

SA Power Networks Asset Management System

Ali Walsh and Mark Pynn

August 2026



Empowering South Australia



Acknowledgement of Country

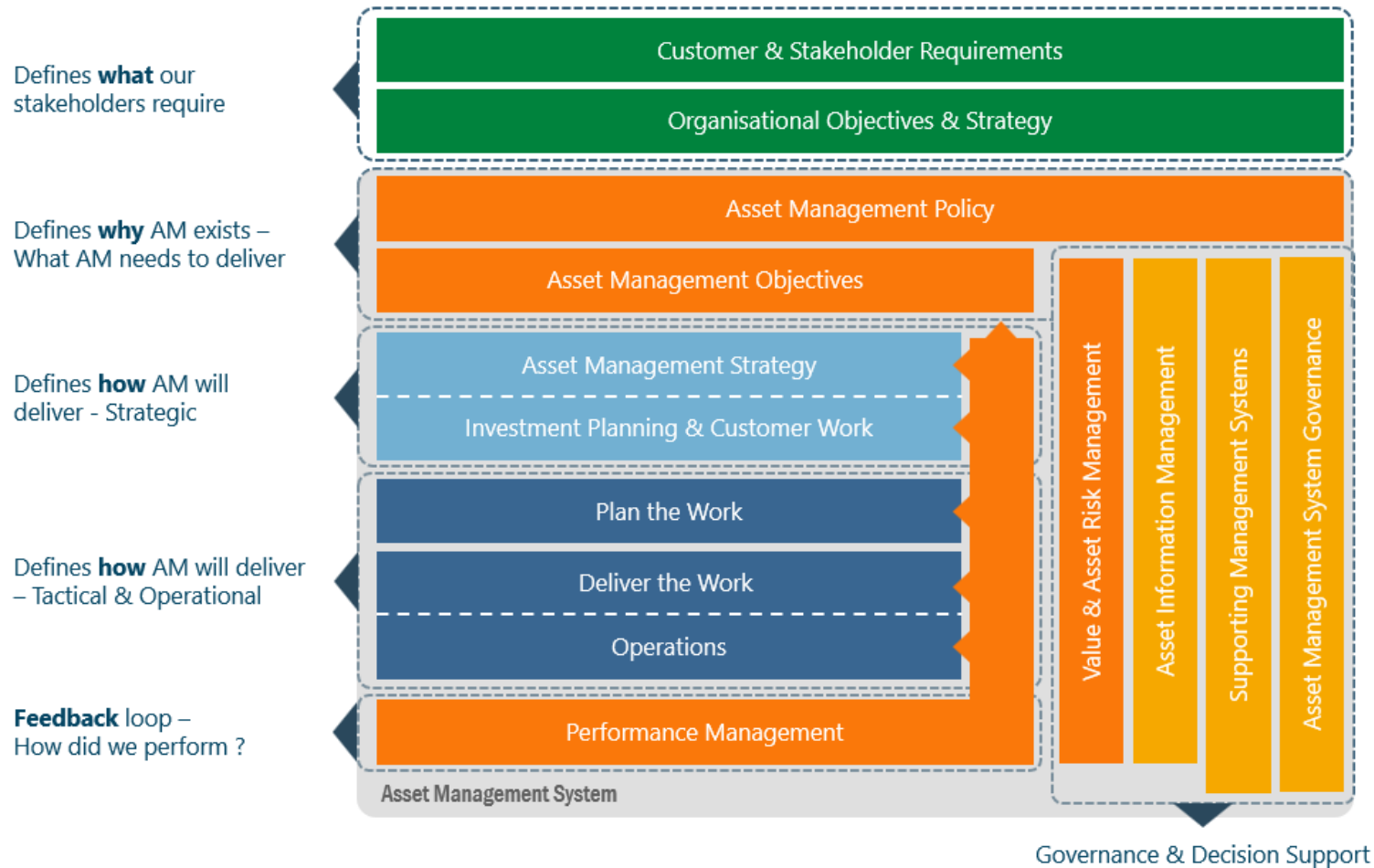
Connection With Country, 2025 by Kelly Taylor & T'Keyah Ware

Agenda

1. Overview of our Asset Management System
2. Our Asset Management Objectives
3. Risk and Value to inform investment decisions
4. Strategic Asset Management Plan
5. Questions



