

AusNet

Electricity Transmission Network Asset Management Plan 2026

AMS 01-08-10

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1
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1. Asset Management Framework
2. Transmission Network Context
3. Key Risks & Issues
4. Focus Areas
5. Transmission Network Performance Targets
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Asset Management Framework

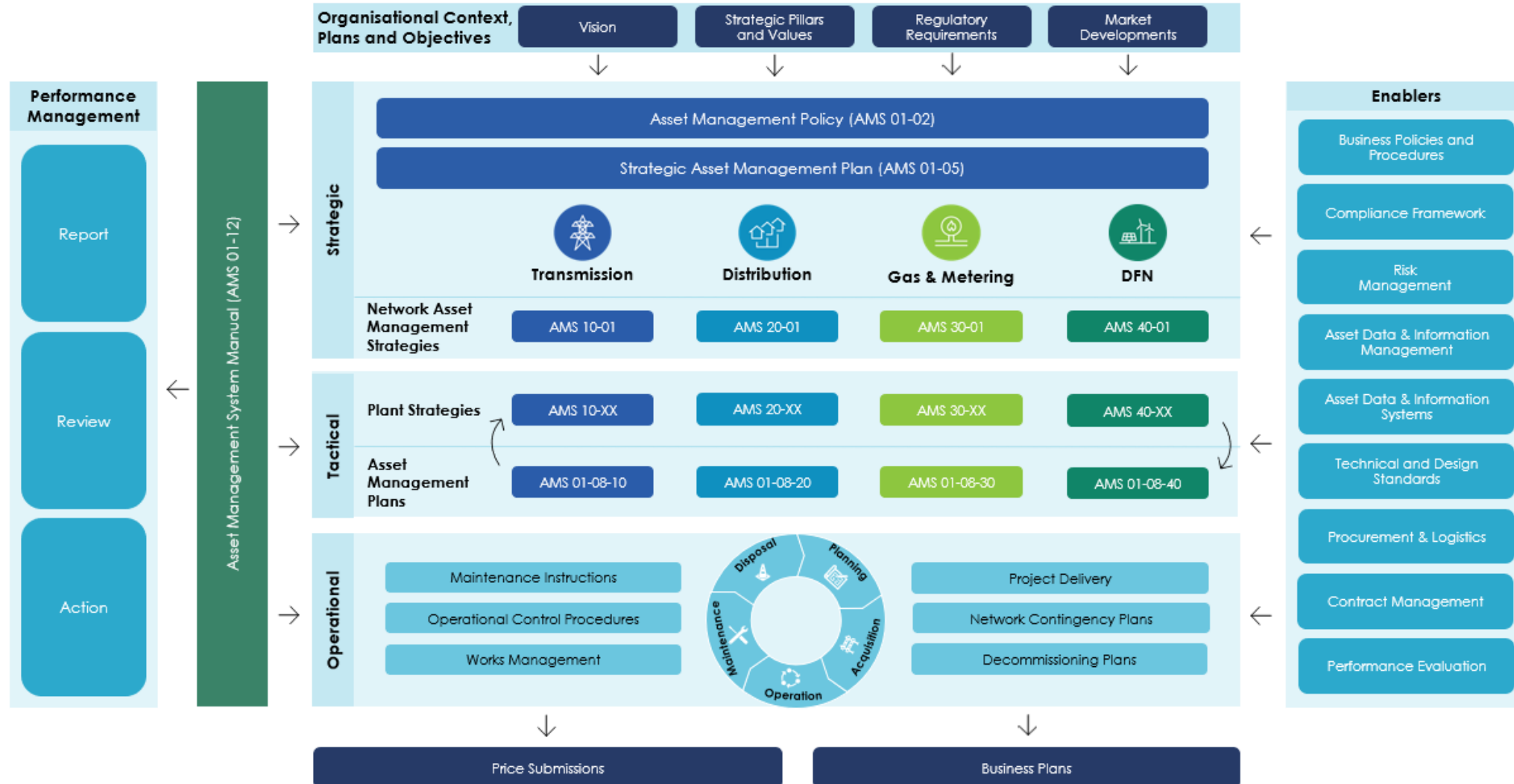
1.1 AusNet's Asset Management System guides robust investment decisions

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- AusNet's Asset Management System (AMS) is a structured set of processes and interactions designed to:

- plan and control asset-related activities to realise value from our assets; and
- fulfill the needs of the business as well as those of our customers and communities.

