase of intensive engagement with customers in relation to Project EnergyConnect, the Eyre Peninsula reinforcement and the Main Grid System Strength project (synchronous condensers).

Building on this we moved into our current engagement on the development of our priorities and plans for the coming regulatory period, as outlined below. Further information on the outcomes of our engagement with customers can be found in the Customer Engagement Outcomes Report.



## How did customers influence our plans?

As we engaged on our Preliminary Revenue Proposal, the input provided by the CAP Working Group and wider stakeholders directly and indirectly impacted on ElectraNet's development of its expenditure forecasts for the Revenue Proposal.

Some of the key feedback themes we heard from the working group and broader stakeholders were:

- keeping costs as low as possible
- how ElectraNet can improve its productivity under the AER's opex benchmarking
- applying top-down prudency review to bottom-up expenditure forecasts
- greater focus on customer benefits to be delivered by expenditure programs, including the technology program
- ensuring planning is being coordinated with SA Power Networks for lowest cost solutions
- the appropriate balance of risk sharing between ElectraNet and customers
- considering alternatives to expenditure proposed in the Preliminary Revenue Proposal, including deferral or part deferral, and using of contingent projects and cost pass through mechanisms for managing risk.

Engagement on these themes, together with our internal governance and review processes led to the changes summarised in the table below, with an overall reduction in revenue of over 5 per cent.

### Changes from our Preliminary Revenue Proposal

FY2024-28	Preliminary Revenue Proposal	Change	Revenue Proposal	Description
Capex \$m*	842*	-98	742	<b>Reduction of 12%</b> reflecting ongoing development based on new information and outcomes of customer engagement
Opex \$m*	590*	-19	571	<b>Reduction of 3%</b> based on reduced network growth and labour escalation, partly offset by updated step changes
WACC % (post tax nominal)	4.47	-0.18	4.29	Updated estimate based on the AER's prevailing guideline
Revenue \$m (smoothed)	1,799	-90	1,709	<b>Reduction of 5%</b> based on expenditure reductions and updated WACC
Price impact % ('Po' in FY24)	5	-4.2	0.8	<b>Reduced price impact</b> reflecting lower revenue, partly offset by ongoing falls in energy forecasts

\* These values are in June terms and are equivalent to \$832m and \$583m respectively which were in December terms in the PRP. Comparisons between our Revenue Proposal forecasts and current regulatory period values are provided elsewhere in this document.

The approach we have applied is summarised opposite framed against the AERs framework for considering public engagement. Further information on the specific outcomes of the engagement are found in the following sections.

\*This excludes the impact of recent accounting treatment changes requiring us to report IT cloud services as Opex.

## AER Framework for considering public engagement

	AER <b>How this could be assessed</b>	ElectraNet <b>What we did</b>
<b>Nature of engagement</b>	Customers partner in forming the proposal rather than asked for feedback on the proposal.	A Preliminary Revenue Proposal was published as the focus for partnering with the CAP in the development of the Revenue Proposal, building on the directions and priorities of the Network Vision developed in consultation with stakeholders.
	Relevant skills and experience of the customers, representatives and advocates.	CAP Working Group (WG) was formed with diverse experience and relevant expertise for detailed engagement, with the support of the full CAP.
	Customers provided with impartial support to engage with energy sector issues.	AER staff participated in all engagement workshops. AEMO and SA Power Networks provided input on the future direction of the changing power system. Consumer Challenge Panel (CCP) members were appointed by the AER at the end of the process due to timing issues.
	Sincerity of engagement with customers.	We engaged genuinely throughout, including clarity on the level of engagement possible and open sharing of updates to be taken to our Board, to ensure 'no surprises'.
	Independence of customers and their funding.	The CAP WG was offered funding for independent support to review the proposal and report on outcomes. We offered sitting fees to help meet expenses.
	Multiple channels used to engage with a range of customers across ElectraNet's customer base.	We engaged through customer meetings, public webinars, stakeholder submissions, and a series of intensive workshops with the CAP WG.
	<b>Breadth and depth</b>	Clear identification of topics for engagement and how these will feed into the Revenue Proposal.
Customers consulted on broad range of topics.		Over eight Working Group meetings customer representatives were engaged on a wide range of topics identified by them
Customers able to influence topics for engagement.		The CAP WG provided input and participated in forming meeting agendas, with the level of influence on topics identified with reference to the IAP2 spectrum.
Customers encouraged to test the assumptions and strategies underpinning the proposal.		Customers were given opportunity to test assumptions and strategies, within the time constraints of workshop sessions, with access to AER participants.
Customers were able to access and resource independent research and engagement.		Customers were offered access to independent resources as required, as well as access to AEMO.
<b>Clearly evidenced impact</b>	Proposal clearly tied to expressed views of customers.	The CAP WG has successfully influenced and shaped the proposal. Both ElectraNet and the CAP WG briefed the full CAP on the outcomes of the engagement process, and the CAP WG is developing an independent report.
	High level business engagement (e.g. customers given access to ElectraNet's Chief Executive and/ or Board).	The Executive led engagement process included participation from ElectraNet's Chairman, Chief Executive, and other Executives.
	ElectraNet has responded to customer views rather than just recording them.	A detailed record of engagement outcomes was kept, including responses to all key issues raised by the CAP WG showing how customers have influenced outcomes.
	Impact of engagement can be clearly identified.	We have reflected the impact of customer engagement in the Revenue Proposal and in a separate Customer Engagement Outcomes Report.
<b>Proof point</b>	Submissions on proposal show customers feel the impact is consistent with their expectations.	ElectraNet provided drafts of its final Revenue Proposal and Customer Engagement Outcomes Report to the CAP, AER and CCP and invited feedback prior to formal submission to the AER.
<b>Proof point</b>	Reasonable opex and capex allowances proposed, for example: <ul style="list-style-type: none"> <li>In line with, or lower than, historical expenditure.</li> <li>In line with, or lower than, the AER's top-down analysis of appropriate expenditure.</li> <li>If not in line with top-down, can be explained through bottom-up category analysis.</li> </ul>	Capex and opex forecasts were subject to detailed review and were shaped through the engagement process. <p>Proposed capex is lower than historical expenditure in underlying terms.</p> <p>Proposed opex is based on the AER's base step trend forecast approach and is lower than historical expenditure in underlying terms (prior to externally driven step changes).</p> <p>The CAP has been fully briefed on the final expenditure forecasts, ensuring no surprises.</p>

*Pouring concrete footings for  
new transmission towers*



## Chapter 3

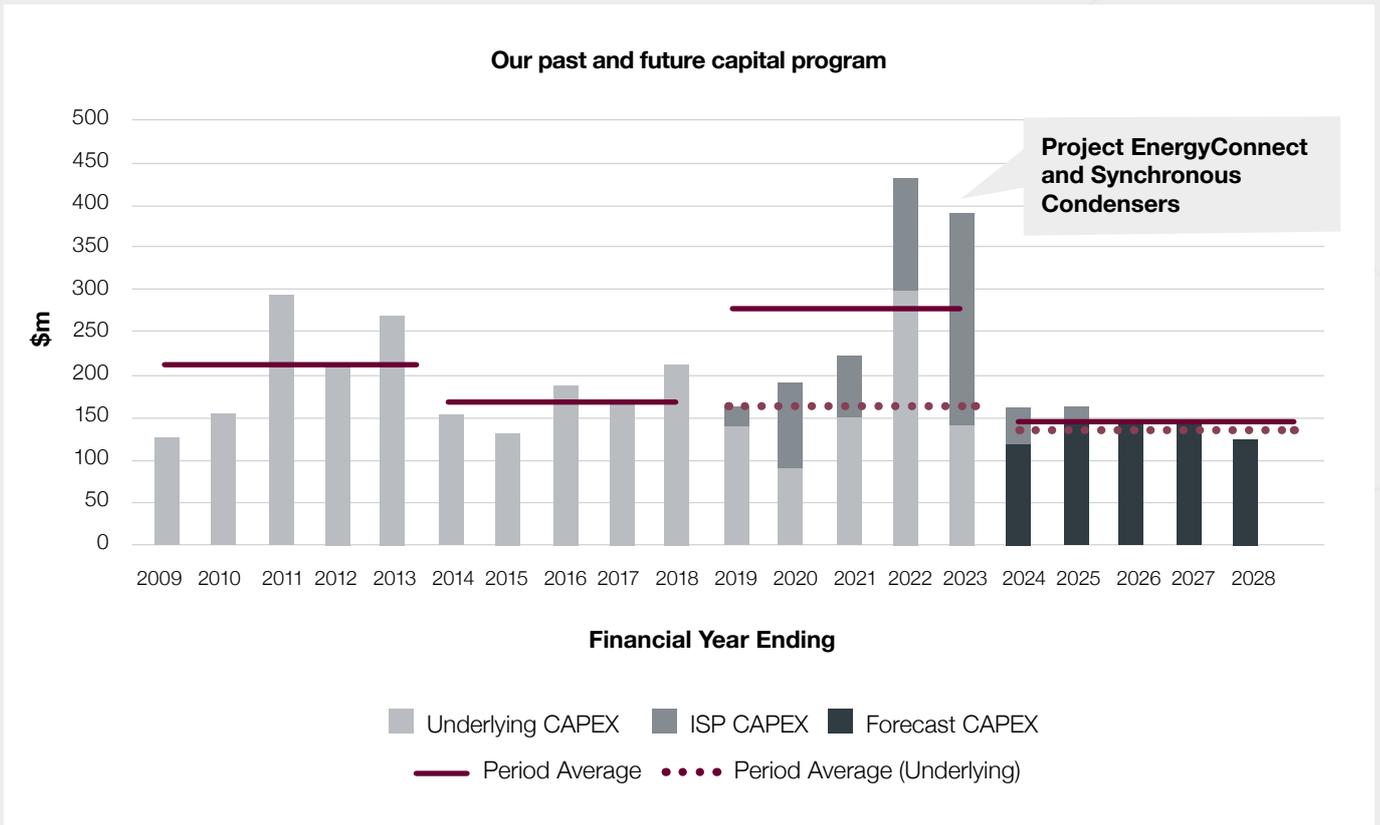
# Capital Expenditure

## Our capital program is reducing substantially

Following our landmark projects in the current period we will return to a smaller capital program focused on managing the ageing network.