Asset Management System Framework



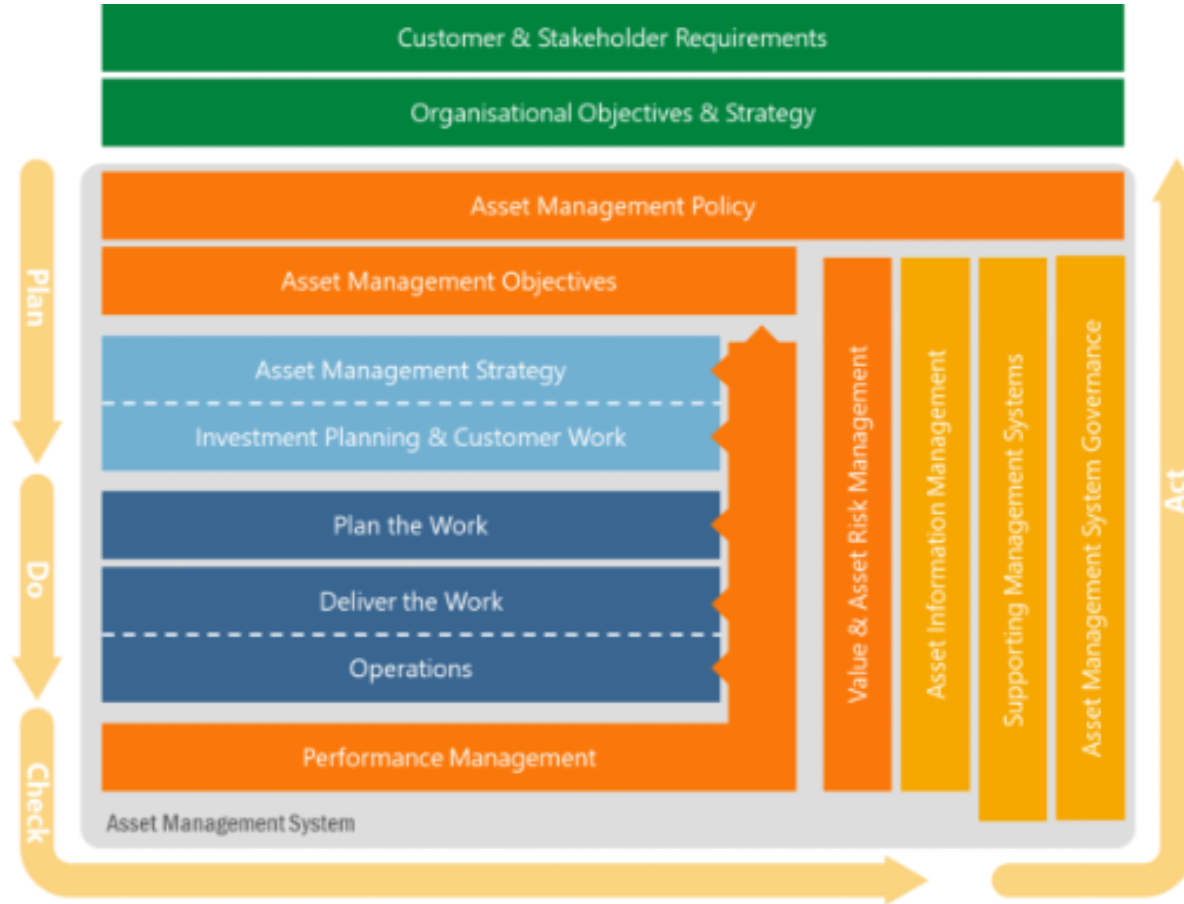
SCOPE

Electricity network assets, including telecommunications and operational technology, required to deliver power to customers.

WHAT THE SYSTEM INTEGRATES

- Processes, artefacts and tools
- Governance and decision support
- Planning, delivery and feedback

The AMS creates one line of sight from need to performance



Asset Management Objectives on a Page



Snippet of our Asset Management Objectives dashboard

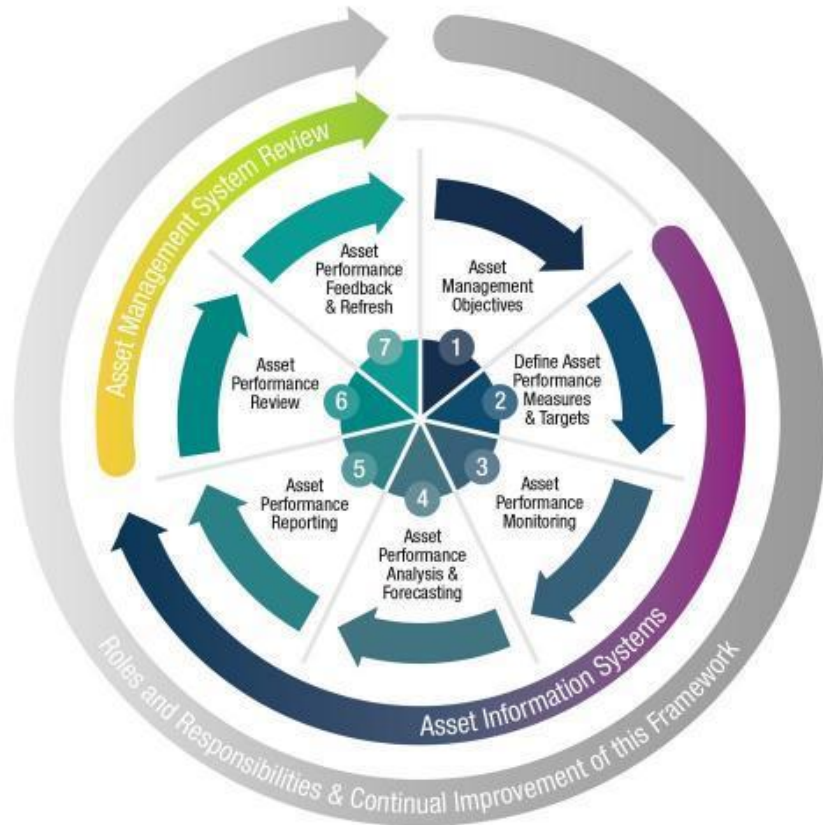
Feeder Category SAIDI						Feeder Category SAIFI					
Region	Last Month	Monthly Target	FYTD	FYTD Target	FY Target	Region	Last Month	Monthly Target	FYTD	FYTD Target	FY Target
CBD	0.10	0.40	8.94	20.10	20.1	CBD	0.00	0.01	0.08	0.175	0.18
URBAN	8.50	6.70	110.07	95.20	95.2	URBAN	0.08	0.06	0.93	0.872	0.87
RURAL SHORT	9.60	17.00	186.20	168.40	168.4	RURAL SHORT	0.07	0.10	1.33	1.161	1.16
RURAL LONG	31.90	19.60	384.50	285.90	285.9	RURAL LONG	0.13	0.09	1.92	1.434	1.43

