

Network Vision

AUGUST 2021



City West Substation

 **ElectraNet**

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Purpose

The Network Vision considers the changes and influences impacting on the delivery of electricity transmission services in South Australia and sets out directions and priorities for the transmission network over a 5-10-year planning horizon.

These directions and priorities in turn drive our expenditure plans and programs for managing the network.

The Network Vision is developed in collaboration with our customers and wider stakeholders to help shape our priorities for developing and operating the transmission network to deliver the services required by customers.

Network Vision

South Australia's electricity transmission network will support customer choice and deliver affordable and reliable power supplies for a sustainable future.



Our Role

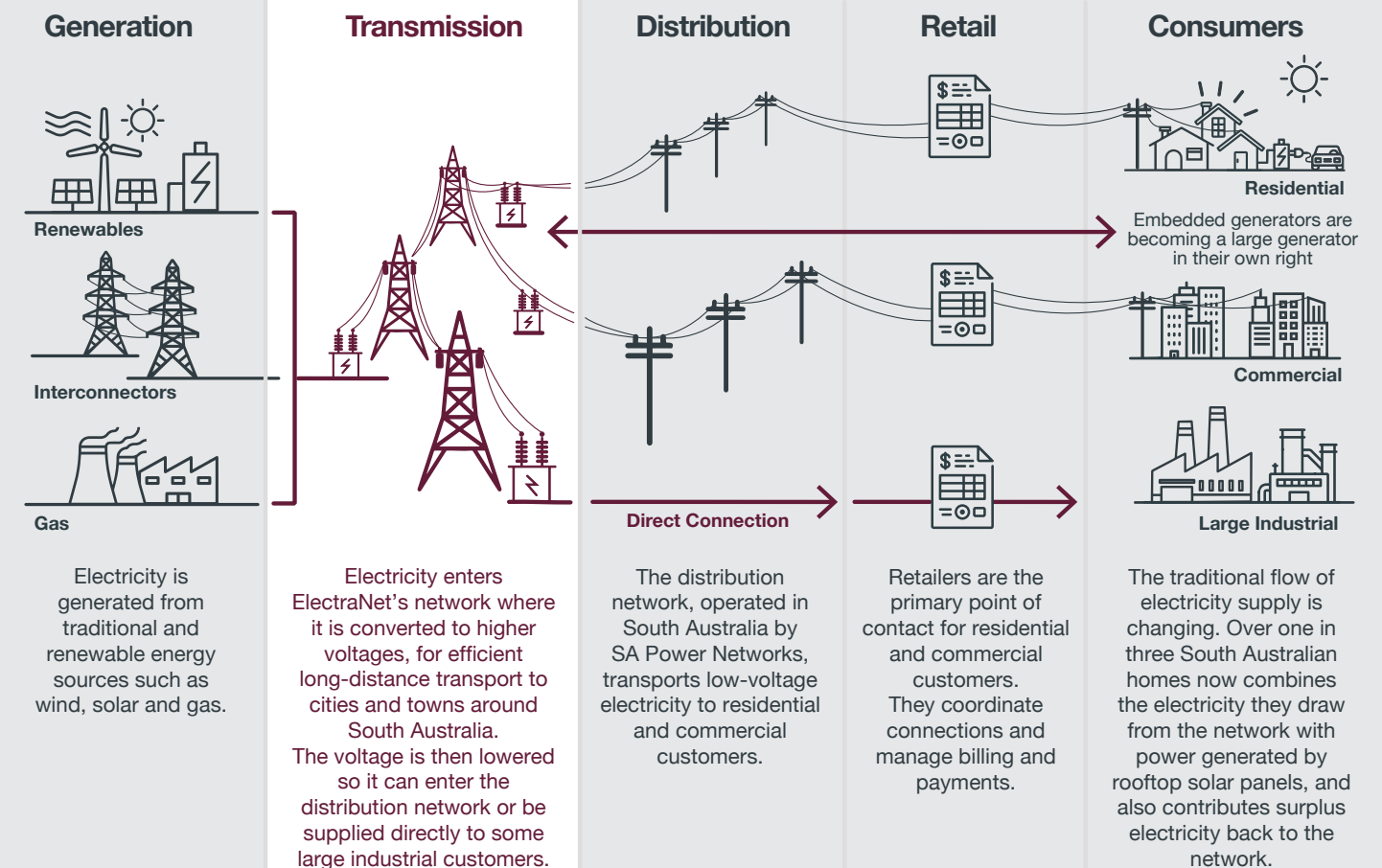
As the owner and operator of South Australia's electricity transmission network, we play a key role in powering the homes, businesses and communities of South Australia.

While only a small part of the overall cost of electricity (typically less than 10%), transmission plays an increasing role in a transforming power system to ensure the safe, reliable and affordable supply of electricity.

Operating within the National Electricity Market (NEM) our activities are governed by the National Electricity Objective and we remain committed to keeping our customers at the heart of all we do.

The National Electricity Objective 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:

- price, quality, safety and reliability and security of supply of electricity
- the reliability, safety, and security of the national electricity system.