The figure below shows our forecast capex in a 20-year context. It shows that we expect capex in 2024-2028 to be lower in real terms than it has been in the last fifteen years. This is especially true when we consider the impact of Project EnergyConnect and the synchronous condensers because these have caused capex in the current period to be much higher than before.

Setting these projects aside, our underlying capital expenditure forecast is less in 2024 to 2028 than actual and forecast spend in the current period, or in either of the previous two. It is falling by 18% from the current period.



South Australia has been at the forefront of the energy transformation for many years. In recent years we have worked to deliver major projects that are instrumental in supporting the next stage of the transformation to renewable energy.

The synchronous condensers recently installed on our network have already allowed AEMO to reduce the amount of gas generation held in reserve, allowing South Australia to make increased use of renewable generation. When Project EnergyConnect is connected more renewable generation will be possible, supplying interstate customers as well as those here in South Australia.

Our capital program in the forthcoming regulatory period is focused on the existing network, maintaining, refurbishing and replacing network assets and systems to ensure ongoing reliability, together with targeted investments in security and technology.



**Our capital forecast has been reduced by \$100m\* from the indicative forecast in the Preliminary Revenue Proposal.**

The table below shows our expectation that capital expenditure will reduce across all regulatory categories other than a small increase for inventory/spares.

In the Preliminary Revenue Proposal our indicative capital expenditure forecast for 2024 to 2028 was \$842m\*. Since that time, we have further developed our forecast by conducting a line-by-line internal review of our proposed capital program while at the same time engaging with the CAP Working Group. Project EnergyConnect has been partially delayed into the coming period and there have also been timing movements on other projects.

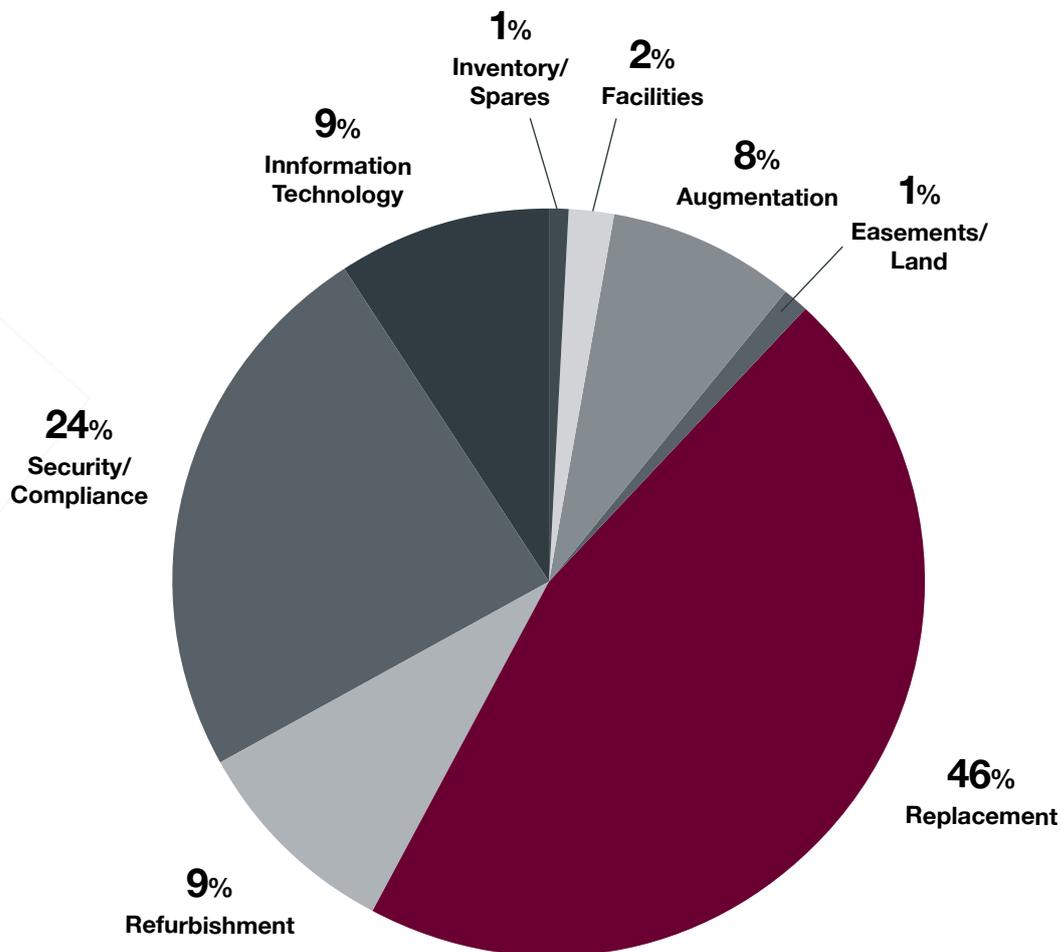
When all these are considered, our total forecast capital requirement for 2024-2028 has been reduced by \$100m to \$742m from the indicative forecast in the Preliminary Revenue Proposal.

The majority of our capital program focuses on targeted asset replacements and refurbishment works. This allows us to extend asset life and defer major investment based on careful monitoring of asset condition and applying a risk based approach.

The CAP was satisfied that we have given sufficient focus to reducing capital expenditure in our Revenue Proposal.

It is essential we continue our ongoing replacement programs to maintain an ageing network sustainably into the future and deliver the services customers expect.

**Capital Expenditure Forecast by Category**



\*This value is in June terms. It was shown as \$832m, in December terms, in the PRP.



Category	FY19-23 Forecast	FY24-28 Forecast	Description
<b>Augmentation</b>	407	59	No demand driven investment following the completion of Project EnergyConnect
<b>Connection</b>	3	0	
<b>Easements/ Land</b>	6	6	Minor strategic land acquisition requirements
<b>Replacement</b>	538	339	Most of our capital expenditure program is focused on ongoing programs to refurbish and replace ageing assets
<b>Refurbishment</b>	92	67	
<b>Security/ Compliance</b>	268	176	Investment requirements to maintain physical, cyber, and power system security and network safety
<b>Information Technology</b>	79	70	Investments to maintain capability and harness modern technology
<b>Inventory/ Spares</b>	12	12	Ongoing requirements to maintain spares and facilities
<b>Facilities</b>	13	14	
<b>TOTAL</b>	<b>1,421</b>	<b>742</b>	

The major elements of our capital program are summarised on the following pages.

*These figures exclude the impact of recent accounting treatment changes requiring us to report intangible assets as Opex.*

## Capital projects summary

These pages summarise the major elements of our capital program, many of which have been reduced since the Preliminary Revenue Proposal.

