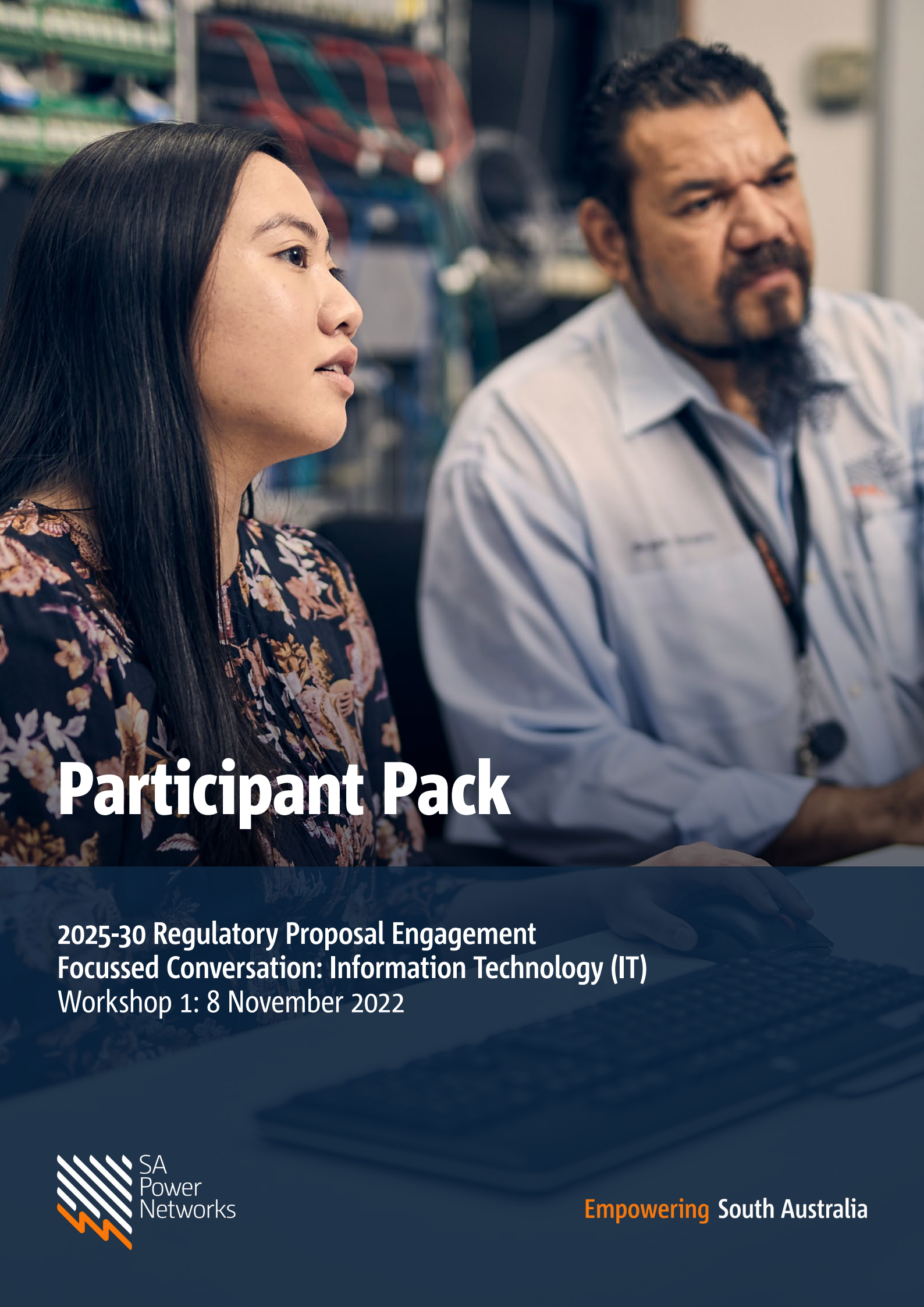


A woman with long dark hair, wearing a floral patterned top, is in the foreground looking towards the right. Behind her, a man with a beard and mustache, wearing a light blue button-down shirt and a lanyard, is also looking in the same direction. They appear to be in a server room or data center, with racks of equipment and colorful cables visible in the background.

Participant Pack

**2025-30 Regulatory Proposal Engagement
Focussed Conversation: Information Technology (IT)
Workshop 1: 8 November 2022**

Contents

This pack has been designed to provide background to participants in SA Power Networks' Reset 2025-30: **Information Technology**.

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Who we are

SA Power Networks is South Australia's regulated electricity distribution network service provider (distributor) covering a large service area of 178,000 square kilometres. We are responsible for managing the South Australian electricity distribution network – the substations, transformers, poles and wires that deliver electricity to your home or business.