Maintain geographic region reliability	SAIDI Regions					
	Region	Last Month	Monthly Target	FYTD	FYTD Target	FY Target
	Adelaide Business Area-ABA	0.10	1.55	8.90	18.60	18.57
	Barossa, Mid-North and Yorke Peninsula-BMY	28.00	15.91	380.10	190.92	190.93
	Eastern Hills-EH	31.00	24.66	271.30	295.92	295.87
	Eyre Peninsula-EP	25.60	32.80	538.60	393.60	393.55
	Fleurieu Peninsula-FP	9.10	18.77	269.30	225.24	225.19
	Greater Adelaide Metropolitan Area-GAMA	8.90	7.88	112.60	94.56	94.58
	Major Regional Centres-MRC	4.80	7.00	94.40	84.00	84.03
	Riverland and Murraylands-RM	28.00	20.20	256.60	242.40	242.43
	South East-SE	13.70	24.66	339.30	295.92	295.87
	Upper North-UN	40.30	30.84	262.20	370.08	370.04

[AMO Report - Power BI](#)

Objectives only work when they connect to measures and feedback

OBJECTIVES → MEASURES → INSIGHT → REVIEW

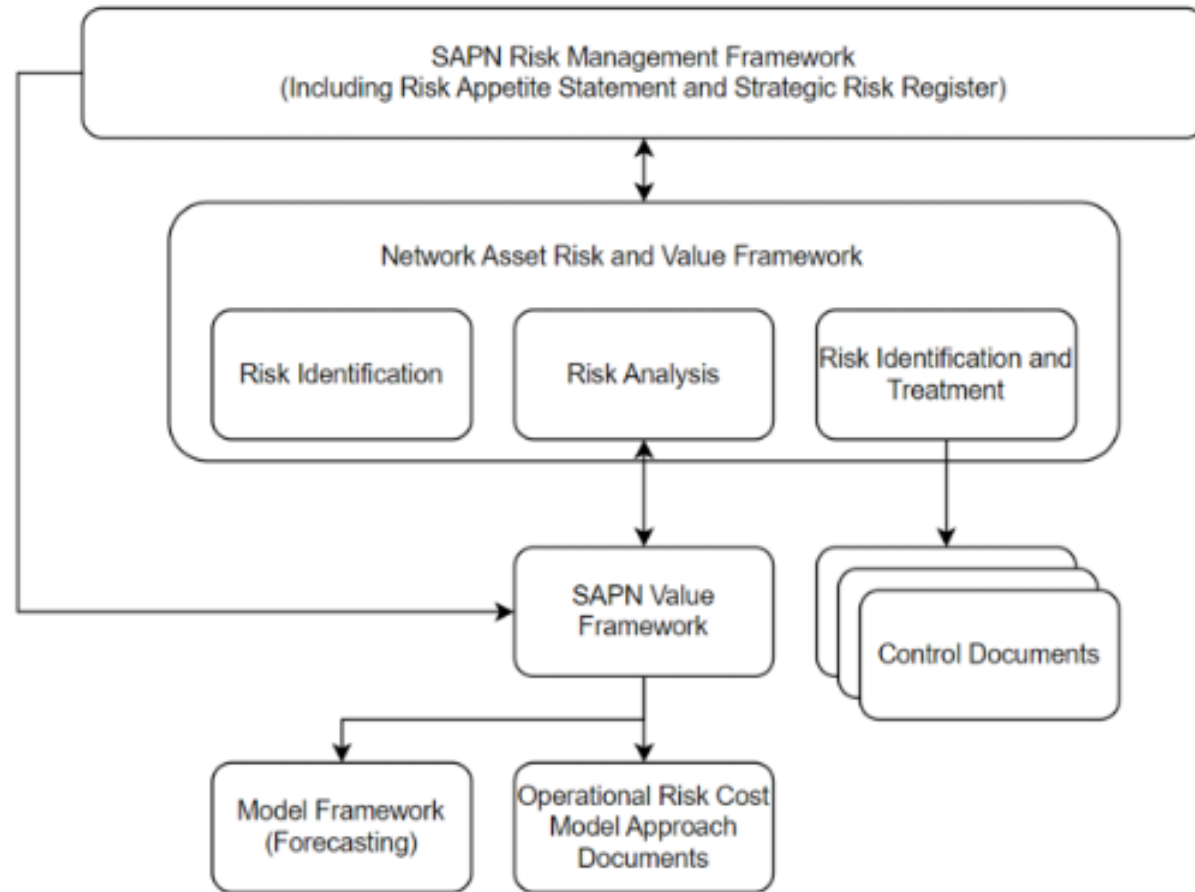


The performance framework connects high-level outcomes to leading and lagging indicators, asset health information and actionable review.

The question is not only “did performance change?” but “what should we do next?”



A common economic language makes unlike outcomes comparable



An asset creates value when it performs the function it was designed to perform, when that function is required.

Examples of Value dimensions on next slide

Benefits: our overall approach to valuation

- **Common Value Dimensions and Metrics:** Throughout our business, a standardised set is employed to quantify the benefits / risks associated with expenditures.
- **Transparency and Alignment:** using these common values fosters transparency and establishes a clear line of sight between strategic focus areas, corporate risk consequences, and the assessment of risks across different expenditure areas.