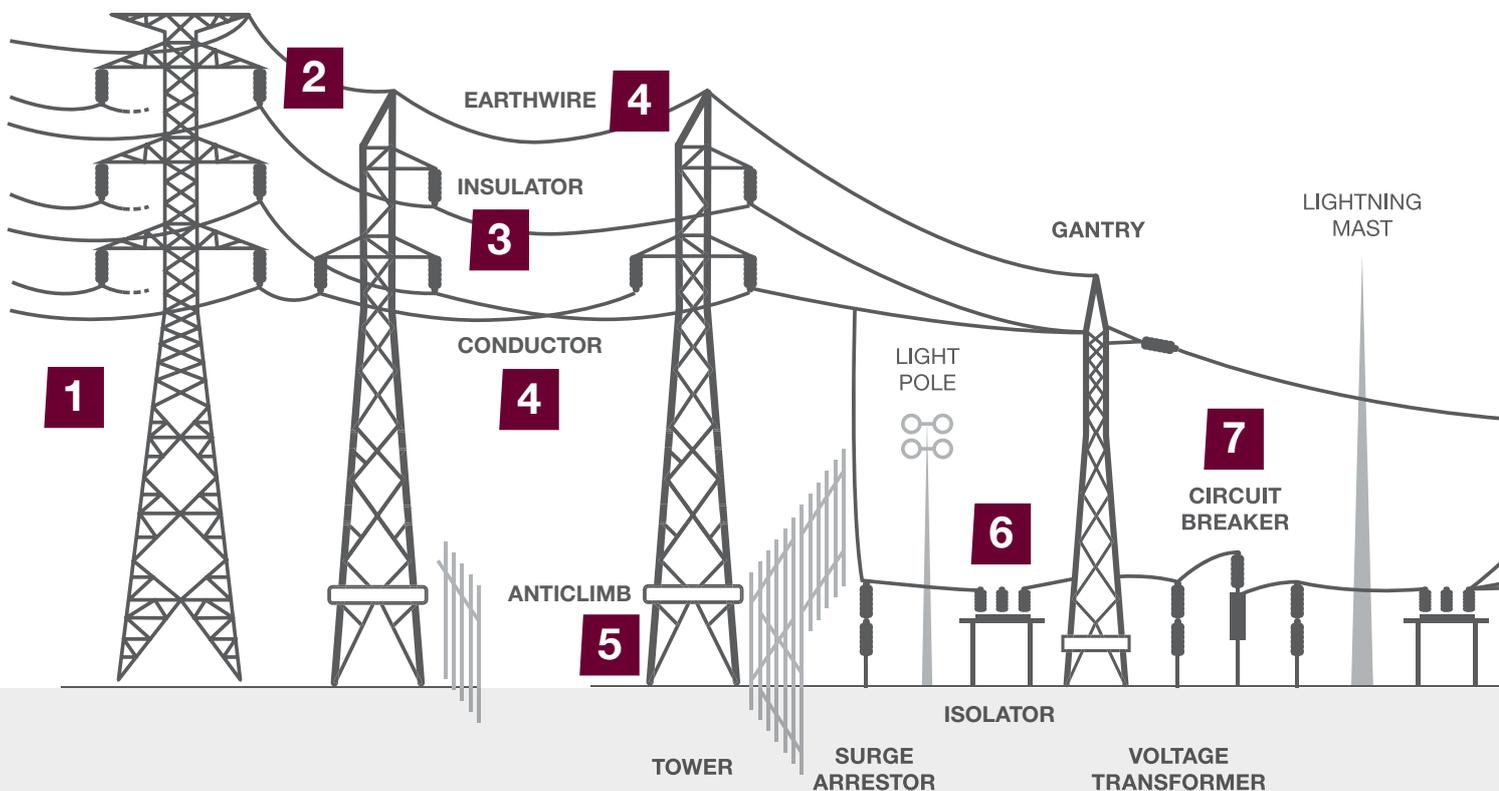
Our replacement and refurbishment program represents 56 per cent of our total capital program or \$406m. The top projects by value are shown on this page.

### 1 Project EnergyConnect – \$59m

This is the final phase of Project EnergyConnect, which will connect South Australia's transmission network to New South Wales, paving the way for reduced wholesale electricity prices due to increased competition and also enabling increases in the use of renewable generation in South Australia.

### 2 Hummocks to Ardrossan West Line Rebuild – \$32m

Our routine condition assessment indicates that the transmission line between Hummocks and Ardrossan West is in need of substantial work. The most efficient option is to replace the line.



### 3 Transmission Line Insulation System Replacement – \$33m

### 4 Line Conductor and Earthwire Refurbishment – \$27m

### 6 Isolator Unit Asset Replacement – \$43m

### 7 Circuit Breakers Unit Asset Replacement – \$15m

### 9 Instrument Transformer Unit Asset Replacement – \$18m

We have several replacement programs to replace key asset components, based on asset condition and risk. These are staged asset replacement programs conducted over multiple regulatory periods.

**5** **Transmission Tower Anti-Climb Installation – \$22m**

Many of our older transmission towers are not fitted with anti climb equipment that is now standard. For public safety reasons we propose to install this equipment on towers in locations most at risk of unauthorised climbing. We are taking a phased approach over multiple regulatory periods.

**11** **Wide Area Monitoring Scheme – \$14m**

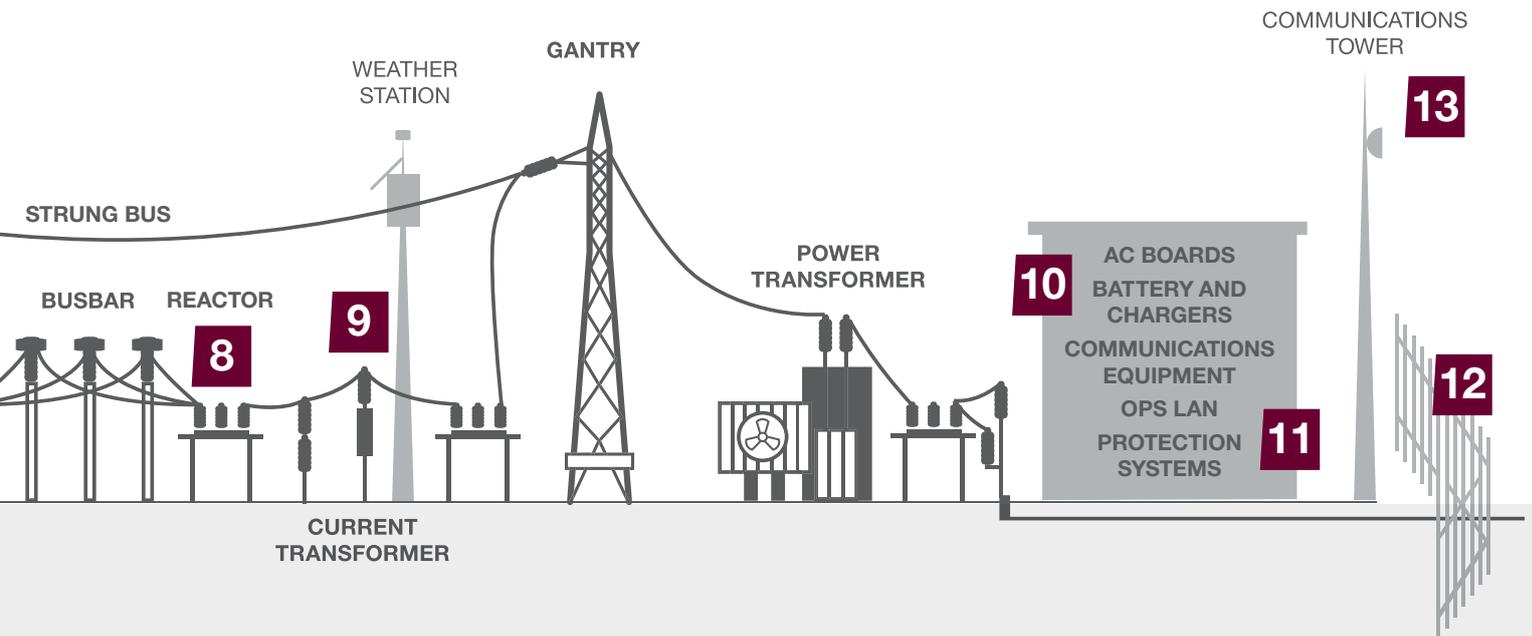
We will install phasor measurement units at various sites around the network as AEMO requires. These devices will increase the speed with which we and AEMO receive network information and, in turn, allow us to manage the network more efficiently.

**8** **Transmission Network Voltage Control – \$54m**

Increased use of electronic devices and falling minimum demand levels due to increased use of solar is causing dynamic and static reactive power devices on the network to reach the limit of their ability to keep voltage levels within applicable limits. We propose to install several reactors to rectify this problem.

**12** **Substation Perimeter Intrusion and Motion Detection Security – \$12m**

This project forms part of a broader program of improving the physical and cyber security of our substations.



**10** **Substation Technology System Cybersecurity Uplift – \$16m**

With the rising risk of cyber attack this project is to upgrade computer systems in our substations as part of a broader program of upgrading substation security.

**13** **Telecommunications Asset Replacement – \$11m**

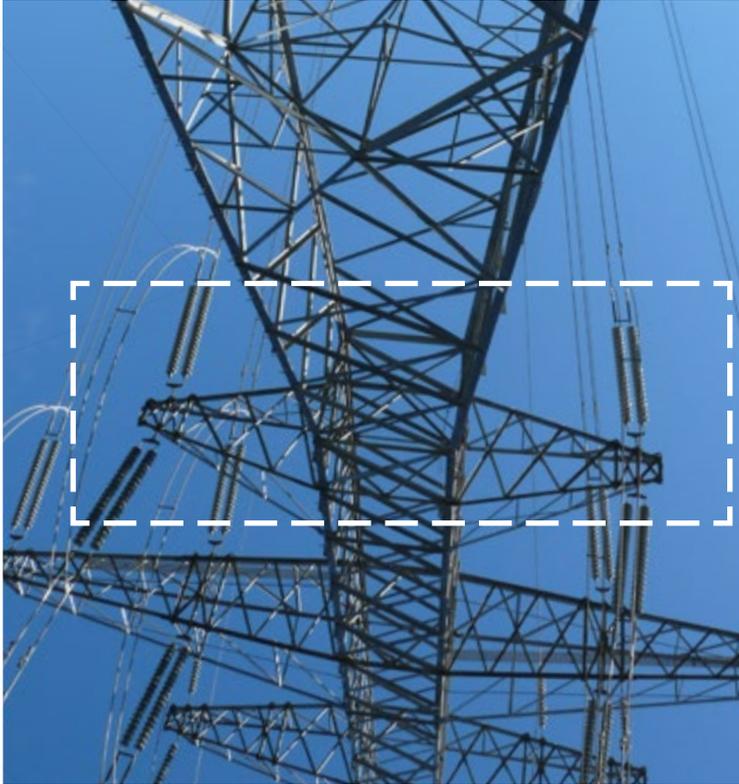
ElectraNet operates a substantial telecommunications network which is used to operate the transmission network efficiently and to ensure substations and other assets can be accessed for maintenance safely. This project is the next stage in the ongoing replacement of end of life assets in this broader network.