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



South Australia is in the midst of a substantial transformation in the way we generate and use electricity. This is driven by responses to climate change at a national and global level and by changing technology. As the energy transformation continues, South Australia's transmission network will play an increasingly important role, responding to the challenges and opportunities this creates.

Emissions Reduction

Globally, consensus is forming amongst nations that, to meet the Paris Agreement, economies need to be carbon neutral by 2050. Many of Australia's largest companies have pledged to be carbon neutral by 2050.

The Federal Government has a preference that the Australian economy has net zero emissions by 2050 and has committed Australia to national goals that will reduce emissions nationally by 26-28% from 2005 levels by 2030. The South Australian Government has an aspirational target of net 100% renewable electrical generation by 2030.

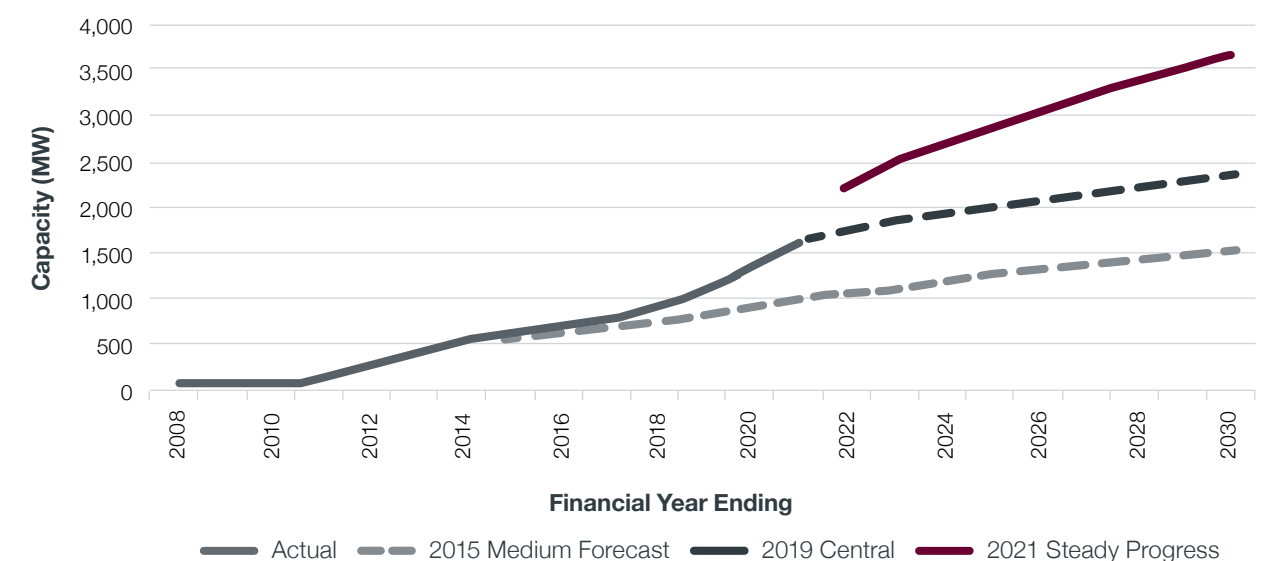
South Australia already has world leading levels of renewable energy generation, both large-scale and distributed small-scale. Global influences and Federal and State renewable energy policies will drive further increases in renewable generation in South Australia given our abundant resources. This will impact on the role of the grid by shifting flow of electricity between sources of supply and demand and, create new challenges and opportunities for delivering transmission services.

This has already begun, with ElectraNet installing four synchronous condensers to supply system strength and inertia services. These services were traditionally provided by generators. However, with the ongoing retirement of synchronous generation, ElectraNet has a larger role to play in providing these services.

Rooftop solar is on track to exceed the 2030 forecast in 2021

Adoption of distributed rooftop PV in South Australia is tracking well ahead of forecasts. With current levels 10 years ahead of recent industry forecasts, updated projections are reaching ever higher.

South Australian PV uptake compared to forecasts



Transformation is Accelerating



Technological Innovation

New technology will continue to have wide ranging impacts on the power system in South Australia and the wider NEM.

Grid scale storage is emerging to support the increased uptake of intermittent renewable generation. It allows solar generation to provide electricity after dark and smooths the output of wind. It has also demonstrated the potential to provide essential system services and to enhance the capabilities of the network.

South Australia pioneered the use of grid scale storage with the installation of the Hornsedale battery near Jamestown in 2017 and ElectraNet's Dalrymple battery in 2018, and its role is expected to increase substantially in the coming years.

New technologies are emerging at the residential level as well. In years to come we expect customers to take increased control over their energy costs with ongoing investment in small scale storage and rooftop solar generation. Recent activity to capitalise on these installations by forming Virtual Power Plants will continue to grow.

In addition, electric vehicles appear on the cusp of taking off. This will increase domestic electrical consumption and create a major mobile electrical load and supply source that presents both a challenge and an opportunity. The ever-present Internet of Things (IoT) is increasing ability for the seamless integration of new technologies allowing residential energy consumption to be optimised to times when renewable generation is at its maximum and customer price is optimised.