- Ausnet's Asset Management Framework offers a clear overview of the key artefacts and processes that make up Ausnet's AMS.



1.2 AusNet's AMS is ISO 55001 certified

- Ausnet's AMS is aligned with ISO 55001:2014 Asset management – Management systems – Requirements and is informed by the Global Forum on Maintenance & Asset Management (GFMAM) Asset Management Landscape v2.0.
- AusNet's ongoing commitment to maintain compliance with the ISO 55001 standard ensures an auditable asset management system facilitating customer's expectations to safely maintain the quality, reliability and security of supply in an economic manner.
- Ausnet's AMS ensures the alignment of Ausnet's asset management with Ausnet's corporate strategy and business plans and guides Ausnet's asset investment decisions.

AusNet's corporate strategy is...

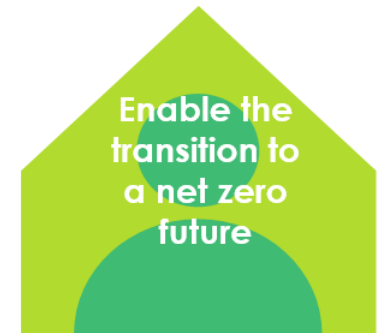
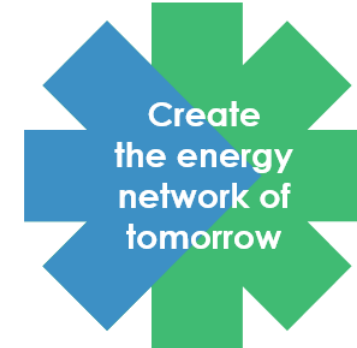
Our Purpose is to:

Connect communities with reliable, affordable and sustainable energy.

Our Vision is to be:

Trusted to bring the energy today and build a cleaner tomorrow.

Our three Strategic Pillars are:



Our Values:

We work safely

We're one team

We do what's right

We deliver

1.3 AusNet's Asset Management Objectives

- AusNet's Asset Management Policy (AMS 01-02) and Strategic Asset Management Plan (SAMP) (AMS 01-05) set the foundation for all asset management decisions. The Policy summarises AusNet's fundamental asset management principles and the SAMP outlines the asset management objectives (see below) developed to support the successful delivery of AusNet's purpose.
- The SAMP is informed by the Policy and business plans and informs Ausnet's lines of business Asset Management Strategies and other downstream documents, processes and systems (including the Electricity Transmission Asset Management Strategy).

<u>Purpose:</u> Connect communities with reliable, affordable and sustainable energy							
<u>Vision:</u> Trusted to bring the energy today and build a cleaner tomorrow							
Strategic Pillars						Ambition	
Safely deliver our customer's energy needs today				Create the energy network of tomorrow	Enable the transition to a net zero future	Be a leader in asset management practice	
Asset Management Objectives						Enabling AMOs	
Safety: Minimise risk to our people, contractors, customers and communities AFAP across our networks	Reliability: Meet the reliability expectations of our customers and communities, and meet our reliability targets	Resilience: Improve the resilience of our network to adapt to a changing climate and energy system environment	Compliance: Comply with all legislation, regulations, relevant standards and industry codes	Planning and decision-making: Deliver valued planning and network outcomes through optimising asset lifecycle management	Sustainability: Build stakeholder trust and deliver social value. Reduce our environmental impact. Operate efficiently to sustain financial value creation.	Competency and capability: Develop asset management capability and competency in the organisation	Continuous improvement: Continually improve asset management maturity for effective delivery of services

1.4 Transmission network objectives

- The Asset Management Objectives (AMOs) are detailed in AusNet's SAMP (AMS 01-05).
- Informed by AusNet's AMOs, Transmission network objectives and performance measures have been developed which translate the AMOs to the specific requirements of the Transmission network*
- These network objectives guide the decisions made for regulated transmission assets across the asset lifecycle.