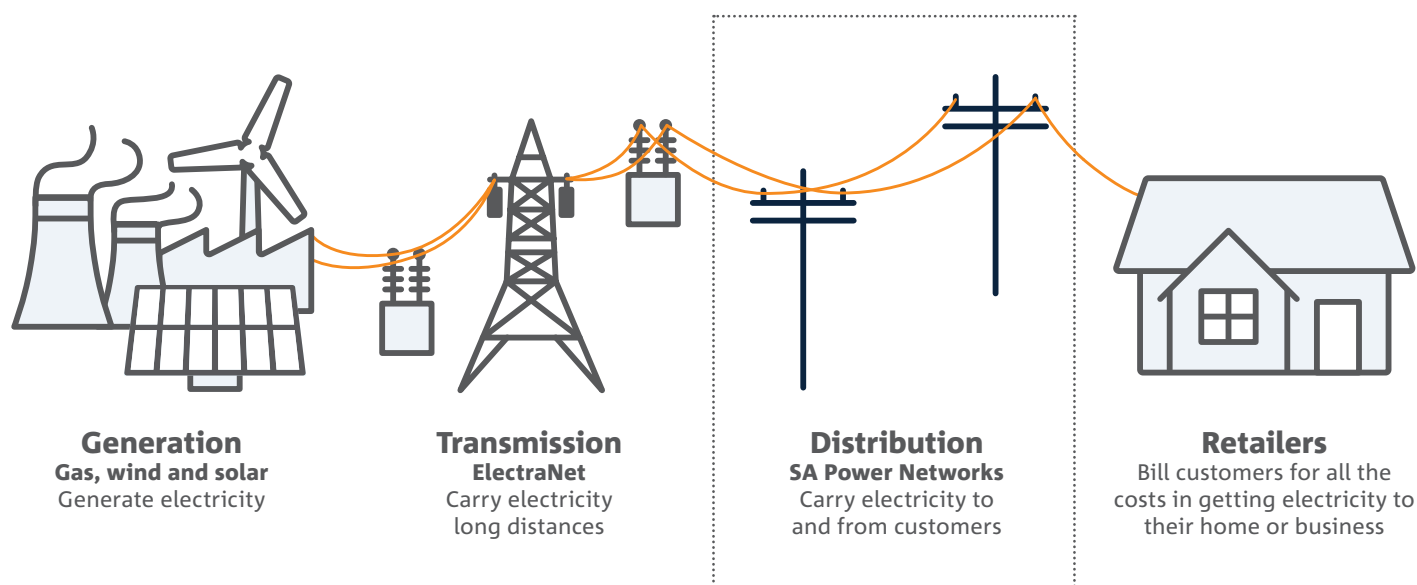
Our traditional role has been to take power from the State's high voltage transmission network and deliver it to about 1.7 million South Australians in 900,000 homes and

businesses. But, as our State's energy system undergoes significant transformation and modernisation, and with a third of our residential consumer installing solar in their homes, we have become a major platform for sharing electricity from widely distributed energy resources (DER).

South Australia has a dispersed population served by a network with a route length of about 89,000 kilometres. It leaves us with the lowest customer density in the country – on average 10 customers per kilometre of line.

The energy supply chain

Our role as distributor is just one element of the supply chain, which also involves energy generators (wind, solar, coal, gas etc); retailers (who source electricity from generators and manage your bills); and a transmission provider who transports electricity long distances at high voltages.