## Customer input has reduced our capital program

Customer engagement shaped our capital program in many ways. The four projects discussed on this page are examples of projects considered in detail by our CAP Working Group. This page summarises the Working Group's input, and the changes we made to our proposals.

With customer input, our total capital expenditure forecast reduced by around \$100m.

### Tower Anti-Climb Installation



#### What we heard

The CAP Working Group expressed broad support for this project and sought clarity on how the sites were chosen and the criteria used, whether the scope of the project could be reduced, and suggested input could be provided from suicide prevention experts.



#### Response

We presented several options for the scope and prioritisation of this project. Following review by the working group we reduced the project scope and cost by \$14m from \$36m in the Preliminary Revenue Proposal to \$22m by adopting a more targeted and staged approach to addressing the public safety risk.

In discussions about this project, LifeLine Adelaide supported our efforts to reduce access to towers and the criteria used to prioritise anti-climb installations.

### Northern Renewable Energy Zone Strategic Land Acquisition



#### What we heard

The CAP Working Group recognised the value in avoiding more expensive future solutions and was supportive of ElectraNet proceeding with the acquisition of the easements, recognising also that any land purchased could be sold in future if not needed.



#### Response

As a result of the feedback from the CAP Working Group, ElectraNet has retained this project in its program as a no-regrets investment at a cost of \$6m.



## Power Quality Management Project



### What we heard

The CAP Working Group sought more information and asked ElectraNet to consider all options on the way forward for this project.



### Response

In the Preliminary Revenue Proposal we identified a need to take steps to maintain power quality for customers, estimated to cost \$21 million.

As further information became available, the estimated cost grew to \$54 million.

In response to customer feedback this has become a \$5 million project to install measuring equipment to better identify the issues to be addressed avoiding costs of \$16 million on the original forecast, and \$49 million in total.

A contingent project is being proposed to respond to the potential solutions identified by the monitoring and studies.

## Substation Security



### What we heard

We discussed with the Working Group a review we were undertaking of our substation security program. The Working Group was interested to ensure a coordinated and efficient approach was being taken to closely related projects.



### Response

Our review confirmed these projects as complementary initiatives each with a specific purpose, while also identifying opportunities to reduce the cost of some of these projects through careful design and scope changes, in line with feedback from the Working Group.

The proposed changes result in a reduction to the cost of these projects of around \$10m.

## We apply a risk-based approach to capital planning

The Asset Management Objectives we have developed with our customers guide our asset management plans and operations.

The Asset Management Objectives were developed in consultation with ElectraNet's Consumer Advisory Panel and are consistent with the National Electricity Objective and the capital expenditure objectives set out in the National Electricity Rules.



### Safety of People

Ensure the safety of staff, contractors, and the public.



### Protect the environment

Ensure the environmental impact of network operations are minimised.



### Affordability and reliability

Reduce the overall cost of electricity to customers by removing network constraints, operating the network, and delivering our capital and maintenance works as efficiently as possible, while maintaining safety and reliability.



### Power system security and resilience

Ensure the network is resilient and operates within acceptable parameters in the face of electrical, physical, or cyber disruption, and continues to enable the transition to a low carbon emissions future.

We continue to keep capital costs down by delaying asset replacement of ageing infrastructure by replacing individual asset components when needed to extend asset life for as long as possible. Decisions to replace or refurbish network assets are made based on asset condition and risk.

ElectraNet conducts a risk cost economic assessment to determine whether the benefits of undertaking each project exceed the costs, considering all feasible options. This assessment also examines the optimal timing of the project to ensure that net benefits are maximised, and projects are deferred where this is more economic.

ElectraNet's risk assessment framework considers the probability of asset failure, as well as the likelihood and cost of adverse consequences, to quantify a range of relevant risks including safety, reliability and environmental risks. Comparing the risk reduction benefits of investment against the costs of the proposed expenditure ensures that asset replacement decisions are made on an economic basis.

Our approach for doing this aligns closely with the AER's Industry Practice Note, Asset Replacement Planning, which was published in January 2019 and builds on what we did five years ago for the current regulatory period. The AER has previously considered our forecasting approach and concluded, in October 2017, that it is consistent with good industry practice and reflects reasonable inputs and assumptions.

Our capital expenditure forecast has been prepared on this basis.

Following detailed engagement on this process the CAP was satisfied that our capital planning processes are robust.



“

**...we are satisfied that ElectraNet's investment risk tool analysis used to inform the economic assessment of asset replacement and refurbishment decisions is consistent with good industry practice and generally reflects reasonable inputs and assumptions.**

”

*Source: AER Draft Decision ElectraNet Transmission Determination 2018 to 2023, October 2017. Available [here](#).*

## Contingent projects help manage future uncertainty

The contingent project mechanism in the National Electricity Rules is a tool for managing uncertainty about future investment needs in the network. Some future events could require upgrades to our network, but it is uncertain whether, or when, they will happen. We manage these by proposing contingent projects that would be subject to detailed public review by the AER, including public consultation, if the relevant trigger events occur.

We propose three contingent projects listed in this table.

### Contingent projects

Project	Description	Triggers	Indicative Cost
<b>Power Quality Management</b>	This project allows for the installation of the relevant equipment to maintain power quality standards across the transmission network in relation to voltage harmonic requirements.	Successful completion of a RIT-T including an assessment of credible options showing a transmission investment is justified to address voltage quality requirements on the South Australian transmission network.  ElectraNet Board commitment to proceed with the project subject to the AER amending the revenue determination pursuant to the Rules.	<b>30-60</b>
<b>Eyre Peninsula Upgrade</b>	This project allows for the upgrade of the northern section of the Eyre Peninsula line from 132 kV to 275 kV to serve higher loads, which is accommodated in the design and/or augmentation of power transfer capacity between Davenport and Cultana.	Customer commitment for additional load to connect to the transmission network causing the Cultana 275/132 kV transformers to exceed their thermal limit of 200 MW and/or causing a need for augmentation of power transfer capacity between Davenport and Cultana.  Successful completion of a RIT-T including an assessment of credible options showing the upgrade of the 132 kV Eyre Peninsula Link to 275 kV and/or augmentation of power transfer capacity between Davenport and Cultana is the preferred option: <ul style="list-style-type: none"> <li>demonstrating positive net market benefits; and/or</li> <li>addressing a reliability corrective action.</li> </ul> ElectraNet Board commitment to proceed with the project subject to the AER amending the revenue determination pursuant to the Rules	<b>50-150</b>
<b>Interconnector Upgrade</b>	This project allows for an increase in inter-regional transfer capacity through such measures as control schemes and/ or frequency response capability.	Successful completion of a RIT-T with an identified need to increase inter-regional transfer capability between South Australia and adjoining regions: <ul style="list-style-type: none"> <li>demonstrating positive net market benefits; and/or</li> <li>addressing a reliability corrective action.</li> </ul> ElectraNet Board commitment to proceed with the project subject to the AER amending the revenue determination pursuant to the Rules.	<b>100-150</b>

Further contingent projects may be identified by AEMO under the Rules if required. Future projects could include:

### Upper South East Network Augmentation

This would increase transfer capacity between Tailem Bend and Adelaide to allow for greater imports and exports of renewable energy. It is identified as a future project in AEMO's Draft 2022 ISP with indicative timing in the mid-2030's in most scenarios.

### Main Grid System Strength Support

This would allow for the delivery of additional system strength on the transmission network if identified in AEMO's next annual System Strength Assessment Report due by December 2022.

*Assembling the last section  
of a transmission tower*





## Chapter 4

# Operating Expenditure

## Our operating expenditure program is focused on maintaining and operating the network efficiently in a rapidly changing environment

### External factors are driving up operating costs

In the coming regulatory period we face cost pressures from a range of external factors driving increased operating costs.

These include:



bushfires and other global events in recent years causing insurance costs to increase substantially



new critical infrastructure requirements regarding cyber and physical security



new obligations driving a need for increased specialist resources in areas such as network planning