The implications of these trends and influences are discussed below.

Immediate Challenges

The key challenge facing South Australia's transmission network in the immediate term is the prospect of substantial reverse power flows, driven by ongoing uptake of distributed energy resources.

South Australians have adopted rooftop solar generation faster than anyone in the world. Recently, the output of those rooftop systems has exceeded demand in their local area at times during the day.

While this once seemed unlikely, we have now recorded 'reverse power flows' at more than half of the connection points between the transmission network and SA Power Networks' distribution network.

In addition to the challenges associated with moving power within the network from where it is produced to where it is needed, the ongoing uptake of solar generation brings a growing need for balancing services. Uncontrolled rooftop solar PV is forecast to be capable of supplying all of South Australia's demand at points in time by 2023. With little or no other generation in operation at the time, South Australia will be almost entirely reliant on interconnection to the eastern states to ensure that supply and demand remain balanced. Maintaining this balance from minute by minute is critical to the stability of the power system.

More generally, as conventional generators continue to retire, the essential system services they provide are being lost, while the renewable supply sources that replace them operate with different technology that currently does not offer this range of services. This is leading to a growing role for the transmission network. This has seen ElectraNet install four synchronous condensers to supply essential system services, and special protection schemes to enable the power system to operate securely in an increasingly complex environment. This trend is expected to continue.

The characteristics of load and the response of loads and distributed PV systems to faults is changing. This is creating new risks and leading to the need for more advanced monitoring and analysis of power system operation. The complexity of modelling the grid accurately as it evolves is also increasing. Along with the need for additional reactive support to manage higher voltages as flows on the network decline around midday before ramping up again for the evening peak.

Balanced against this, as new generation technologies continue to evolve, this is expected to increase the range of system services they can provide, in some areas exceeding the capabilities of conventional generators. For example, distributed energy resources can now provide balancing services in the distribution network that were historically provided on the transmission network.

The transmission network must continue to respond to these challenges to provide secure, reliable and affordable power supply for customers.

Emerging Opportunities

In addition to the more immediate challenges, technological change will provide opportunities. The ongoing development of Distributed Energy Resources (DER) such as rooftop solar and the adoption of more advanced operating capabilities is leading to the development of Virtual Power Plants (VPPs). Over the next ten years, VPPs have the potential to be a new source of the essential services needed to ensure a stable and reliable electricity supply.

VPPs will delay or reduce the need for transmission augmentation to satisfy local demand. Where market led growth is insufficient, targeted accelerated development may be an effective means of reducing long run costs. VPPs may well provide other system support services in the future such as voltage control and Frequency Control Ancillary Services (FCAS) as well as others.

The nature of VPPs is fundamentally different from centralised service providers. Their operation will need to be adequately understood to ensure safe, secure and reliable operation of the grid.

The electrification of the transport system and other energy dependent systems also presents opportunities in the medium term as both a significant source of demand for further renewable energy uptake to reduce emissions, and as a means of improving network utilisation. The rate and nature of electric vehicle uptake will be critical to this development.

Looking Ahead

Renewable generation development has centred on where high quality low emission resources like wind and solar are located. The coordination of transmission and generator investments across Australia has been challenging, increasingly leading to congestion and higher electrical losses. AEMO's Integrated System Plan (ISP) has been tasked with improving this coordination.

To support this ongoing development, the 2020 ISP has forecast the need for further transmission investment in South Australia in the 2030s. Ambitious climate change goals may bring forward the timing of these requirements. Market frameworks will also be evolving to support national emission reduction goals. It will be important to monitor the pace of change to ensure these projects can be delivered by undertaking prudent early works to ensure efficient and timely delivery when needed.

As the market further evolves to meet energy supply needs and deliver essential system support services at the lowest long run cost, the transmission network can be expected to have an increasing role to coordinate and deliver these services alongside market-based approaches, to ensure the most efficient mix of solutions for customers.

Five scenarios of the future driving our Vision

We use the planning scenarios developed by AEMO in consultation with industry and stakeholders as the foundation for our planning. AEMO has recently updated its **Inputs, Assumptions and Scenarios Report (IASR)**¹ for the 2022 Integrated System Plan. The IASR sets out five scenarios of the future.



Steady Progress

Market-led with corporate abatement goals.

- In 2040, the power system has continued to develop based mainly on market-led investments, with corporate goals driving economy-wide emissions abatement.
- The number of houses with rooftop solar has doubled and the amount of energy generated on the rooves of our homes has tripled since 2020. In winter, homes are still heated to a large extent by ducted gas heating systems.
- Industry and manufacturing have followed current technological trends, with no major changes.
- One third of our cars are electric vehicles.



Step Change

Consumer-led with a focus on energy efficiency, DER, digital energy and step increase in global policy ambition.