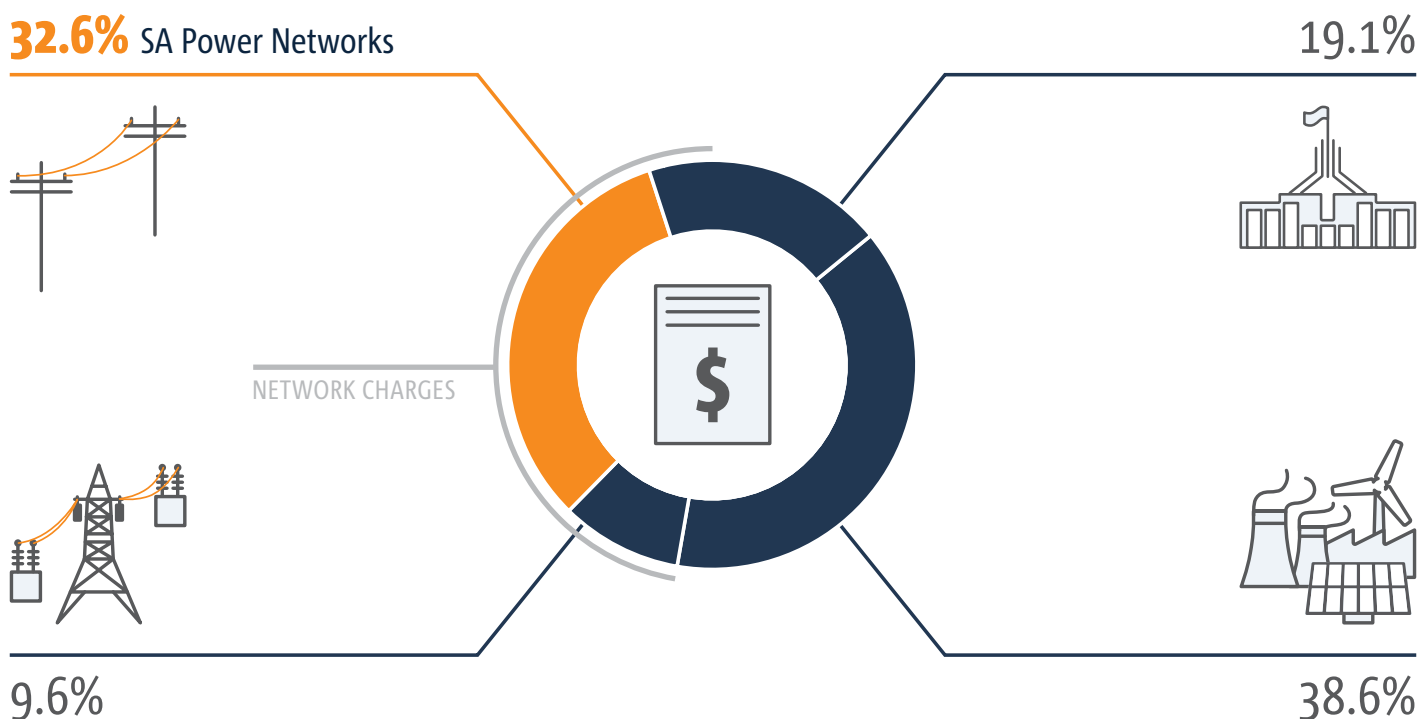
Understanding your electricity bill

The average residential bill is made up of:

- SA Power Networks' distribution costs
- ElectraNet's transmission costs
- Generation and retail costs
- State and federal green energy schemes
- Goods and Service Tax (GST)

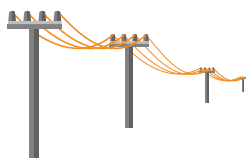
Charges for distributing energy across South Australia (from west of Ceduna, north to Leigh Creek, and south to Mt Gambier) currently amount to less than a third (31.1%) of the average household bill.

Distribution charges are about \$12 per week for the average customer consuming 5MWh.



Source: AEMC Residential Electricity Price Trends 2021 Report. South Australian average residential annual bill 2021/22.

About SA Power Networks



Operate the oldest grid
in the National Electricity Market



Provide network coverage over
178,000km²



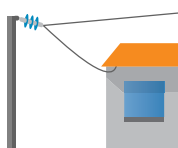
Deliver power to 99%
of SA's population



Service 900,000
homes and businesses



Connect most rooftop solar
in the National Electricity Market



Enable 25,000
New or altered
connections each year



Read approximately 780,000 meters
and provide data to retailers



Maintain 240,000 street lights
for councils and SA Government

Our fleet of network assets – made up of 408 substations, 1,955 feeders, 647,000 poles, and 77,000 distribution transformers is the oldest in the country.

We believe that our distribution network has a central and ongoing role to play in the energy transformation underway in South Australia. It will be a platform for consumers to share the energy they generate and store and to fuel the electrification of transport and the decarbonisation of our economy. Our network and the 2,400 skilled people who manage and maintain it, will continue to meet the energy needs of South Australians, reliably, safely and affordably for many years to come.

What is the Regulatory Reset?

Why are we seeking your input, comments and feedback?

SA Power Networks is the primary electricity distribution network operator in South Australia and we are responsible for managing the South Australian electricity distribution network.

As a distributor, we are regulated by the Australian Energy Regulator (AER) and are required to submit our expenditure and revenue proposals every five years for their review and approval.

This process is often referred to as a 'price reset' - hence the term 'Reset' which you might here us say.

Our plans for 2025-2030 are being shaped by extensive engagement with customers, stakeholders, and other parties across various diverse communities. As part of this process, we have hosted a series of targeted and regional workshops to help capture the views and aspirations of our South Australian community and are now moving into the second phase of our engagement – our focussed conversations.

Our Reset Engagement reinforces our commitment to working with our customers and stakeholders to understand their needs and deliver services they value.

What happens to your comments and contributions?

Reports from the first workshops have been summarised into reports capturing all feedback, and have been used to help

us develop a range of potential future investments and a key source of information for the focussed conversations.

Reports from the first workshops are available on our website talkingpower.com.au and we will also publish reports from our focussed conversations once finalised.

The engagement process

The Reset engagement process has been designed to actively consult customers and stakeholders on their expectations and priorities through a variety of research and engagement activities, both quantitative and qualitative.

We have worked closely with our Community Advisory Board (CAB) in co-designing and endorsing our overall engagement process. Your feedback will help us to progressively narrow down the options and pathways to achieve a balance of services and price outcomes to best meet both customer and business needs.