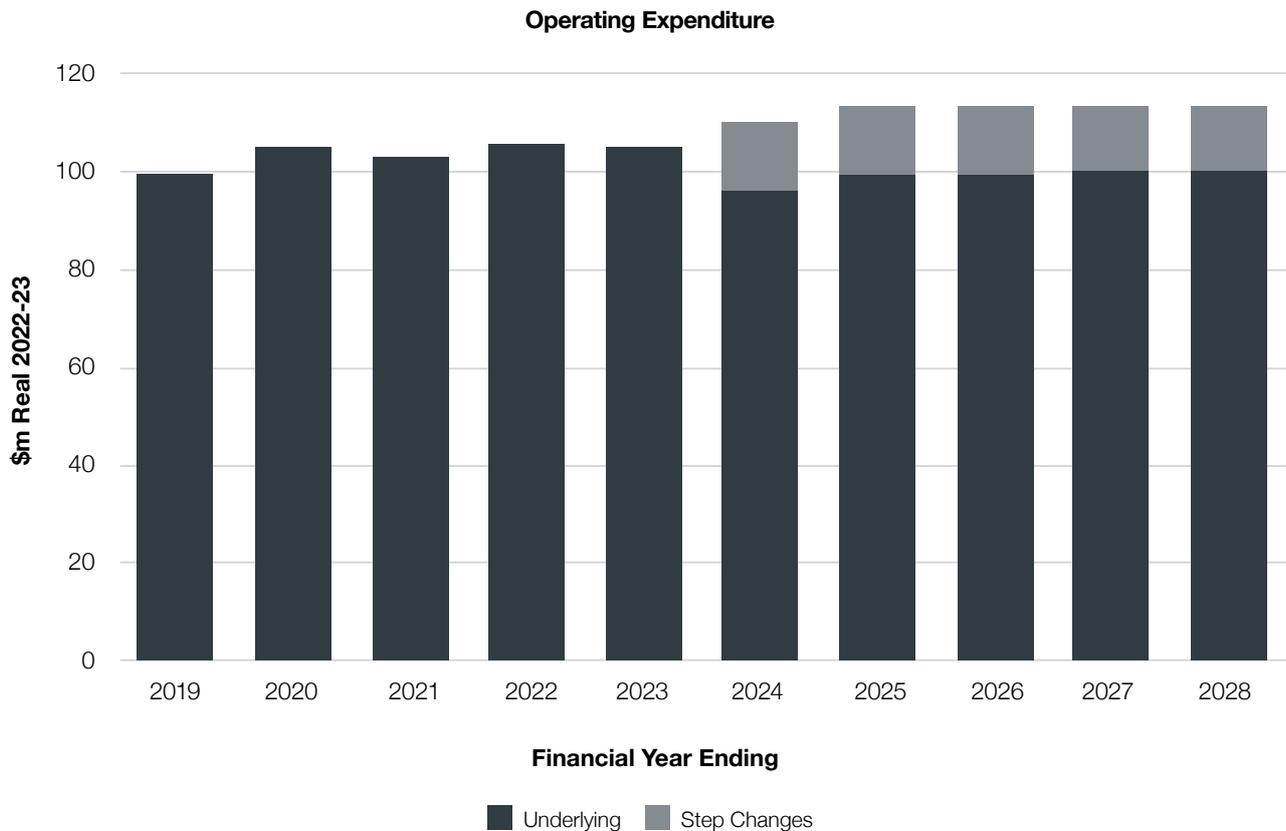
while the requirement to migrate some of our information technology systems to the Cloud in order to maintain and enhance functional capabilities reduces capital costs, it brings with it increased licencing operating costs.

These external factors and new requirements are driving a step increase in operating costs from otherwise stable levels.

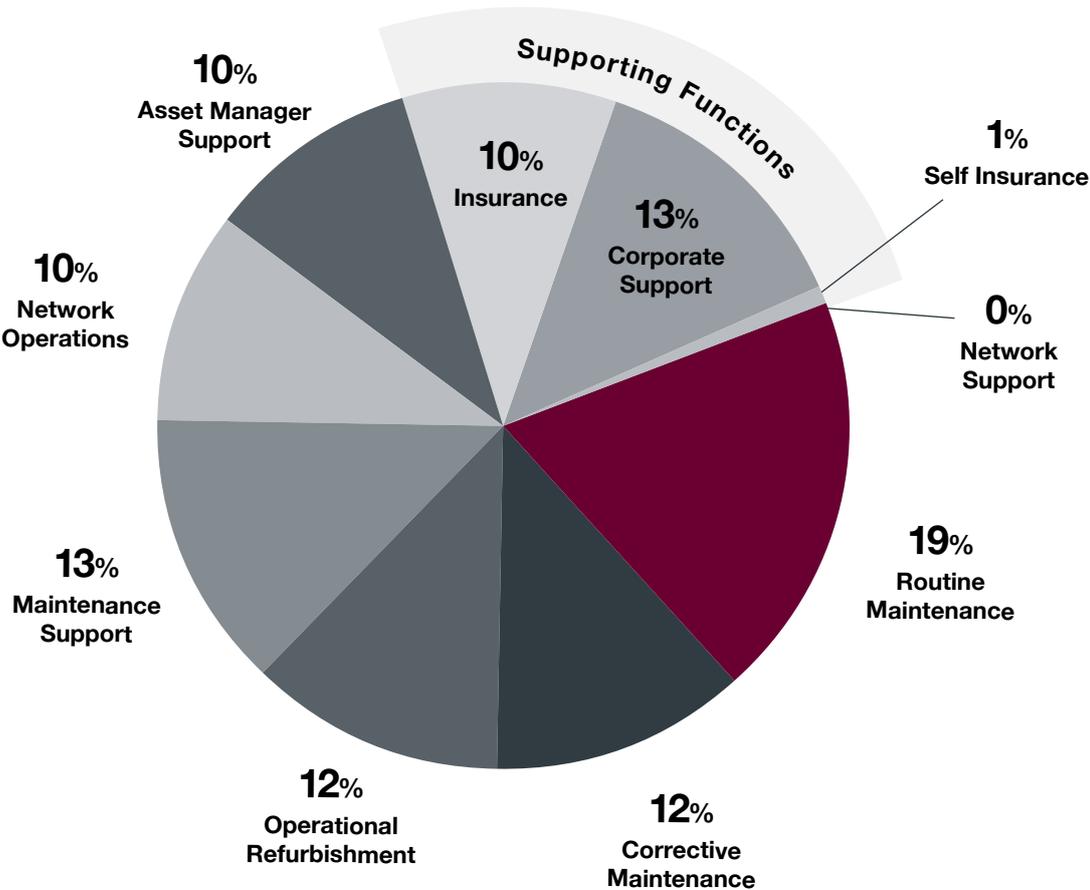
Further, after the completion of the synchronous condensers, Project EnergyConnect and Eyre Peninsula Link, South Australia's electricity transmission network will have grown by about 12 per cent.

This drives an increase in operating and maintenance costs, but is more than offset by a reduced need for ongoing network support expenditure because the Eyre Peninsula link will remove the need to provide generation support to Port Lincoln.

As shown below, our total operating expenditure is forecast to be approximately \$116 million in 2025 and to remain stable thereafter.



Operating expenditure forecast by category



Our operating expenditure program is focused on operating and maintaining the network efficiently. Approximately 81 per cent of total operating costs are directly associated with the maintenance and operation of the network, with the balance comprising various supporting functions.

### Operating Expenditure Categories (\$m)

Category	Forecast	Description
<b>Routine Maintenance</b>	<b>109</b>	This involves maintenance tasks and activities undertaken on a scheduled basis including asset testing, inspections, line patrols, vegetation clearance.
<b>Corrective Maintenance</b>	<b>66</b>	This work involves short-term responses to unplanned events to restore assets to an operational state. Examples include mechanical breakdown, storm damage and other weather events, equipment malfunction and deterioration.
<b>Operational Refurbishment</b>	<b>69</b>	This includes maintenance project activities to address medium-term risks typically identified through asset condition assessments.
<b>Maintenance Support</b>	<b>72</b>	Functions include management of maintenance activity, environmental and safety management, asset-condition monitoring, supporting business systems and direct charges including land taxes and council rates.
<b>Network Operations</b>	<b>55</b>	Includes real-time control-room functions, offline support, maintenance of operational control systems, monitoring of asset performance and condition and fault diagnosis.
<b>Asset Manager Support</b>	<b>59</b>	The functional activities that support the strategic development and ongoing management of the network. Includes network planning, asset strategy, network support, customer and regulatory support and IT support.
<b>Insurance</b>	<b>59</b>	The cost of purchasing insurance
<b>Corporate Support</b>	<b>72</b>	Activities required to ensure adequate and effective corporate governance and business administration, including finance, accounting, administration, legal counsel, employee relations, occupational health and safety and internal audit.
<b>Network Support</b>	<b>0</b>	Network support payments fund non-network solutions contracted by us as cost effective alternatives to network augmentation, such as local generation or demand management arrangements.  While none of these services are forecast at the moment, they could be required in future.
<b>Self-Insurance</b>	<b>9</b>	Where external insurance cover is not available or not cost effective for certain risk events, we manage the risk exposure and cost impact of these events internally through self-insurance
<b>TOTAL</b>	<b>571</b>	

*These figures exclude the impact of recent accounting treatment changes requiring us to report intangible assets as Opex.*

## Applying the AER's forecast methodology

We are following the AER's standard base step trend approach to forecasting our opex requirements.

Leaving step changes aside, we are projecting reductions in underlying opex both from the current level and from the indicative forecast in the Preliminary Revenue Proposal.

Underlying opex will reduce from the current period because, when the Eyre Peninsula Link is complete, we will no longer be required to provide network support to the Eyre Peninsula. The reduction in underlying opex from Preliminary Revenue Proposal levels is driven by deferred growth in the network. These cause the network circuit length parameter of the Base Step Trend model to be smaller than was considered in the Preliminary Revenue Proposal. This leads to less growth in opex because we will have less network to maintain.

However, notwithstanding these underlying reductions there continues to be upward pressure on the opex forecast due to external factors driving up costs. These include the increased costs of insurance, cyber security, cloud computing and additional obligations in planning and managing the network, which appear in the opex forecast as proposed step changes.

We propose 2020-21 as our opex base year for the base step trend method, which is the most recent year for which audited accounts are available. Our opex in 2020-21 was lower than the previous year and also lower than forecast opex for 2021-22.

The incentive arrangements of the regulatory framework drive us to reveal our efficient costs. While we are working hard to keep operating costs down, we have needed to spend more than the AER opex allowance in each year of the current regulatory period. This spending is at shareholders' expense to meet our obligations to serve the long-term interests of customers.

We are confident that our operating expenditure forecast reflects the prudent and efficient costs of meeting the needs of our customers and our service obligations. The forecast includes a specific productivity improvement consistent with the AER's base step trend approach, reasonably satisfies the National Electricity Rules operating expenditure objectives, and is reasonable for the purpose of establishing an efficient ex-ante opex allowance.