Table 2-1: Value Dimensions and associated scope

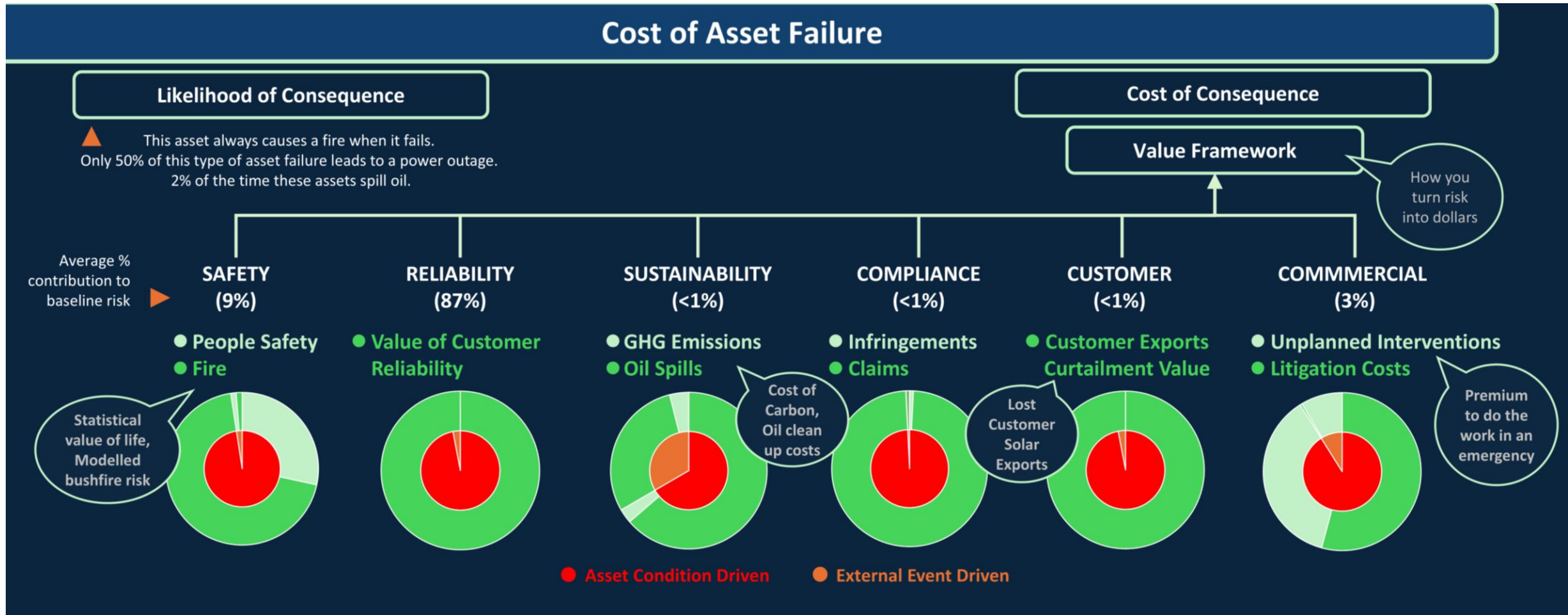
Value Dimension	Scope
OH&S	Costs to workers, the public and the business associated with physical injuries sustained by persons because of network assets or network activities.
Bushfire	Costs associated with bushfires including loss of life, property, environment, and network assets.
Reliability	Costs incurred by customers for the network failing to provide them with electricity, such as via the failure of an asset or insufficient capacity being available.
Customer value of time	The value of the time that customers spend either accessing information in regard to our services.
Cyber Security	Costs associated with a cyber breach of our systems that relate to detection, notification and response to a breach, as well as direct business impacts in time lost without system access, and penalties imposed.
Environment	Costs associated with damage to the environment caused by network assets or network activities. This excludes the costs associated with network-initiated bushfires.
Customer value of exports	Value of exports from customer energy resources (CER), as per the AER methodology. This dimension only considers the value of customer energy exports that are permitted by the AER CECV methodology.
Energy conservation	The value associated with the reduction of appliance energy consumption due to a reduction in network voltage.
Asset	The direct financial costs to the network that occur as a result of an asset failure that are not included within any other value dimension (such as costs associated with unplanned response).
Investment benefits	Avoidable costs associated with replacing a degraded asset with a new equivalent or other benefits resulting from undertaking the investment (such as avoided maintenance) and time saved from assets being unavailable.
Investment costs	Actual expected costs associated with undertaking investments. These costs could be funded under network capex or opex. This category also considers avoided (current) and reduced (future) expenditures.
Compliance	Costs incurred for not complying with legal and/or regulatory obligations.

Figure 2-1: Mapping Strategic Objectives, Enterprise Risks and Value Dimensions



Value framework and protecting non-interchangeable risks

Value dimensions help compare benefits, while guardrails prevent undesired trade-offs.



Guardrail principle

Monetised risk is a common currency; it is not permission to trade away a risk category that must be maintained.

Maintain bushfire risk at current levels?
Improve bushfire risk across the state? Or in a region?
Maintain reliability by region if geographic equity matters.
Maintain reliability overall risks improving metro reliability while letting regional reliability decline.
Respect mandatory safety and compliance commitments.

Monetised risk turns likelihood and consequence into comparable evidence

ANNUALISED RISK (\$)

Probability of failure /
event

×

Likelihood of a
consequence

×

Cost of that
consequence

01 Estimate at asset or
defect level

Failure/event and consequence
paths

02 Calibrate to observed
performance

03 Aggregate to see
portfolio risk

The result supports comparison and forecasting — it does not remove judgement, constraints or the need to test assumptions.