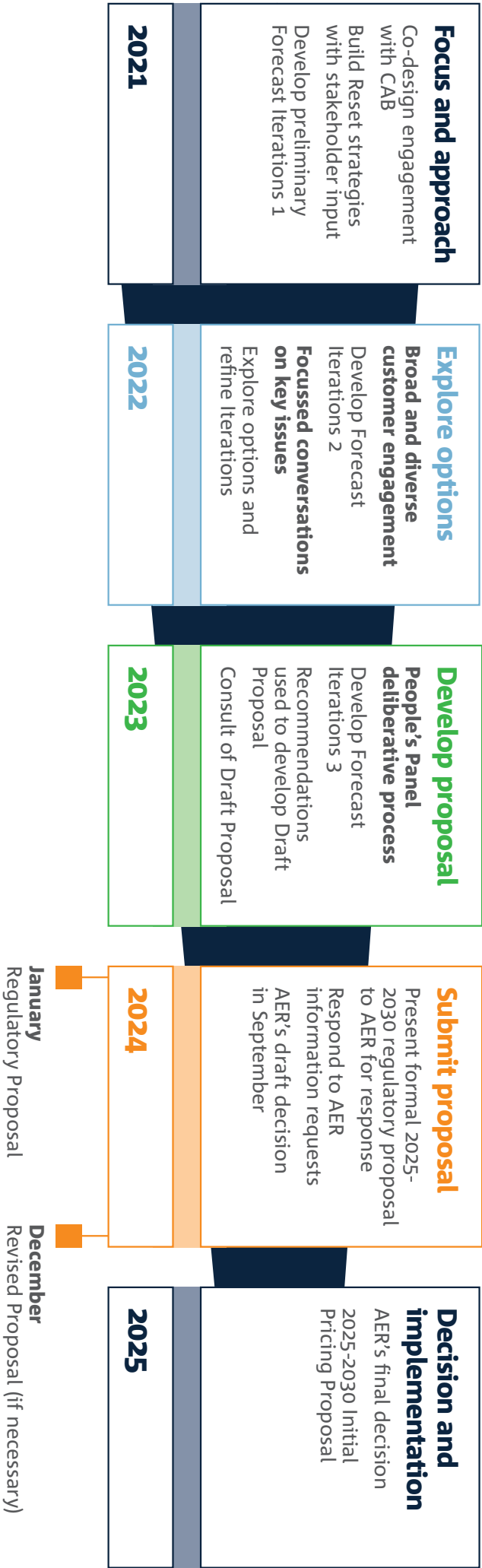
Stay in touch

We are using our website talkingpower.com.au to provide regular updates on our process and share the feedback we receive from our engagement activities. You are encouraged to 'register' on the site to receive our regular email updates or can view the site at any time to follow our process or share any other comments or ideas you may have.

Five Year Price Regulatory Proposal engagement 2025-30

As a monopoly service provider, our prices are approved by an independent regulator.

In building up our **Regulatory Proposal** we engage deeply with customers and the community.



Focussed Conversations - Overview

The key objectives of the topic-based engagement focussed conversations is to:

- Engage on identified priority topics and facilitate focussed engagement activities.
- Narrow options on service outcomes and potential expenditure
- Create a report, using a standard template for key input into Stage 4 engagement (deliberative people’s panel).

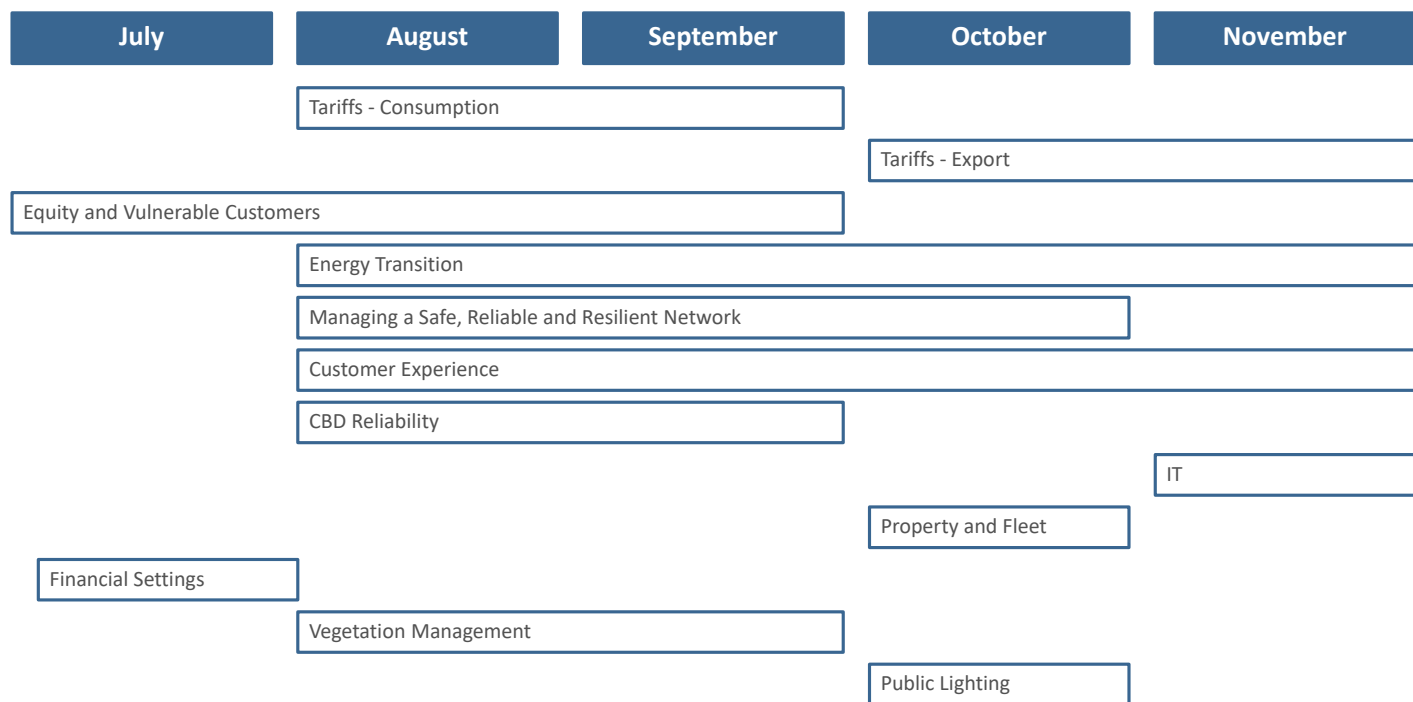
The focussed conversations will involve workshops on a broad range of topics. The following figure the key topics and their proposed level of engagement based on the IAP2 spectrum of engagement from empower/ collaborate to inform.