ASSET MANAGEMENT OBJECTIVES	TRANSMISSION NETWORK OBJECTIVES	PERFORMANCE MEASURES
Safety	Minimise risk across our network	• Acceptance of ESMS by Energy Safe Victoria • Formal safety assessments in ESMS reviewed annually • Effectiveness of ESMS confirmed by SAMC annual review • Asset management processes applied to security assets • Network equipment with a declared rating
Reliability	Meet reliability targets in a changing environment	• STPIS Service Component (unplanned) revenue
Resilience	Improve network resilience through appropriate planning	• Critical assets identified and failure response plans documented • Network Contingency Plan updated
Compliance	Monitor and meet our key compliance obligations	• Zero breaches of statutory asset and safety obligations • Information directions responded to on time • Clear visibility of compliance obligations status
Planning and decision-making	Advocate for Victoria's energy network of the future	• A right-sized transmission network to facilitate Victoria's energy transition to renewables
Sustainability	Enhance work practices and processes for delivery	• 3D design standards established • Project delivery model review completed
Competency and Capability	Uplift asset management capability	• Agreed design standards are published • Roadmap developed for reinstating key asset management documentation
Continuous Improvement	Improve maintenance effectiveness	• Clear visibility of asset condition and defect identification • Effective review of maintenance outcomes leading to timely interventions

* see AMS 10-01 (Electricity Transmission Asset Management Strategy).

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Transmission Network Context

2.1 Victoria's transmission network is ageing and facing transformational change

- Victoria's transmission network is at a turning point. After decades of low and stable costs, the network is facing a period of significant uplift—driven by ageing assets, increasing operational complexity, and broader system transformation and growth.
- Our network is now operating close to its technical limits and is significantly more complex to manage.
- The network requires substantial asset replacement investment:
 - to maintain safety and reliability;
 - meet the needs of new renewable generation; and
 - enable the value of broader transmission investments.

A changing network:

1

Victoria's network is ageing – replacement of highly critical assets

2

Increasingly challenging operating conditions – investment to address complex operating environment

3

External factors which require mitigation or remediation (e.g. security threats)

2.2 Victoria's transmission network is becoming more complex to operate and more challenging to protect

More complex and demanding to operate



More variable generation - Shift from coal to renewables makes the system more volatile, requiring tighter real-time coordination and more responsive network switching.



New load extremes - Electrification is driving record peak demand, while rooftop solar is lowering minimum demand – requiring AusNet to manage both by reconfiguring the network and implementing load shedding or solar generation reduction.



Rising Outage Demand - More connections and upgrades are driving a 25% year-on-year increase in planned outages.



Fragmented control - Victoria's unique contestability regime means that there is no single network operator with visibility and control that can effectively co-ordinate with AEMO during outages and emergencies.

**73%
increase in
circuit
breaker
operations
since 2020**

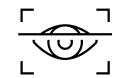
More challenging to protect from external threats



Extreme wind events – changing weather patterns are increasing the risk to our transmission towers, increasing reliability risk to our network, which was built to older standards.



Land use & low-clearance spans – Energy Safe's low-span directions and our ESMS obligations mean we must invest to raise low spans and strengthen controls (signage/permissions) so landholders—especially farmers with larger tractors—aren't put at risk under lines



Security threats - Malicious attacks and cyber intrusions pose growing risks to grid stability. Critical infrastructure status drives enhanced obligations and investment in resilience, monitoring, and incident response

2.3 Our asset management decisions are informed by internal factors



Network and Assets

- Ongoing transformation of the network due to ageing infrastructure, increasing operational complexity, and overall system growth.
- Heightened reliance on condition-based and risk-based approaches for asset management decision-making.
- Greater utilisation of advanced analytics to guide and optimise asset planning and investment choices.
- Programmed safety enhancements, such as low spans, and resilience evaluations to guide and shape decisions
- Enhanced focus on investigations and root cause analysis to inform asset strategies and improve outcomes.