How to Model Risk

- The equation:
- **$\$Risk = Probability\ of\ Failure \times Likelihood\ of\ Consequence \times Cost\ of\ Consequence$**
- Probability of Failure -> What are the odds the thing will break this year?
- Likelihood of Consequence -> If it does break how likely is that to spill oil?
- Cost of Consequence -> If it does spill oil what are our average clean-up costs?

How to Model Risk - Example

- **What is the risk cost of this transformer spilling oil?**
- $\text{\$Risk of oil clean-up} = \text{Will it fail} \times \text{Will it spill oil} \times \text{What will it cost?}$
- **Will it fail?** -> Based on its condition, it has about a **10% chance of failing this year**.
- **If it fails, will it spill oil?** -> There are two main failure modes for this type of transformer. One is unlikely to spill oil; the other spills all the oil in the transformer. We estimate there is a **50% chance of an oil spill**.
- **If oil spills, what will it cost?** -> Oil clean-up costs depend on location and oil volume; in this location the clean-up costs are \$X per litre of oil and the transformer has Y litres of oil. So, **the cost is $\text{\$X} \times \text{Y} = \text{\$Z}$** .
- $\text{\$Risk of oil clean-up} = 10\% \times 50\% \times \text{\$Z}$
- We repeat this logic for safety, reliability, compliance, customer experience and commercial impacts
- *(ask me more about our value framework after the session)*
- We then combine them to get a \$Risk value that we use to compare investment options.

When to invest

- **Invest when the cost of inaction exceeds the cost of action.**
- Estimate risk in dollars
- Compare that risk with the cost of intervention
- For aging assets, failure likelihood increases over time
- Modelling estimates the point where benefits outweigh costs

Monetised risk makes unlike projects comparable



Risk interrogation

Asset-specific risk breakdown, peer comparison and time projection.

Options analysis

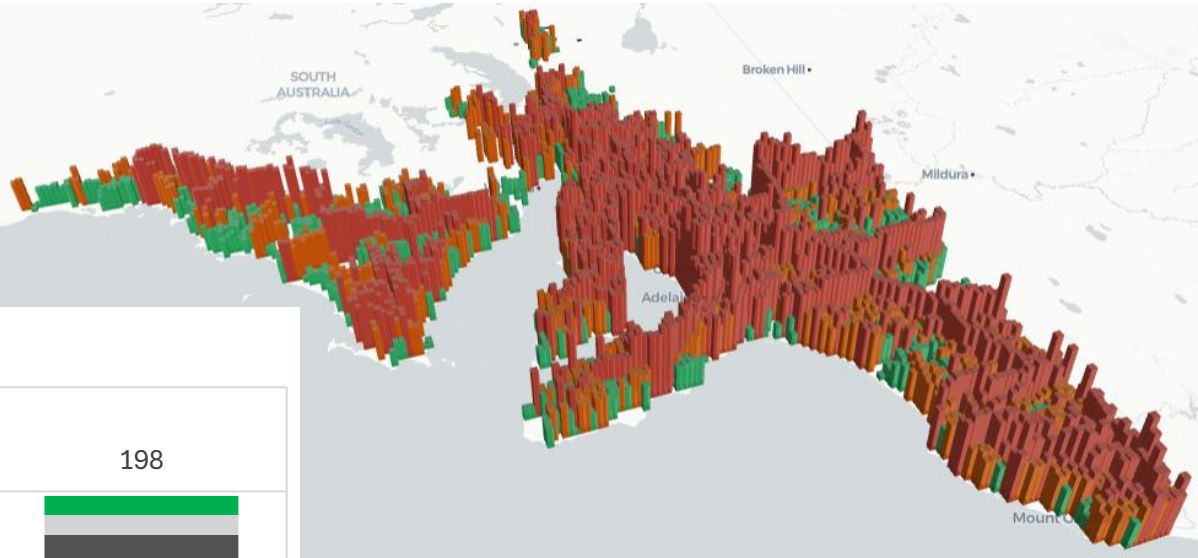
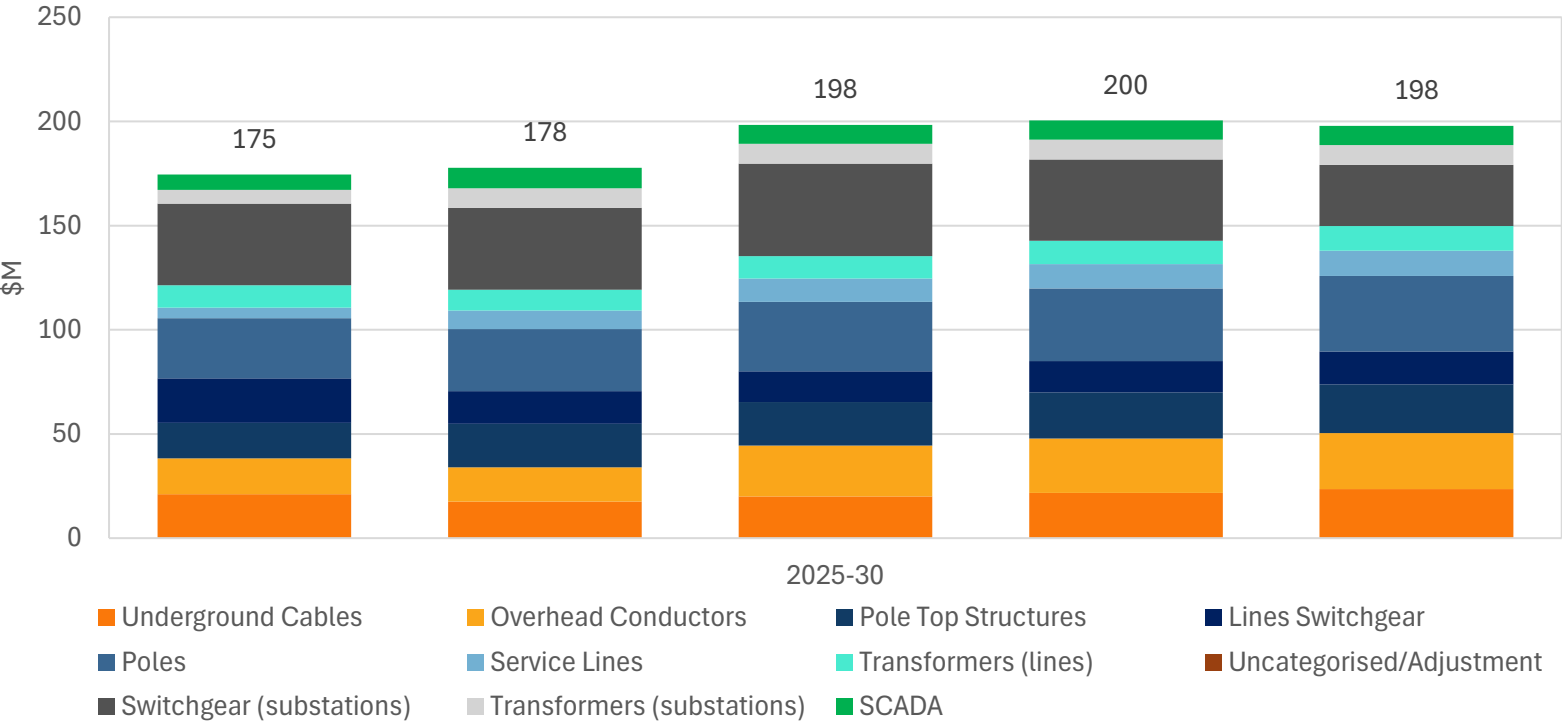
Define project scope, spend profile and alternatives; calculate risk reduction and ROI.