For most of the focussed conversations three scenarios will be developed to discuss with stakeholders:

- Scenario 1 (BASIC) – service levels decrease
- Scenario 2 (MAINTAIN) – maintained / compliant service levels
- Scenario 3 (NEW VALUE) – increase in service levels and new services

Information on the price impacts to customers of each scenario for each topic will be provided. Following the engagement, each focussed conversation will recommend a preferred scenario/ expenditure level to take to the People’s Panel.

Focussed Conversations timeframe



This Focussed Conversation

Purpose

This Information Technology (IT)¹ focussed conversation, follows on from both the ‘broad and diverse’ workshops and the majority of the focussed conversations. Many of the initiatives discussed in previous conversations will be enabled, all or in part, by IT investment. IT capabilities enable every customer and business function. As the role of the distributor increase in the delivery of electricity services, that IT investment will play a larger role in adapting, developing, scaling and efficiently delivering electricity services which allow customers to be part of the transition.

From a Regulatory perspective IT investment is classified as a separate expenditure category, one that brings together the IT components from the other areas of the Regulatory proposal. In addition, IT also has two separate classes of expenditure specifically related to

- Maintaining existing services through the ongoing maintenance, refresh and upgrades of existing IT systems and services (split into short (< 5 year) and long-term refresh cycles); and
- Expenditure to achieve and maintain compliance requirements. This includes meeting legislated requirements for example data privacy and electricity network cyber security.

All of these together make up the ICT Regulatory expenditure category.

The purpose of this focused conversation is to:

- Summarise the proposals from the other focussed workshops with material IT requirements and impacts.
- Summarise the high-level proposals associated with maintaining our IT services.
- Discuss the options associated with achieving expected Cyber Security compliance requirements for a critical utility.
- Provide initial views of the price impacts of maintaining our IT services and meeting our compliance requirements.

1. The terms IT “Information Technology” and ICT “Information and Communications Technology” mean the same thing. However, in this document we only use ICT to refer to the Regulatory expenditure category and associated Regulatory requirements. IT is used for everything else.

Agenda - 8 November 2022

8.45am	ARRIVAL AND COFFEE
9am	Welcome and Introductions • Welcome and Introductions • Overview of session
9.10am	Background and Context • Engagement overview and interdependencies • The Role of IT at SA Power Networks • The SA Power Networks Digital Journey • AER ICT Expenditure Categories
9.30am	What We've Heard • Broad and wide engagement outcomes • Reminder of Focussed Conversation Workshops • Scenario 3: Review Focussed Conversation Scenarios which have a material IT Impact
10am	MORNING TEA BREAK
10.15am	Other IT Expenditure Categories • Scenario 2: Maintain Existing Services • Summary, discussion, and People's panel recommendations: • Cyber Security • Scenario 1: Basic
11.15am	Next Steps and Questions
11.30am	CLOSE

Workshop participants

The following stakeholders have been invited to attend today's focussed conversation.

Australian Energy Regulator (AER)

Members of the AER's Consumer Challenge Panel (CCP30)

SA Power Networks' Community Advisory Board and Reset Sub-Committee

We understand that attendance may fluctuate given people's personal circumstances. The complete slide pack and outcome summary from focussed conversations will be shared with all invitees, and anyone unable to attend workshops will be invited to provide feedback separately.

Background/Context

IT is a key enabler for SA Power Networks

Over the last few years the role of IT at SA Power Networks has continued to expand such that IT is the primary mechanism to enable SA Power Networks to respond to and lead the energy transition, while ensuring the efficient delivery of energy services.