## Step Changes

Our forecasts are based on the level of expenditure we have incurred in 2020–21.

In addition to these costs, we face a number of new costs that will apply to us in future years which are too material for the business to simply absorb. Consistent with the AER's forecast methodology, we have included our best estimates of these costs as outlined below.

Area	Indicative Forecast (\$m)	Description
Insurance	6.0	Since 2018 the global insurance market has experienced significant volatility, with ongoing premium increases and a contraction in available insurance cover capacity. This ongoing market volatility continues to drive substantial ongoing increases in ElectraNet's insurance premiums.
Cyber Security	5.2	New Critical Infrastructure legislation to implement the Australian Energy Sector Cyber Security Framework is expected to require additional expenditure during the coming regulatory period to fund prudent steps to protect the network from the risk of cyber attack.
Cloud Computing	1.8	We have identified a requirement to migrate part of our IT infrastructure to the Cloud in order to maintain and enhance operational capabilities moving forward. This avoids capital expenditure and unlocks significant benefits, while requiring new licence fees to be paid.
Rule Changes	0.8	A number of very recent rule changes are giving us additional responsibilities in planning and managing an increasingly complex electricity network, requiring additional specialist resources.
<b>TOTAL</b>	<b>13.8</b>	

We are forecasting step changes equalling \$13.8m per annum, which is within the range indicated in the Preliminary Revenue Proposal.

## Applying the AER's base step trend forecasting methodology

1

**Base Year**

- 2020–21 is the proposed Base Year
- Our actual operating expenditure was \$104.3m.

2

**Adjustments for one off items**

- Remove capitalisable leases of \$0.8m per annum
- Remove network support allowance of \$11.1m per annum
- Remove provision movements \$0.3m
- Add contingent project allowance increases \$0.5m.

3

**Rate of change (average 2024–2028)**

## Output change:

- energy throughput 1.2% decrease per annum
- maximum demand 0% annual change
- customer numbers 0.8% annual growth
- network circuit length 12.3% growth in total (5.5% in 2024, 6.8% in 2025).

## Real prices:

- labour price increases based on forecasts by BIS Oxford Economics halved in anticipation of averaging with Deloitte Access Economics assumed - 0.48% per annum.

## Productivity growth:

- 0.3% per annum (1.5% total).

4

**Step changes**

- Increased insurance costs
- Increased cyber security requirements
- New and increased planning functions
- Transition to cloud computing (capex/opex substitution).

**Forecast Opex 2024–2028**

Add debt raising costs ~\$9m.



Chapter 5

# Our Revenue Building Blocks

## We continue to follow established approaches to determine our revenue ‘building blocks’

We are following the AER’s standard approaches to the remaining revenue building blocks. This chapter covers the following parameters needed to complete our Revenue Proposal.



These are summarised as follows.

Revenue Component	2019-23 Forecast	2024-28 Forecast	Comments
Return on Capital	802	753	Reflects a lower rate of return applied to an increased Regulatory Asset Base
Return of Capital (regulatory depreciation)	307	341	Reflects the size of the Regulatory Asset Base
Operating Expenditure	500	627 <sup>2</sup>	Forecast developed using the base step trend approach
Revenue Adjustments	-4	-11	Reflects EBSS and CESS payments based on opex and capex spend profiles, adjusted for the delay in Project EnergyConnect
Net Tax Allowance	41	0	Reflects the new AER methodology - including the diminishing value method
<b>Annual Building Block Revenue Requirement</b>	<b>1,646</b>	<b>1,709</b>	

<sup>2</sup> Exceeds \$571m above because it includes debt raising costs of ~\$9m and intangible assets of ~\$46m.

EBSS - Efficiency Benefit Scheme    CESS - Capital Expenditure Sharing Scheme

### Accounting rules for intangible assets

Recent clarifications of accounting standards applying to all Australian businesses and relating to the treatment of intangible assets change the regulatory treatment of our information technology program. We have identified that \$46 million of the capital expenditure proposed in the Preliminary Revenue Proposal should be treated as operating expenditure.

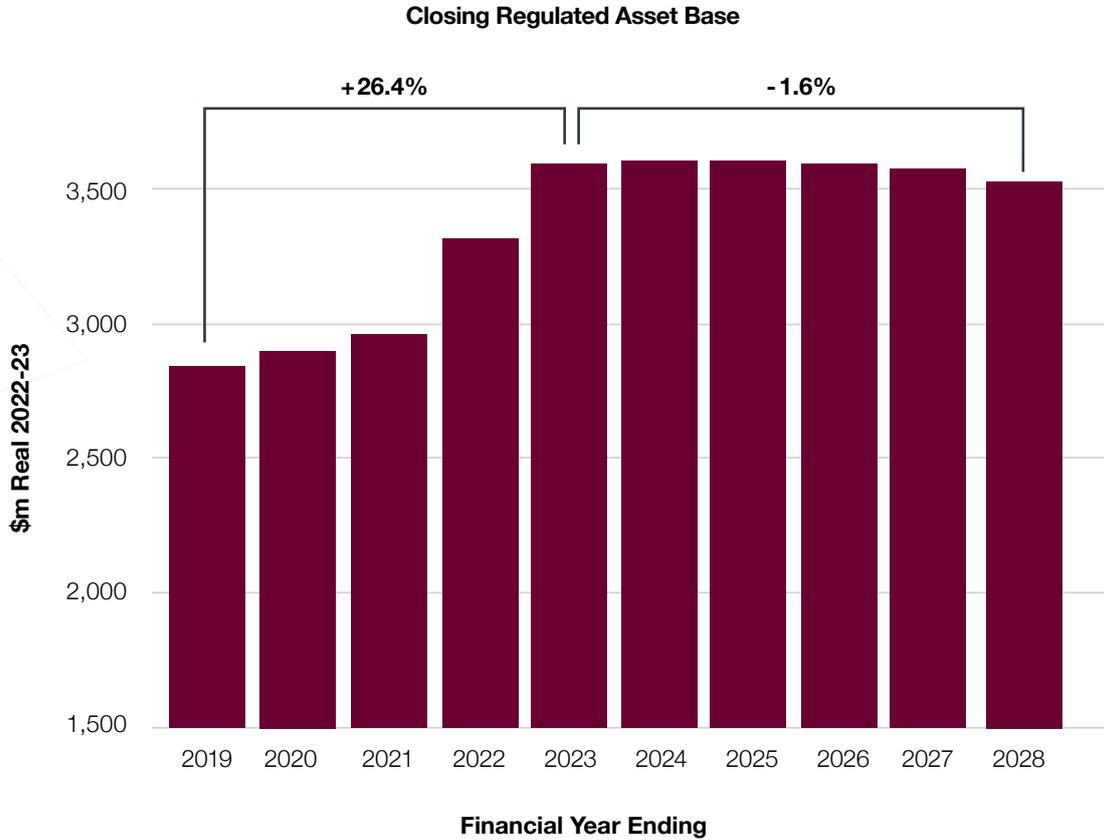
The implications for revenue, and therefore transmission charges, are limited. This is because the assets in question have short asset lives, typically in the order of five years or less, so the revenue and price impact of treating expenditure as operating expenditure rather than capital expenditure is minimal.

To assist in comparing on a like basis, the capital and operating expenditure figures earlier in this document are shown before this change is taken into account.

## Regulated Asset Base

A significant portion of ElectraNet’s revenue requirement is driven by the size of the Regulated Asset Base (RAB).

ElectraNet’s RAB has grown significantly in the current regulatory period, due in large part to the major investments driven by AEMO’s Integrated System Plan which place downward pressure on total prices. As the figure shows, our RAB is now declining in real terms from 2024 as a result of our reduced capex forecast.



## Return on capital

**The rate of return is the return expected by investors to reward them for investing their capital in a business. The rate of return provides a business with the money to pay the interest on its loans and give a return on equity to shareholders.<sup>3</sup>**

For ElectraNet and other network businesses, the AER determines the rate of return that is included in our revenue allowance. The rate of return is determined by applying a rate of return instrument, which is updated every four years.

As indicated in our Preliminary Revenue Proposal we propose to adopt the rate of return set in the relevant rate of return instrument, which will be published in 2022.

At the time of this Revenue Proposal we do not know what rate of return will ultimately be applied because the AER has not yet updated the guideline. We propose that our Final Revenue Determination should be based on the AER Rate of Return Instrument to be made in December 2022 and based on market rates at that time.

We cannot calculate revenue and pricing results without a rate of return value so, for the purpose of this Revenue Proposal, we have estimated the rate of return by using the AER’s methodology and values from the current (not yet updated) rate of return instrument. We expect that these will change before our actual revenue determination is made, but for now the rate of return we have used in this Revenue Proposal, which is based on the assumptions shown in the table below, is 4.29 per cent.

This represents a 21 per cent reduction in the rate of return from our current 5.43 per cent.

<sup>3</sup> AER, 'Pathway to the 2022 rate of return instrument Position paper', May 2020.