- In 2040, consumers have led a transformation by installing more of their own power sources, buying electric vehicles, and voting for strong global policy action to rapidly reduce carbon emissions.
- Because electricity is generated with near zero carbon emissions, businesses and households are preferring electricity ahead of more carbon-intensive options. Our rooftop solar capacity has more than quadrupled since 2020, with about triple the number of rooftops covered. Energy efficiency and switching to electric heating and appliances has cut our use of gas in our homes by 85% since 2020, on the path to using no gas in homes by 2050.
- Industry is using nearly 20% less gas, 30% less coal and 90% less oil than in 2020.
- Almost 60% of our cars are now electric vehicles, and almost a third of heavy vehicles, like articulated trucks, are fuelled by hydrogen.

- In 2040, the NEM has seen 10 years of growth in deployment of emissions-abatement technologies and is on the way towards a national emissions abatement goal of net zero emissions by 2050. Rooftop solar on our homes and businesses is generating about four times as much energy as today. In winter, we are increasingly heating our homes with electric heat pumps and reverse cycle air-conditioning, with gas heating appliances reduced by 55% since 2020.
- Industry and manufacturing processes are now just over 30% powered by electricity (which is produced with significantly lower emissions than in 2020), up from 20% electricity in 2020.
- Almost half our cars are now electric vehicles, as their costs have become increasingly competitive and more charging infrastructure is available.



Net Zero 2050


Technology-led with a national emission abatement end-goal.

- In 2040, the energy sector (and Australia's economy) has been transformed by government policy, corporate action, and technology breakthroughs.
- Electricity is generated with zero or near zero emissions, and businesses and households are increasingly switching from other fuels to electricity.
- Rooftop solar is about five times the capacity we had in 2020.
- Houses are using 90% less gas for heating and cooking than they used in 2020, switching to hydrogen (54% of the change) or electricity. Some 75% of all cars are electric, heading towards 100% by 2050. Almost half of all articulated trucks on the road are fuelled by hydrogen.
- Hydrogen has become a significant source of energy in the NEM. Industry has reduced its use of natural gas by over 65% since 2020, with a bit over half of that demand shifting to hydrogen instead.
- There is also an important export market for hydrogen produced in the NEM – about half the size of Australia's east coast liquefied natural gas (LNG) exports in 2020, and the market expects production to more than triple by 2050. There is also a fledgling green steel industry showing signs of growth.



Hydrogen Superpower

Economy and technology-led with Australia leveraging competitive advantage to export hydrogen.



Slow Change

Market-led in response to slow economic recovery and load closures, but continued PV uptake.

- By 2040, in a challenging economic environment, we have not made co-ordinated efforts to reduce carbon emissions or to use more electricity across the NEM. Rooftop solar capacity has tripled since 2020 as consumers take measures into their own hands to manage energy bills. Consumers are pursuing energy efficiency and switching to electric heating and appliances, but slowly.
- There has been limited change in industry's use of gas.
- One in five vehicles is electric.

¹AEMO Inputs, Assumptions and Scenarios Report, 30 July 2021 available at www.aemo.com.au

Underlying Network Challenges

South Australia faces several underlying challenges in managing the efficient delivery of its power supply. Seventy seven per cent of South Australia’s population and the associated customer load is centred in the Greater Adelaide area, while the network extends across a vast area to serve one of the least densely populated areas of the country.

Current population forecasts give no indication that this pattern will change in the foreseeable future. Nor does ElectraNet anticipate significant reductions in peak electricity demand at the State level or in individual regions. Therefore, South Australia’s electricity transmission network will need to retain broadly the same capacity it has today.

The underlying challenges of South Australia’s transmission network can be expressed across three key metrics:

1

Age Profile

2

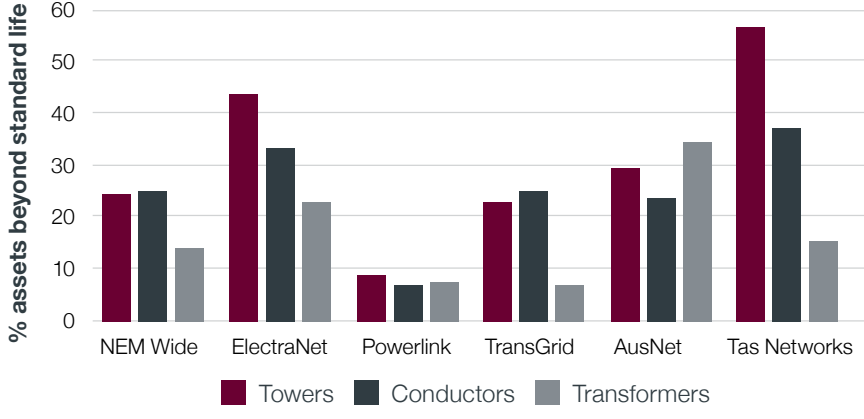
Geographic Spread

3

Peakiness of Demand

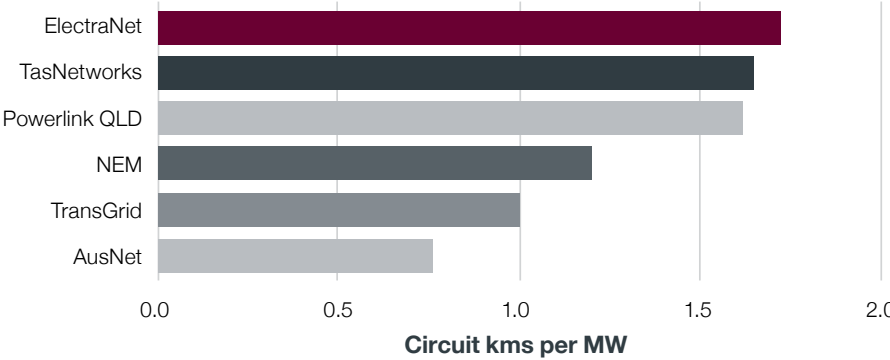
1

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.