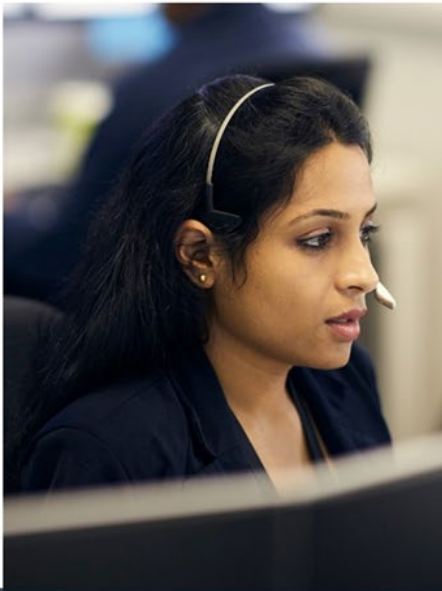
IT works with the field to enable our staff

Keeps them connected, even in remote locations.	• Mobile devices • Vehicle wifi hubs • Satellite access • Customer updates (SMS/website)
Delivers them the work and guides them to the worksite.	• Outage management work • Scheduled planned work • GIS and mapping data • Site access information
Keeps them safe.	• Asset and safety information • Communications with other teams • Risk/incident management systems • Fire danger rating & weather info
Captures relevant information when the work is completed.	• Timesheet data • Photos of assets • Updated asset data



IT works to enable our customer staff to serve our customers

Helps them share information with our customers.	• Website & social media • SMS messaging notifications • Outage Map • Interactive voice response system • Meter data
Captures customer issues.	• StreetLight Out • Outages / hazards • Call centre support systems • Complaints / claims
Captures customer requests.	• Enquires (meter reading / vegetation) • Solar connection requests • New connection requests • Quoting
Captures customer information.	• Customer data • Consumption history • Preference management



The key strategic outcomes for IT investment are highlighted on the diagram below (read from the bottom up). In general, “Operate to Evolve” is associated with maintaining existing services and managing our risk and compliance. “Adapt to Scale” is associated with implementing new capabilities and rolling them out cost effectively.

	Investment Outcome	Examples
	Scale Expand capability due to growth.	Smart Meter Rollout; Flexible Tariff Rollout; Customer Energy Resources.
	Adapt Address significant changing external circumstances.	Pandemic Pivot; Energy Transition.
	Evolve Ensure capability keeps pace with ongoing change and optimise the existing investments.	Technology Upgrades; Move to Cloud; Improve Network Asset Decision Making.
	Secure and Comply Ensure systems are compliant, secured and resilient.	Cyber Security; National Markets Data Compliance.
	Operate Enable business as usual operations.	Outage Management; Field Operations.

IT is the primary means for the business to adapt to rapid change while continuing to maintain energy services.

We invest to ensure our IT systems support and maintain our day-to-day business and network operations to keep the power on e.g. managing outages and scheduling the field crews.

We invest in cyber security and compliance to ensure that customer data and customer meter data is secure and flowing through the national market appropriately.

We invest in required system upgrades and iterative business improvements to ensure we continue to keep pace with the ongoing changes, maintain the existing value of our investments (electricity network and IT) and ensure reliable services.

We invest in technology to enable significant business changes such as the Pandemic Pivot and the Energy Transition to ensure stable operations as well as the digital capabilities to facilitate customer involvement in the Transition.

We invest to scale our services and capabilities, such as enabling the ongoing smart meter and flexible tariffs rollout to facilitate a stable grid which given customers a greater range of choice.

Over the last few years SA Power Networks has engaged in an extensive program to refresh our legacy core IT systems (some more than 20 years old) and implement newer systems which provide secure and reliable foundations to facilitate the energy transition. Data, in particular, has started to play a much

larger and valuable role as the organisation seeks to manage a more complex electricity grid through making better and more timely decisions.

IT manages its budgets tightly and delivers on what it says it will deliver and AER benchmarking indicators reflect this, showing that IT at SA Power Networks benchmarks well against other comparable utilities.

How the AER categorises and assesses IT expenditure

Given the nature of the long-term benefits and outcomes for IT expenditure are not always obvious to customers the AER has detailed a comprehensive set approach to evaluating IT expenditure². Our approach to building the IT expenditure forecast is consistent with this and our expenditure and our scenarios are:

	Scenario 1: Basic	Scenario 2: Maintain	Scenario 3: New Value
	Recurrent	Non - Recurrent	
AER ICT Categories	Expenditure that is related to maintaining existing services, function, capability and/or benefits and occurs at least once in 5 years (<i>e.g. replacing PCs & laptops</i>)	Any ICT expenditure that is not 'recurrent', i.e. - Once-off changes - Periodic expenditure occurring on a cycle longer than 5 years (<i>eg. 7-year cycles</i>)	
AER ICT Sub-categories		Maintain existing services Maintain existing services, functionalities, capability and/or market benefits. (<i>e.g. large upgrades & replacements</i>)	Compliance Comply with new or altered regulatory obligations or requirements (<i>e.g new cyber legislation</i>)
			New or expanded capability New or expanded ICT capability, functions and services (<i>e.g. managing the energy transition</i>)

2. [Non-network ICT capex assessment approach](#)

Scenario 1: Basic – Recurrent Expenditure

- This scenario describes the regularly occurring patching, refresh and maintenance of systems and equipment in order to keep them fit for purpose to ensure staff can continue to effectively service our customers and keep the network up and running.
- It includes regular patching to maintain the risk profile and legislative compliance of systems.
- This work enables the systems and equipment to be ‘sweated’ to extend their operational life while avoiding the risks, costs and customer impact from unplanned failures.

Scenario 2: Maintain Existing Services and Compliance

- This scenario describes the replacement of systems that can’t be patched to maintain their risk profile and ensure compliance with applicable legislation, for example systems that are no longer supported by their vendor.
- Planned replacement of these systems avoids the risks and costs associated with unreliable, insecure systems and significant unplanned failures.