Portfolio optimisation

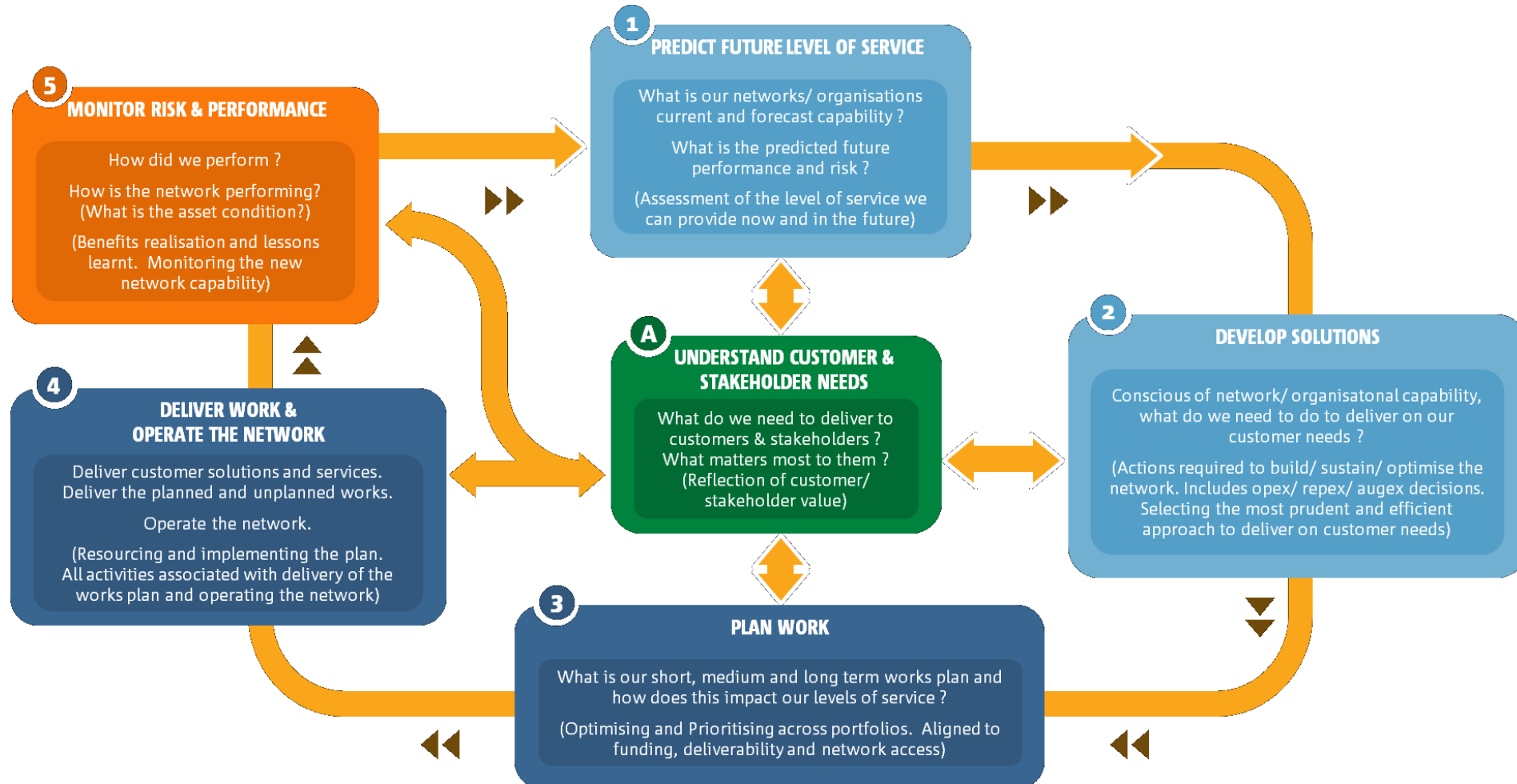
Use budget, geography, work-type and timing constraints to select and sequence work.