## Rate of Return Parameters

Component	Forecast (FY24)	Description
Risk free rate	1.37%	Reflects current market rates (Sep quarter 2021)
Equity beta	0.6	Reflects prevailing AER Rate of Return Instrument (to be reissued December 2022)
Market risk premium	6.10%	
Return on Equity	5.00%	Reflects parameters above
Return on Debt	3.82%	Reflects updated trailing average cost of debt based on current market rates (Sep quarter 2021)
Gearing Ratio	60%	Reflects prevailing AER Rate of Return Instrument (to be reissued December 2022)
Nominal Vanilla WACC	4.29%	Reflects parameters above
Gamma	0.585	Reflects prevailing AER Rate of Return Instrument (to be reissued December 2022)

## Forecast inflation

At various points in our proposal, we must include a forecast of inflation during the regulatory period. Under the National Electricity Rules, the AER is responsible for determining the “method that is likely to result in the best estimates of expected inflation” for this purpose.

In December 2020, the AER published the outcome of a review of its approach to inflation. It will continue to use the RBA's forecasts for the first two years of a regulatory period and will then take a 'glide path' approach where it assumes that inflation will reach the mid-point of the RBA's target band for inflation in year five.

As indicated in our Preliminary Revenue Proposal, we have adopted this approach in our Revenue Proposal. Therefore, the values in this Revenue Proposal are based on an average inflation rate of 2.40 per cent over the regulatory period as a current estimate.

## Depreciation

Depreciation is designed to return capital investment to investors over the expected useful life of the assets.

We have applied the standard approaches approved by the AER to the calculation of the depreciation forecast. We have also written down the residual value of assets scheduled to be replaced in the coming regulatory period, consistent with accepted practice.

This results in a depreciation forecast that is approximately 11% more than actual and forecast depreciation in the current regulatory period (\$341m compared to \$307m). The key reason for this change is the growth in the asset base driven by the large investments being completed in the current period.

This increased level of depreciation also has the compensating effect of reducing the value of the closing regulated asset base at the end of the forthcoming regulatory period which would reduce future revenue funded by customers in the following regulatory period.

## Incentive arrangements

The AER has developed the following incentive arrangements in accordance with the National Electricity Rules:

- Service Target Performance Incentive Scheme (STPIS), which provides incentives to maintain or improve network operational performance
- the Efficiency Benefit Sharing Scheme (EBSS), which provides incentives to achieve and maintain operating expenditure efficiency improvements
- the Capital Expenditure Sharing Scheme (CESS), which provides incentives to make capital expenditure efficiency gains.

We propose to continue applying these schemes in the forthcoming regulatory period in accordance with the AER's guidelines.

A network capability incentive is a component of the STPIS scheme, involving the development of a Network Capability Incentive Parameter Action Plan (NCIPAP).

Its purpose is to incentivise transmission businesses to fund low cost works to improve network use and release additional capacity to benefit customers.

We remain focused on cost-effective measures to improve the capability of the network. Projects proposed are as follows.

## Proposed Network Capability Incentive Parameter Action Plan

Project	Description	Forecast
<b>Transmission line ratings improvements</b>	Improve transmission line ratings based on ambient conditions to release constraints on low cost renewable generation from the Mid North and interstate	<b>6.0</b>
<b>Enhancing Reactive Power and Voltage Control Capability of Riverland</b>	Install an additional 15 MVAR capacitor bank at Monash substation and an automated capacitor switching control system to manage voltage and reactive power support to improved export capability of low cost renewable generation	<b>5.0</b>
<b>Robertstown to Tungkillo Line Upgrading</b>	Increase clearances and remove/replace lower rated plant as necessary to increase the design capability of the transmission lines and enable increased flows of low cost renewable energy from the Mid North and Riverland	<b>2.5</b>
<b>Davenport to Cultana Line Upgrading</b>	Remove and replace plant rated lower than the design capability of the transmission lines to release further transfer capacity on the Davenport-Cultana line to enable increased flows of low cost renewable energy from Eyre Peninsula	<b>1.5</b>

In a letter to us, which accompanies our Revenue Proposal, AEMO has reviewed and agrees with our assessment and ranking of the proposed projects.

## Demand Management Innovation Allowance Mechanism

The AER has recently finalised a Demand Management Innovation Allowance Mechanism (DMIAM) to provide funding for low-cost initiatives to research and develop demand-management projects with the potential to reduce future transmission costs. We remain committed to developing and pursuing demand side and other non-network solutions and we propose to apply this mechanism to provide funding for such initiatives in the coming period. This will include a role for our Consumer Advisory Panel in helping to assess measures that will qualify for this funding.

## Corporate tax

The AER updated its method for the calculation of expected tax payments in future revenue determinations in late 2018.

This involves applying the diminishing value method to the depreciation of assets and the expensing of capital refurbishment expenditure for tax purposes.

We propose to apply the diminishing value method to all of our new assets.

In particular, the AER's tax allowance position is that TNSPs will apply diminishing value depreciation to all new investments other than in certain intangible assets, which we do not expect to make. Therefore, we propose to apply the diminishing value method to all forecast capital expenditure. This reduces the tax allowance to near zero.

## Cost pass through

The Rules allow the AER to approve the pass through of additional material costs imposed on ElectraNet by events beyond our control. We may also propose further pass-through categories for other major cost events beyond our control.

The pass-through events that apply automatically under the Rules are:

- **Change in Regulation**
- **Change in Service standards**
- **Tax change**
- **Insurance cost**
- **Inertia and fault level shortfalls**
- **Network support**

current regulatory determination contains the following nominated cost pass through events:

- **Insurance coverage event**  
Major out-of-pocket costs incurred in relation to an insurance claim
- **Insurer credit risk event**  
Material insurance costs arising if an insurer becomes insolvent
- **Natural disaster event**  
Costs related to a major fire, flood, or earthquake
- **Terrorism event**  
Costs related to a terrorist attack, outside insured events

We propose to re-nominate these events for the current period.

We are also proposing the following

additional nominated pass through events:

- **System strength event**  
Relating to costs we might incur procuring services in response to a declared system strength gap
- **REZ design report event**  
Relating to costs we might incur preparing a detailed REZ design report(s) if required by AEMO in a future ISP.