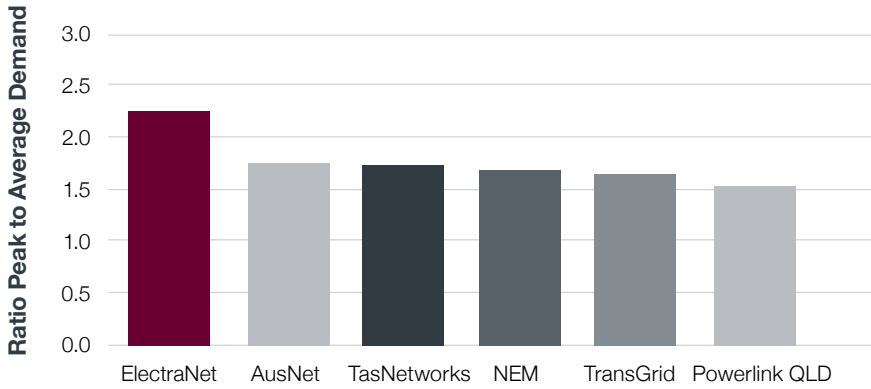
2

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

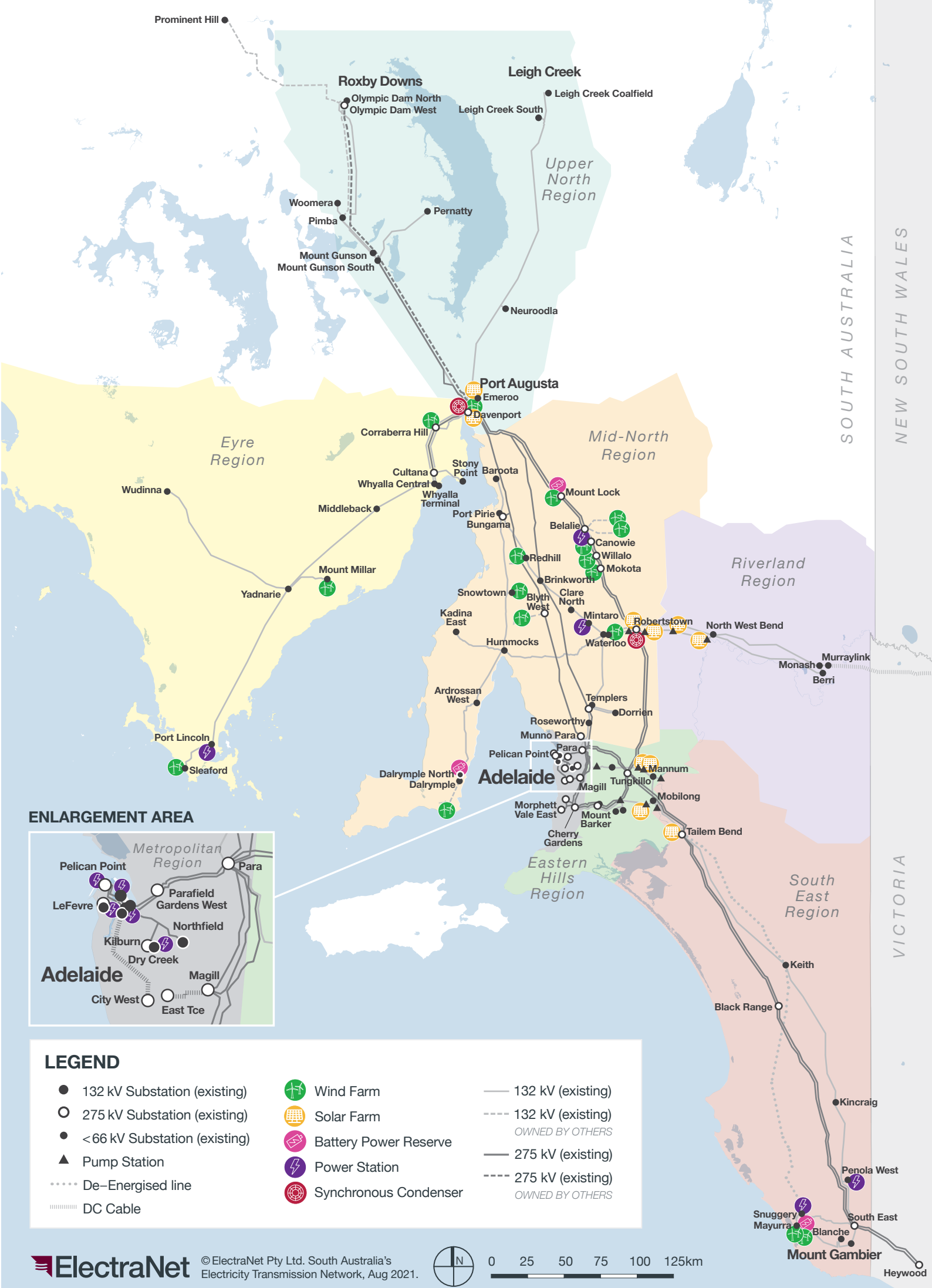


3

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 effect is increasing.