The risk cost model helps us see, drill down and prioritise

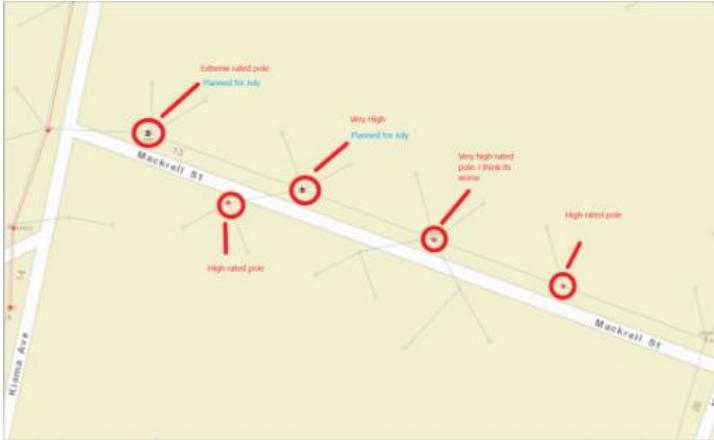
Forecast Repex by asset category (\$M, June 2025)



Decisions connect strategy, plans, lifecycle and delivery



Risk value is essential — but it is not the whole decision



REPLACE FIVE POLES IN ONE VISIT

\$37,974

Single mobilisation and bundled work

SPLIT ACROSS TWO VISITS

\$42,254

+\$4,280 additional cost

What changed the answer?

- Future cost avoidance and mobilisation efficiency
- Whole-of-life cost, deliverability and bundling
- Risk, assumptions and how long deferral must last

SA Power Networks Strategic Asset Management Plan

Our Asset Management Objectives



SAFETY

Ensure the safety and bushfire risk, to our people and the community, resulting from SA Power Networks assets and operations, is As Low As Reasonably Practicable (ALARP)



RELIABILITY

Meet jurisdictional and regulatory reliability and security standards and, maintain and improve reliability and network resilience where economic to do so



COMPLIANCE

Comply with distribution licence conditions and obligations, relevant legislation, codes of practice and regulatory obligations



SUSTAINABILITY

Ensure our provision of energy services is socially and environmentally responsible and support South Australia's pathway to net zero



CUSTOMER EXPERIENCE

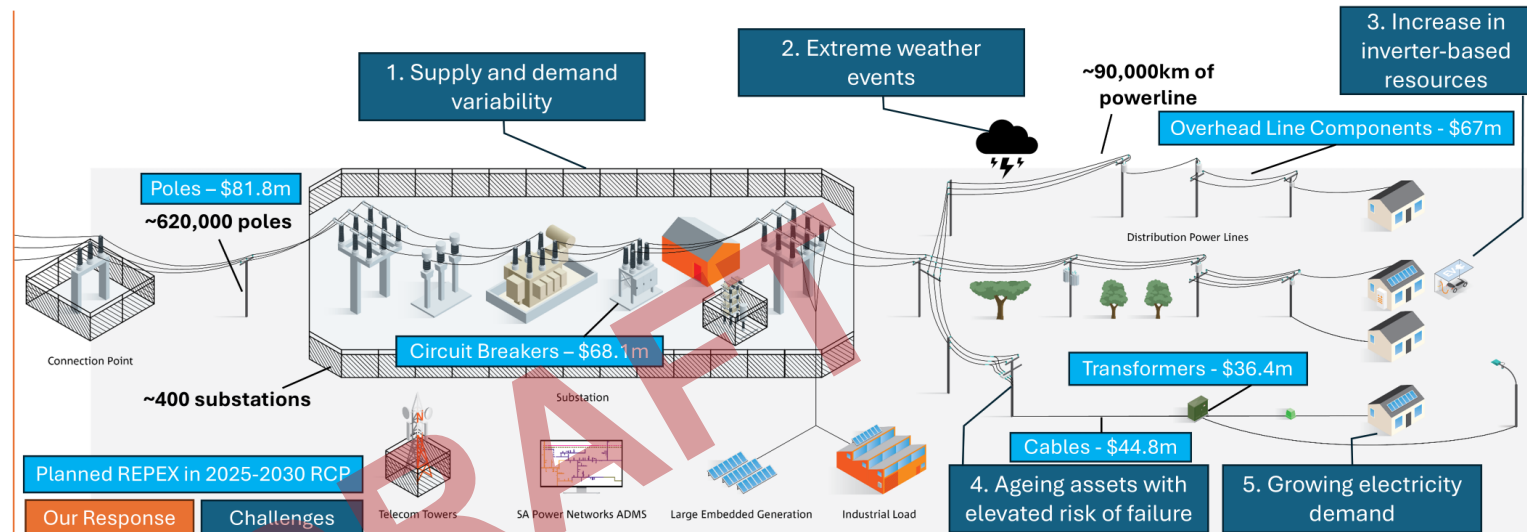
Ensure our asset management decisions, behaviours and actions are informed by what customers truly value and are willing to pay for



COMMERCIAL

Continually enhance and safeguard the value we deliver to the community, our people and our owners

Connecting South Australians to a better energy future, today.