In addition to these events, our



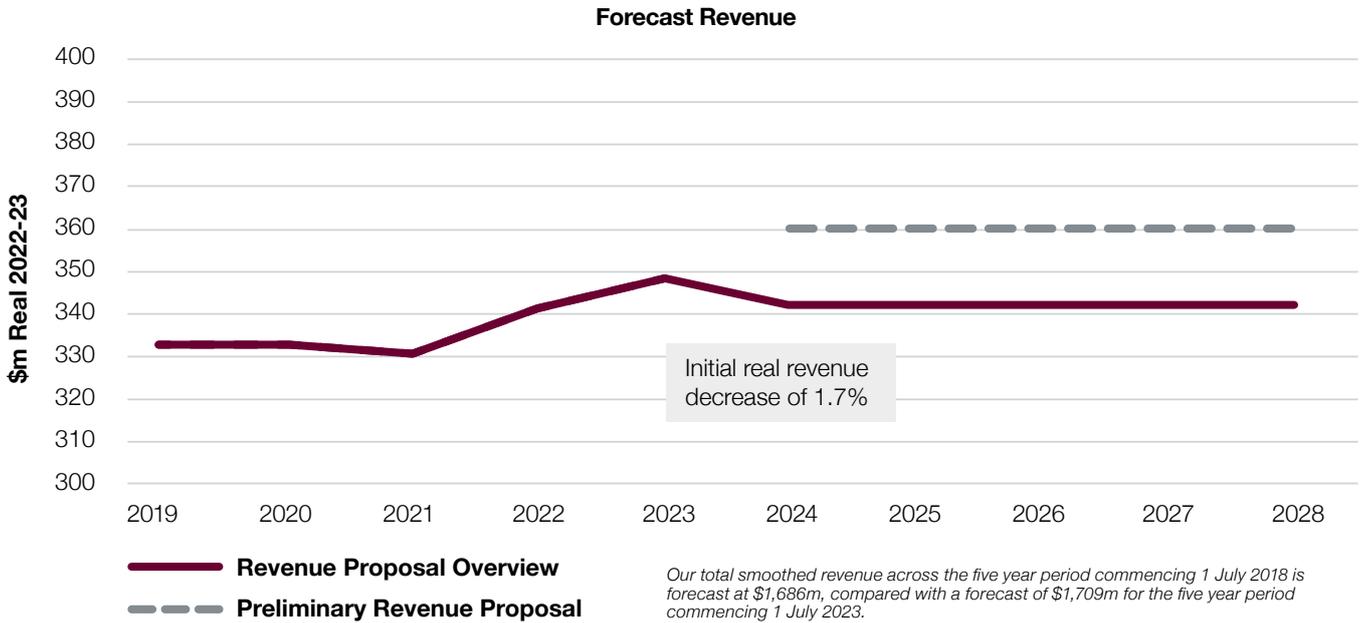


## Chapter 6

# Transmission Prices

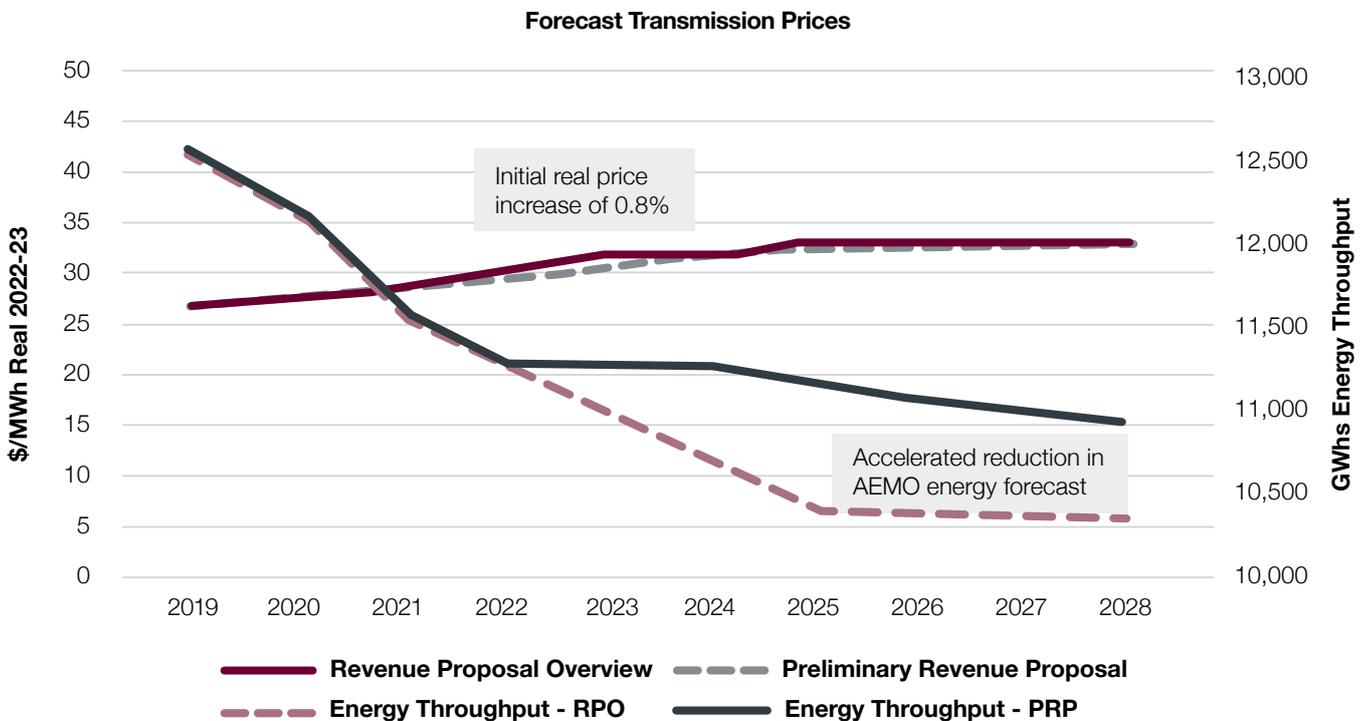
## Customers can expect stable transmission prices following a small increase

Based on the expenditure forecasts in our Revenue Proposal we expect our revenue to remain slightly below its 2023 level throughout the coming regulatory period. Our revenue is increasing in 2023 due to the synchronous condensers and Project EnergyConnect. As discussed earlier, while these investments lead to higher transmission costs they deliver expected overall reductions on customer electricity bills that are much greater.



Indicative average transmission prices can be calculated by dividing our revenue by AEMO's forecast of the amount of electricity that will pass through our network. Since we prepared the Preliminary Revenue Proposal, AEMO has reduced its forecast of energy throughput.

While our revenue is expected to be flat, we estimate that real transmission prices will increase by 0.8 per cent in 2024 due to reduced energy throughput, and remain relatively steady thereafter.



Transmission prices are a small part of electricity bills, typically about 10 per cent. The 0.8 per cent increase in transmission prices we forecast would see the annual electricity bill of a typical residential South Australian customer increase by approximately \$5 in 2024.



## Chapter 7

# Benefits and Risks

## What are the key benefits and risks for electricity customers?

### Benefits

The principal benefits of our Revenue Proposal from a customer perspective are reflected in our asset management objectives. In summary, the capital and operating expenditure requirements described above, and therefore the revenue we have proposed, will allow us to deliver the following:



### Safety of People

Ensure the safety of staff, contractors, and the public.



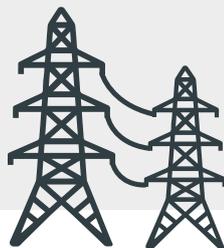
### Protect the environment

Ensure the environmental impact of network operations are minimised.



### Affordability and reliability

Reduce the overall cost of electricity to customers by removing network constraints, operating the network, and delivering our capital and maintenance works as efficiently as possible, while maintaining safety and reliability.



### Power system security and resilience

Ensure the network is resilient and operates within acceptable parameters in the face of electrical, physical, or cyber disruption, and continues to enable the transition to a low carbon emissions future.

## Risks

There are two key risk areas for customers in relation to this Revenue Proposal.

### Risk 1

## Our actual revenue requirement may exceed that forecast in this Revenue Proposal

The National Electricity Rules place a substantial onus on us to identify an efficient revenue requirement and they limit the circumstances in which this may be changed. Therefore, most of the revenue risk is with ElectraNet. However, there are some circumstances in which our revenue, and therefore the transmission prices our customers pay, might increase. These include:



### Additional services

We are currently working to respond to a shortfall in Fast Frequency Response services in South Australia declared by AEMO. This could potentially result in additional service costs being passed to customers in the coming regulatory period.

Should this be confirmed in the coming months we will endeavour to reflect these costs as necessary in our Revised Revenue Proposal, for example as a Network Support allowance.



### Increases in interest rates or other financial market changes

Under the current guideline our rate of return will be reset each year to reflect prevailing conditions in financial markets. This is important to ensure our investors are fairly compensated for their investment, and therefore to ensure that future investment is possible. At the time of writing this Revenue Proposal Australia has enjoyed an extended period of low interest rates and benign financial markets. If these conditions change the cost we incur in financing our business will increase as will the prices our customers pay.



### Cost pass through events

Each of the nominated pass through events relate to risks that our customers bear. For instance, if we were to fall victim to a terror event our customers may experience electricity supply disruptions.

While treating these issues as pass through events places the risk on our customers, this is preferable to the alternative because, this way, customers will only bear the cost of these risks if they occur. Given the uncertainties inherent with them, this is more efficient than providing an upfront allowance in our building block costs.



### Contingent and actionable ISP projects

The power system is changing rapidly as Australia transitions to a low emissions future. This means that there is significant uncertainty about the size and timing of some projects. This uncertainty is dealt with through the contingent project mechanism and, in more recent years, through the actionable ISP mechanism. Either of these might lead to increases in our capital expenditure, our RAB and, therefore, transmission prices. If they do, though, it will be because the AER, AEMO and others have determined that the relevant projects are in the long term interests of electricity customers, so their cost will be more than outweighed by other benefits.

### Risk 2

## Our Revenue may be insufficient to adequately manage the network



### Risk of underinvestment

Our customers benefit when we invest in the network, thus ensuring an ongoing safe, secure and reliable electricity supply. By the same token there is a risk associated with under investment. Deferring investment would allow for lower prices right now, but, as was pointed out by Energy Consumers Australia during our engagement process, this really just transfers the cost to future years. Too little investment creates risks to supply reliability, security and affordability in the short term and also increases the amount of investment required in future.

Given the importance of transmission services, the consequences of under investment tend to outweigh the risk of over investment.



## Next steps

We welcome your feedback on our Revenue Proposal, either directly to us or through the AER’s consultation process. Our proposal is subject to review by the AER and its final decision will influence how much we spend on the network over the next five years.

Your feedback will be taken into account by the AER in its review of our Revenue Proposal. In addition, we will also reflect your feedback in our response to the AER’s Draft Decision.

### How to get in touch with us:

-  [consultation@electranet.com.au](mailto:consultation@electranet.com.au)
-  1800 890 376
-  [electranet.com.au](http://electranet.com.au)

**We look forward to your feedback.**

The expected timeframes for the revenue determination process are as follows:

Milestone	Timing
AER Publishes Issues Paper	<b>March 2022</b>
AER holds Public forum	<b>April 2022</b>
AER issues Draft Decision	<b>Sept 2022</b>
ElectraNet Revised Revenue Proposal (if required)	<b>Dec 2022</b>
AER issues Final Decision	<b>April 2023</b>

*Subject to AER confirmation.*

## Further information

Further information on our detailed plans and proposals can be found in the following attachments, and supporting documents that are listed in Attachment 15:

- Attachment 1** Maximum allowed revenue
- Attachment 2** Regulatory asset base
- Attachment 3** Rate of return
- Attachment 4** Capital expenditure
- Attachment 5** Operating expenditure
- Attachment 6** Operating expenditure
- Attachment 7** Corporate income tax
- Attachment 8** Efficiency benefit sharing scheme
- Attachment 9** Capital expenditure sharing scheme
- Attachment 10** Service target performance incentive scheme
- Attachment 11** Demand Management Innovation Allowance Mechanism
- Attachment 12** Pricing methodology
- Attachment 13** Pass through events
- Attachment 14** List of supporting documents



### In Memoriam David Headberry

ElectraNet acknowledges the passing of Consumer Advisory Panel Member, Working Group Member and long-time consumer advocate David Headberry on 12 November 2021.

As the voice of the Energy Consumers’ Coalition of South Australia (ECCSA) and Major Energy Users’ (MEU) over many years, David was a tireless advocate for energy users in South Australia and beyond, and was widely respected for his contribution to the National Electricity Market by advancing the interests of customers.

As a founding member of ElectraNet’s Consumer Advisory Panel, David also made a significant contribution to the delivery of transmission services in South Australia, including through active and deep involvement in two Revenue Proposals and major investments being delivered to benefit customers, and ElectraNet wishes to record its appreciation for his lasting contribution.