These factors mean that the efficient costs of South Australia's transmission network are higher compared to other States. As the network continues to age, reliability centred maintenance will remain at the core of our efforts to efficiently maintain the network and the services it provides. Increasing rooftop solar will reduce the utilisation of the network in the middle of the day worsening the ratio of peak demand to average demand. The adoption of electric vehicles will offset this reduction. Technologies such as VPPs, and coordinated EV charging and discharging will provide new opportunities to improve network utilisation and promote affordability.



Developing our Network Vision

Discussion Paper and Webinar

ElectraNet has reviewed its Network Vision in the context of the current environment and the changes in outlook that have occurred since it was last updated.

There is no question that the energy transformation is accelerating, as anticipated in the Network Vision when last published in 2016. However, in the current review our initial assessment was that the Directions and Priorities set out in the Network Vision remain broadly appropriate today.

We tested this with stakeholders during consultation that began in February 2021 with a discussion paper and a stakeholder webinar attended by around 50 stakeholders, some of whom subsequently made written submissions.

In the discussion paper we asked stakeholders targeted questions on our identification of the key change drivers and trends, and any others stakeholders might consider appropriate. We asked for comment on proposed updated directions and priorities for the network.

The submissions and input from stakeholders has been valuable in reflecting on and developing the directions and priorities finally presented here. By and large, stakeholders shared our earlier view that the broad direction and themes of the 2016 Network Vision remain appropriate now.

Consumer Advisory Panel

ElectraNet's Consumer Advisory Panel plays a key role in ElectraNet's ongoing engagement with customers and wider stakeholders. The Panel brings together a broad group of organisations that represent electricity customers across residential, commercial, and industrial segments and key interest groups.

ElectraNet seeks ongoing feedback from the Panel on how engagement can be improved. The Panel has received presentations on our updates to the Network Vision. Members have been active in providing feedback and input on the issues most important to customers. ElectraNet has considered this feedback in updating the Network Vision.

We have updated the Network Vision in collaboration with customers and stakeholders.



What we heard



We received submissions from a range of customer representatives and stakeholders. Submissions are available on our website [here](#). A high level summary of feedback themes is provided on this page.



Updating the Vision

The 2016 Vision requires updating but not wholesale revision.
The four key themes remain relevant.



Core Vision

Customers continue to want affordable prices that balance reliability and resilience.
Stable long-term prices are essential for the success of the state's large energy customers.



Role of the Grid

Measures that will improve the costs and management of system security services such as frequency management should be fast tracked.
Customers and suppliers of system security services value stable long-term pricing signals to support greater certainty.



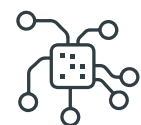
ElectraNet's role

ElectraNet's expertise should be used to drive better outcomes for customers.

Customers and service providers are seeking genuine opportunities to engage with ElectraNet and assist deliver transmission services at lowest long run cost.

ElectraNet should continue an option value approach to estimating benefits to incorporate uncertainty into decision making.

Customers support expansion of ElectraNet's role to procure system services.



Modern Technology

Modern technologies should be adopted to increase the capability of interconnectors.

Battery storage will play a central role in the network of the future.

ElectraNet should develop a monitoring platform that improves visibility of the grid's ability to withstand adverse events.



Asset Condition

Best practice asset management is supported with 'right-sizing' asset replacement.



SA Power Networks

ElectraNet and SA Power Networks should have aligned visions of the future of their respective networks for efficient customer outcomes.

An aligned Vision for the South Australian Network

ElectraNet has a long-standing relationship with South Australia's electricity distribution business, SA Power Networks. We collaborate through joint planning on things like annual demand forecast updates, network development options and voltage control strategies.

In its submission to our Network Vision Discussion Paper, the SA Power Networks' Customer Consultative Panel (CCP) noted that ElectraNet and SA Power Networks often deal with similar issues as they supply services to South Australians. They encouraged ElectraNet to continue to engage with SA Power Networks on these matters.

AEMO has an important role to play in charting a future for the NEM, including the South Australian network, in its role as the National Transmission Planner.

AEMO's ISP is increasing its focus on the role distributed technologies can play in a future network. The CCP notes that effective development of the ISP will be aided by effective participation by ElectraNet and SA Power Networks in the process of developing the ISP.

ElectraNet and SA Power Networks have taken steps to strengthen collaboration on these matters, including the establishment of an Executive level forum to facilitate alignment on key changes impacting on the network.