Our focus for capital expenditure in the current RCP

1. Investing in smart grid technologies and flexible connection alternatives to deliver maximum value to stakeholders while facilitating network variability

2. Increasing network resilience through programs such as feeder automation, optimising operational response, adapting design standards

3. Delivering programs such as Flexible Exports and Energy Masters to facilitate increasing CER penetration

4. Minimising risk of asset failure, where possible, through predictive analytics and proactive maintenance programs

5. Using innovative technologies to maximise network utilisation and augmenting the network where necessary to minimise the cost passed on to customers

Replacement

\$884.6m

A combination of poles, cables, conductor and circuit breakers are reaching end of life and must be replaced to maintain reliability.

Connections

\$748.3m

Connecting customers to our network requires upgrades to maintain reliability, safety and compliance.

Augmentation

\$402.8m

Growing demand for electricity is necessitating upgrades to the network.

CER Integration

\$91.3m

Maximising utilisation of the network with growing CERs requires new programs to increase network visibility and manage flexible load/generation.

Non-Network Capex

\$50.4m

An innovation fund allows us to pursue initiatives to deliver long-term customer benefits through trials of new technologies.

SA Power Networks Strategic Asset Management Plan

Our Asset Management Objectives



SAFETY

Ensure the safety and bushfire risk, to our people and the community, resulting from SA Power Networks assets and operations, is As Low As Reasonably Practicable (ALARP)



RELIABILITY

Meet jurisdictional and regulatory reliability and security standards and, maintain and improve reliability and network resilience where economic to do so



COMPLIANCE

Comply with distribution licence conditions and obligations, relevant legislation, codes of practice and regulatory obligations



SUSTAINABILITY

Ensure our provision of energy services is socially and environmentally responsible and support South Australia's pathway to net zero



CUSTOMER EXPERIENCE

Ensure our asset management decisions, behaviours and actions are informed by what customers truly value and are willing to pay for

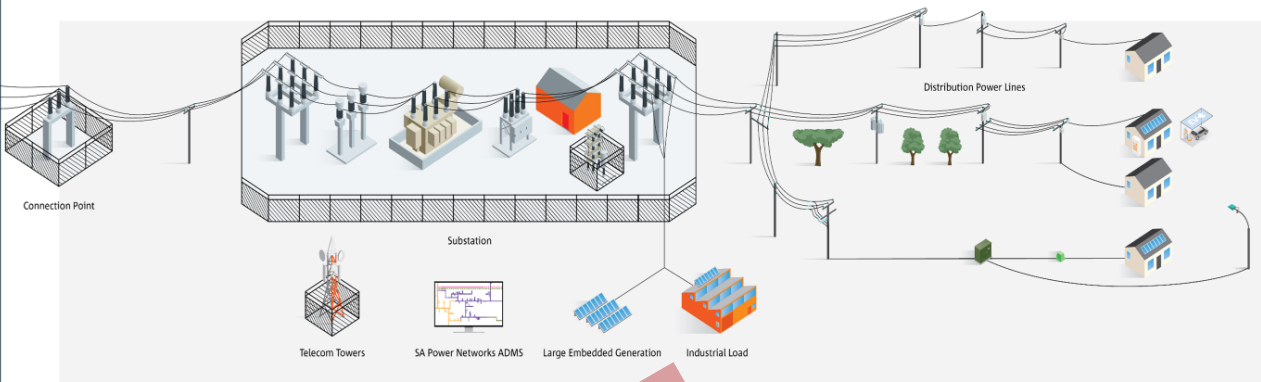


COMMERCIAL

Continually enhance and safeguard the value we deliver to the community, our people and our owners



Our Network



Asset classification	Quantity
Underground cables (circuit km)	19,065
Poles	611,316
Overhead conductors (conductor km)	173,114
Transformers	76,857
SCADA network control and protection systems	6,367
Switchgear	8,227
Service lines	840,369

Key Challenges

Aging Infrastructure

Increasing & dynamic energy flows

Customers experience varied reliability across South Australia

Climate change increasing networks risk

Increasing volume of investment

Our Response

Increased renewal/ replacement expenditure driven by enhanced asset condition assessment and investment valuing

LV Network upgrades

Efficient targeted network upgrades, driven by enhanced risk vs cost assessment

Improved environmental and bushfire modelling

Long term resourcing strategy

Viability assessment of non-network solutions

Operational network enhancements

Backup generation capabilities improving resilience to high impact, low probability events

Targeted inspection program to identify and remediate risks

Strategic asset management efficiency enhancements

Deferral/ avoidance of network upgrades by harnessing customer flexibility

Investment in systems and processes to improve operational efficiency

Lifecycle asset management practices in place to continuously adapt to changing operating environment

Replacement Expenditure

CBD Reliability Improvement Program

Augex Safety

Augex Environment

Augex Strategic

Augex Capacity

CER integration

Maintain Underlying Reliability Program

Worst Served Customer Program

Network Resilience Mobile Generation

Bushfire Risk Management

Telco Systems

Cyber Security Refresh

Customer Connections

\$932m

\$36m

\$52m

\$9m

\$5m

\$173m

\$59m

\$71m

\$33m

\$8m

\$27m

\$8m

\$4m

\$691m

Bring the customer and stakeholder lens into each decision

01

One system

Line of sight from stakeholder needs to objectives, work and performance.

02

Comparable evidence

Value and risk models create a common basis for comparison and forecasting.

03

Transparent decisions

Judgement, deliverability, whole-of-life cost and consultation remain essential.

What would you like to understand, test or challenge?