- New compliance requirements are continually emerging in a fast-moving environment such as the energy market currently is. Cyber in particular has an increasing risk profile and compliance requirements are increasing to match. During the broad and diverse engagement workshops, participants provided feedback that SA Power Networks should consider increasing investment in Cyber Security. We are interested in soliciting feedback from workshop participants regarding the levels of investment that SA Power Networks should make in this critical area.

Scenario 3: New Value

- Review of the Focussed Conversation Scenarios from other workshops which have a material IT impact.
- It should be noted that while IT focussed conversation comes towards the end of the focussed conversation workshop series, there are some workshops to be held post the IT workshop. As a result, some of the figures discussed during the workshop will be based on assumptions about what scenarios will be recommended by the attendees of those workshops and hence may be subject to change if different scenarios are selected.

How we build up the expenditure in our IT portfolio

The approach to the development of our IT Portfolio uses a standardised process which progressively builds and then iteratively reduces the number of projects based on need, value, benefits, risk and deliverability. We utilised our mature Portfolio Management framework for selecting the projects of highest value.

As detailed in the diagram below the approach we take to the justification of each program/project in our IT portfolio varies depending on the type of project and the outcome we are trying to achieve. In turn this is aligned to the AER approach to the evaluation of that expenditure type.

	Scenario 1: Basic	Scenario 2: Maintain		Scenario 3: New Value
	Recurrent	Non - Recurrent		
Justification Approach	Business cases based on asset class (e.g. devices) to justify changes to base cost	Business cases – based on identified need with options, risks, cost/benefit analysis		
Costing	Base: 2020-25 RIN Reported Actuals +/- recurrent capex & opex changes	Individual program and /or project costs based on estimated activity, timelines, materials and services, supported by supplier quotes and comparisons with other companies		
Evaluation Approach	IT Benchmarking – to confirm costs are prudent & efficient	Maintain existing services Assess optimal time to replace/upgrade based on risk	Compliance (inc. Cyber Security) Most efficient cost to implement	New or expanded capability Benefit driven
Portfolio Analysis	Portfolio value and deliverability analysis, Post Implementation Reviews and independent reports where appropriate to confirm timeframes, costs and benefits are realistic, prudent and efficient.			

The key considerations for the prioritisation and selection of projects are:

- Maintaining our current levels of services and risk through our ongoing recurrent expenditure. Generally, these are planned at a similar level year on year and broken into hundreds of small projects or Agile sprints. This approach allows us to continue to manage risk and maintain services while flexibly responding to change.
- Key activities that are already underway and need to be completed. Some programs and projects will be started by the end of this RCP and will flow into the next one.
- Implementing compliance changes. Meeting compliance changes generally have fixed dates by which compliance is required.
- Implementing risk driven changes including large upgrades or replacements. Similar to compliance changes these changes often have a date by which support decreases, will no longer be available or the system will be switched off. Hence, we need to act to manage that risk and maintain the service.
- Implementing programs and projects that deliver new value to Customers. Program and projects of this nature generally fall into a number of categories.
 - a. Changes that are designed to adapt to the changing environment by leveraging IT to
 - i. create entirely new capabilities (eg. developing new systems to manage DER); or
 - ii. using existing capabilities in new ways (eg. facilitating customer participation in the energy transition through improved digital technologies).
 - b. Changes that leverage IT capabilities and data to enable better and more timely decision making. For example improving asset data collection and analysis to make better decisions regarding electricity network assets which leads to long term cost effective asset management.
 - c. Changes that enable more efficient processes by the gradual automation of manual tasks.

What we heard

In the broad and diverse engagement workshops IT themed comments were received from participants on areas including:

- Increased Investment in Cyber Security.
- Increased use of Automation for Efficiency and resilience.
- Increased use of Digital Tools for Customers.
- Increased use of Data to Drive Automation and Efficiency.
- Adaption / Evolution of Technology from other industries (e.g. Uber real-time driver map locations).

Discussion will include:

- Review of the initiatives recommended by the other Focussed Conversations workshops which have a material impact on IT Expenditure.³
- An explanation of how, due to the AER's methodologies, these costs will be included in IT's submission to the AER. IT's role in these initiatives will be as the enabler of the business and this expenditure is already included in the costs that have been put forward by other groups.
- We will be seeking discussion, feedback and endorsement of these initiatives from workshop participants to take to the People's Panel.

3. It should be noted that while IT focussed conversation comes towards the end of the focussed conversation workshop series, there are some workshops to be held post the IT workshop. As a result, some of the figures discussed during the workshop will be based on assumptions about what scenarios will be recommended by the attendees of those workshops and hence may be subject to change if different scenarios are selected.

IT Initiative in Focus: Cyber Security

During the broad and diverse engagement workshops, participants provided feedback that SA Power Networks should consider increasing investment in Cyber Security. There are compelling reasons for doing so and while Cyber Security, like all IT Expenditure, is assessed and benchmarked by the AER, we are interested in soliciting feedback from workshop participants in respect of the proposed levels of investment that SA Power Networks should make in this critical area.