ElectraNet and SA Power Networks also meet regularly with AEMO and the SA Government to coordinate key policy, planning and other developments impacting on ensuring successful energy transformation in South Australia.

Executive Oversight

SA Network Policy and Strategy Committee –
ElectraNet and SA Power Networks.

Purpose: Ensure alignment of long-term vision and strategies, and oversee coordination of joint planning.

SA Energy Transition Steering Group – AEMO, SA Government, SA Power Networks and ElectraNet.

Purpose: Ensure the reliability and security of the SA electricity system is effectively managed through the energy transition.

Joint Planning Activities

Routine Joint Planning Activities

Purpose: Deliver lowest long run costs by identifying efficient network solutions across both transmission and distribution, as well as support the distributed energy future efficiently.

Customer and Industry engagement

AEMO Transmission Joint Planning Committees

ElectraNet Consumer Advisory Panel (CAP)

SA Power Networks Customer Consultative Panel (CCP)

ESB, AEMC, AER, AEMO Consultation Processes

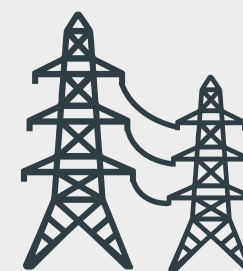
Energy Networks Australia

The Network Vision

South Australia's electricity transmission network will support customer choice and deliver affordable and reliable power supplies for a sustainable future.

THEME 1

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



Maximum Demand

↑158MW

is forecast to increase by 158 MW to 3,475 MW by 2030.

THEME 2

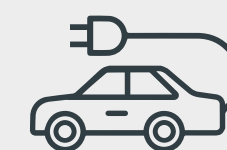
The ongoing uptake of distributed energy resources by customers is changing the role of the network



Rooftop PV

3,700MW

Rooftop PV to exceed 3,700 MW by 2030.



Electric Vehicles

10%

Electric Vehicles to consume 1,400GWh of energy by 2030 adding more than 10% to demand.

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 net 100% renewables targeted by 2030.

Grid Scale Storage

600MW

Grid scale storage projects to increase to 600 MW by 2030.

THEME 4

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



Virtual Power Plants

420MW

Virtual power plants to reach 420 MW by 2030.

Directions and Priorities

THEME 1

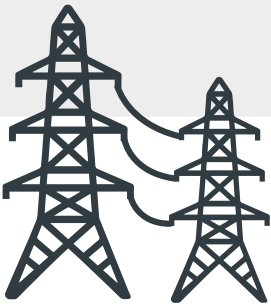
The network will continue to provide an important role into the future

The transmission network will play an increasingly important role in the ongoing transformation of the electricity supply system.

Forecasts over the next ten years point to maximum demand remaining broadly the same. So ElectraNet will need maintain the network’s capability to transmit power.

AEMO’s ISP highlights the expected retirement of coal generators (this has already happened in South Australia) and their replacement with intermittent generation sources and large-scale storage. It also highlights a greater role for transmission as electricity supply becomes more spread out.

Directions	Priorities
<ul style="list-style-type: none">Affordable electricity remains important to customersCustomers and stakeholders want ongoing and genuine engagementThe transmission grid will continue to be needed to support economic growth and the transition to a low-carbon futureNew generation investment and supporting transmission investment is already occurring much faster than forecastMaximum demand on the grid is not expected to grow, so augmentation investment is expected to be minimalNetwork utilisation will continue to fall, placing ongoing pressure on unit pricesThe age and condition of network assets will be an increasing challenge to manage efficientlyEvolving market and regulatory frameworks are increasing the role of transmissionNew generation and demand technologies are changing the way the grid responds to system disturbances.	<ul style="list-style-type: none">Deliver cost effective solutions for customers, using scenario-based approaches that consider uncertainty and value flexibility for future decision makingManage any major and uncertain transmission network investment requirements (e.g. mining loads, renewable energy zones, future system security challenges) as contingent projects within the regulatory frameworkShow leadership in helping to continue to drive down the delivered price of energyBuild trust through ongoing genuine engagement with customers and their representatives and other stakeholdersFocus on prolonging asset life and deferring major asset replacement wherever it is efficient to do so while maintaining reliabilityMaintain network reliability as safely and efficiently as possible through a risk-based Reliability Centred Maintenance approach.



THEME 2

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

The uptake of distributed energy resources in South Australia continues at world leading levels.

South Australia has around 1,600 MW of solar PV connections as at May 2021 and its first day of zero grid demand is forecast for as early as 2023, with increasing need for the transmission system to support residential customers trading power across the NEM. Electrification of transportation is introducing large mobile loads to the grid and may appear as mobile VPPs.