Cyber Security – Global Trends and Findings

- In recent years the security and reliability of the utilities sector has fallen under increasing attention due to sophisticated cyber-attacks against critical infrastructure in several global jurisdictions, especially in the energy sector.
- During the 2020–21 financial year, the Australian Cyber Security Centre (ACSC) observed approximately one quarter of reported cyber security incidents affected entities associated with Australia's critical infrastructure.

- The consequence of these attacks in Australia may not only impact energy organisations but have broader impacts to community, public health, safety, and the economy.
- This heightened risk means we need to continue to increase preparedness and accelerate the uplift of existing cyber protections and system capabilities.

CrowdStrike Intelligence observed an 82% increase in ransomware related data leaks in 2021, with 2,686 attacks as of Dec. 31, 2021, compared to 1,474 in 2020.

These figures, coupled with other data leaks, highlight how valuable victim data is to adversaries.

US, Australian, Canadian, New Zealand, and UK cybersecurity authorities urge critical infrastructure network defenders to prepare for and mitigate potential cyber threats

ACSC Advisory, May 2022

*Please note that due to the sensitive nature of the Cyber Security information to be shared during this session, the recording of this session will not be made public on the Talking Power website. A reduced subset of slides will be shared for the same reason.

[Russian State-Sponsored and Criminal Cyber Threats to Critical Infrastructure | Cyber.gov.au](#)

[ACSC Annual Cyber Threat Report - 2020-2021.pdf](#)

[CrowdStrike 2022 Threat Report - Report2022GTR.pdf \(cdn-website.com\)](#)

Outcome of today's session

At today's workshop, participants will be informed as to the process that the AER uses to assess ICT Expenditure and the related AER ICT Expenditure categories. Participants will also understand the proposed bill impacts of SA Power Network's ICT Expenditure per AER ICT Expenditure area and how this has been built up. Participants will also have an understanding of how recommendations made in other focussed conversation workshops will be represented in the AER ICT Expenditure categories. This will enable

participants to validate that the new/expanded capability being proposed is a reflection of the outcomes of discussions from the other workshops.

Participants will also have had the opportunity to discuss the proposed Cyber Security options and to provide feedback on the options presented and to indicate which of these options they would support.

Next steps

Following this workshop, we will:

- Circulate the presentation from this workshop, with feedback/decisions captured.
- Finalise supported Cyber Security option
- Include the engagement process and supported Cyber Security option in the IT Interactions topic report to the deliberative People's Panel.

Acronym cheat sheet

Acronym	Full Name	Acronym	Full Name
ACCC	Australian Competition and Consumer Commission	CSIRO	Commonwealth Scientific and Industrial Research Organisation
ACS	Alternative Control Services	DEM	Department of Energy and Mines (SA Government)
AEMC	Australian Energy Market Commission	DER	Distributed Energy Resources
AEMO	Australian Energy Market Operator	DET	Distributed Energy Transition
AER	Australian Energy Regulator	DMIA	Demand Management Incentive Allowance
ARENA	Australian Renewable Energy Agency	DNSP	Distribution Network Service Provider
BFRA	Bushfire Risk Area	DPTI	The Department of Planning, Transport, and Infrastructure
CAB	Community Advisory Board	EBSS	Efficiency Benefit Sharing Scheme
CALD	Culturally and Linguistically Diverse	ECA	Energy Consumers Australia
CAM	Cost Allocation Method	ENA	Energy Networks Australia
CAPEX	Capital Expenditure	ESCoSA	Essential Services Commission of South Australia
CBD	Central Business District	EV	Electric Vehicle
CCP	Customer Consultative Panel	FiT	Feed-in Tariff
CESS	Capital Expenditure Sharing Scheme	GSL	Guaranteed Service Level
CPI	Consumer Price Index	IAAS	Infrastructure as a Service

Acronym	Full Name	Acronym	Full Name
IT	Information Technology	pa	Per Annum
LTIFR	Lost Time Injury Frequency Rate	PTRM	Post Tax Revenue Model
LED	Light Emitting Diode	RAB	Regulated Asset Base
LEG	Large Embedded Generation	RoR	Rate of Return
LGA	Local Government Association	RFM	Roll Forward Model
LV	Low Voltage	SAIDI	System Average Interruption Duration Index
MEDs	Major Event Days	SAIFI	System Average Interruption Frequency Index
MEG	Medium Embedded Generation	SA Power Networks	SA Power Networks
MW	Mega-Watts	SCS	Standard Control Services
NBRFA	Non-Bushfire Risk Area	STPIS	Service Target Performance Incentive Scheme
NECA	National Electrical and Communications Association	ToU	Time of Use
NEM	National Electricity Market	TSS	Tariff Structure Statement
NER	National Electricity Rules	USAIDI	Unplanned System Average Interruption Duration Index
NMI	National Meter Identifier	VCR	Value of Customer Reliability
NPU	Network Protection Unit	VPPs	Virtual Power Plants
OPEX	Operating Expenditure	WACC	Weighted Average of Capital Costs
OTR	Office of the Technical Regulator (State Government)		

Notes