Directions	Priorities
<ul style="list-style-type: none">Demand side participation will play a growing role in the marketFurther significant installation of rooftop solar PV capacity will lead to periods of zero grid level demand as soon as 2023,Small scale energy storage along with advances in data analytics and control will see Virtual Power Plants play an increasing roleThe impact of electric vehicles is expected to be modest over the next ten years, but this could change. With the right incentives, electric vehicle uptake could lead to meaningful levels of distributed and mobile energy storages relatively quicklyIt will continue to be challenging to forecast technology uptake, so scenario planning will be important to consider a range of possible futuresManaging the impact of distributed energy resources on the secure operation of the power system will be a growing challenge.	<ul style="list-style-type: none">Actively monitor and respond to trends, and expectations to ensure the grid is ready to meet the needs of customers as distributed energy technology is adoptedPlan for the impacts of customer technologies to maintain safe, reliable, and secure supply under a range of reasonably foreseeable demand and supply conditionsActively engage with DER providers to understand capabilities and improve forecasts of uptakeDevelop a wide area monitoring system to maintain adequate operation, modelling and control of the changing power system during system disturbancesIncrease engagement with SA Power Networks to improve alignment and early identification of emerging network issues.

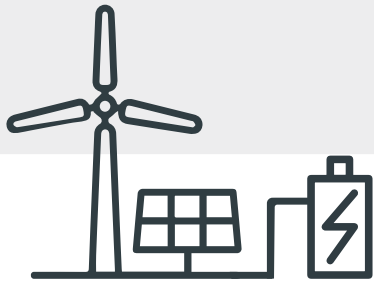
THEME 3

The generation mix is changing creating new challenges for the resilient, secure and reliable operation of the grid

The South Australian power system is changing, with the ongoing withdrawal of traditional synchronous generation sources and continuing investment in renewable wind and solar energy sources and storage. This has led to our investment in synchronous condensers to provide system strength and inertia services and the connection of multiple grid scale batteries.

As the grid continues to evolve with less conventional generation and declining midday demand as well as other changes, operational challenges will increase the need for system security services and new control schemes to manage the secure operation of the power system.

Directions	Priorities
<ul style="list-style-type: none">• The ongoing withdrawal of conventional generators and their replacement by intermittent supply sources will place greater reliance on dispatchable generators/ loads, storage and interconnectors• With the changing supply mix the operation of the power system is becoming more complex and challenging• The South Australian power system is increasingly vulnerable to the risk of islanding through the loss of interconnection• The risk and potential consequences of state-wide outages after interconnector separation events is very small, but increasing• The transmission network needs to support the integration of extremely high and growing levels of renewable generation to help maintain secure and reliable electricity supply.	<ul style="list-style-type: none">• Develop efficient solutions to maintain a secure and reliable network with less conventional generation• Deliver Project EnergyConnect to help drive down prices, increase renewable generation exports and reduce the risk of state-wide outages after rare interconnector separation events• Monitor and adopt new technology to maintain secure and reliable power supply at lowest whole-of-system cost to customers, including the expansion and review of protection and control schemes• Undertake targeted investments to maintain expected levels of power quality.



THEME 4

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

Rapidly changing technologies are creating both challenges and opportunities for the delivery of transmission services and the evolution of the electricity supply system.

This potentially opens new options to provide network services at lower cost and unlock more capacity to connect new generation and support the transition to a low carbon future.

Directions	Priorities
<ul style="list-style-type: none">• The technology and framework for the delivery of essential system services continues to evolve, and transmission is expected to play an increasing role in the delivery of these services• Distributed and grid scale storage technology is likely to become economic in the short term, offering a new potential option to efficiently deliver network and ancillary services• Ongoing advances in information technology and network control systems provide access to a wealth of 'big data' to inform network decision making• Technology uptake is advancing at the fastest rate in human history, with customers adopting new technologies at world leading rates• Market frameworks will continue to develop and adapt to meet the challenges of an evolving energy supply system.	<ul style="list-style-type: none">• Improve visibility of the behaviour of the grid to ensure the network continues to operate in a safe and efficient manner• Investigate the potential to alleviate existing network limits with the integration of very fast acting technologies such as grid scale battery storage into the grid• Engage with emerging services providers ahead of the identification of needs to maximise involvement in option analysis• Adopt best practice data analytics to improve decision making in asset management and network operation• Encourage more efficient and transparent pricing arrangements to reflect asset use, provide clarity and certainty• Efficiently deliver new transmission services needed for the safe and reliable operation of the grid such as system strength and inertia.



Implementing the Network Vision

ElectraNet will continue to monitor emerging industry trends and developments, along with AEMO and other market bodies. We will continue to balance the need for safety, security, reliability and resilience with affordability.

We will also continue to engage with customer representatives and other stakeholders to ensure we understand their experiences, priorities, and points of view. We see this as vital to our ability to plan and develop the transmission network, so it delivers greatest value to customers into the future.

We welcome ongoing feedback. If you would like to share your thoughts on our Network Vision, or discuss any aspects, please contact us.

You can provide feedback at:

- ✉ consultation@electranet.com.au
- 📞 1800 890 376
- 🌐 electranet.com.au





If you have a question or would like to discuss any aspects of the Network Vision, please contact ElectraNet.

✉ Email **consultation@electranet.com.au**

☎ Phone **1800 890 376**

💻 Visit us online **ElectraNet.com.au**