Organisational Structure

- Line of Business structure supports dedicated resources and attention directed toward achieving Transmission objectives.
- Creation of safety and compliance departments that support Transmission and encourage integrated, cross-functional initiatives to strengthen safety and compliance culture and promote best practices across the organisation.



Data and information

- Centralised data storage delivering benefits to improve asset information access and performance
- Growing emphasis on advanced digitisation and data quality initiatives to enable more robust and actionable analytics.
- Active Data Uplift Initiative focused on elevating asset data standards, driving more informed and effective asset management decisions.

2.4 Our asset management decisions are informed by external factors



Changing use of networks

- Increasing large network upgrades and interconnections (AEMO Integrated System Plan, VicGrid Victorian Transmission Plan)
- Network augmentation through WRL
- Large scale battery storage gaining attention
- Solar and wind generation is changing risk profile of network
- Victorian grid strength declining and constraints increasing
- Changing daily demand profiles and reverse power flows for terminal stations
- Maintenance outage windows shrinking
- Voltage control during low demand periods



Changing energy environment

- Closure of large baseload coal generators forecasted
- Transition to renewables / "low emissions"
- Widespread penetration of rooftop solar photovoltaic (PV)
- Significant complex connection upgrades and augmentations to support growing loads (e.g. data centres)
- Increasing number of small-scale generators distributed throughout the network (originally designed to serve small regional loads, required to become pathways for new large scale renewable generation)
- Minimum demand during summer continuing to drop
- Increasing network access constraints, limiting outage ability



Economic Regulations

- TRR 2027-32 submission due Oct 2025
- Longer periods required for forward planning
- Longer consultation periods for price reviews
- RIT-T for REPEX T requires earlier planning and initiation
- Additional National Energy Objective to reduce greenhouse emissions



Safety Regulations

- Energy Safe increasing monitoring/auditing
- Energy Safe investigations into network failures
- Increased directions and reporting expectations
- Business risk due to cost recovery processes
- New Electricity Safety Management Scheme case



Customers and Landholders

- Pro-active customer engagement through customer forums
- Pro-active engagement of landholders exposed to increasing construction activities

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Key Risks & Issues

3.1 Asset-related risks are identified and managed through AusNet’s Risk Management Framework aligned with ISO 31000

- AusNet operates a corporate Risk Management Framework based on ISO 31000 Risk management – Guidelines to assess a range of business, operational and asset related risks*.
- Key transmission network asset-related risks are registered using AusNet’s risk management information system, Enablon** and summarised in this table.
- Enablon provides the monitoring and reporting capability to ensure these risks are managed in accordance with their priority level.
- These risks are regularly reviewed and the actions required to manage them are implemented in specified timeframes.
- Safety risks are also evaluated during ESMS development and updates, as detailed in ESMS 10-01.

RISK REF #	RISK TITLE	ORGANISATIONAL UNIT	RESIDUAL RISK RATING	TARGET RISK RATING
RSK.58	Significant injury or fatality	HSEQ & Compliance	B	C
RSK.1047	Electrocution	HSEQ & Compliance	B	C
RSK.1050	Transport Incident	HSEQ & Compliance	B	C
RSK.1049	Explosive Asset Failure	HSEQ & Compliance	C	C
RSK.1789	Incorrect protection and control settings	Transmission	C	D
RSK.1790	Failure of ground wire in terminal stations	Transmission	C	D
RSK.1791	Hazards with aerial inspection of lines	Transmission	C	D
RSK.1792	Failure of conductors and insulators	Transmission	C	C
RSK.1793	Failure and/or structure collapse	Transmission	C	C

NB: Bushfire risk primarily affects the distribution network, however it is also included in AusNet’s risk assessments for the Transmission network, particularly in relation to vegetation management.

3.2 As the energy transition gathers pace, Victoria's transmission network faces an increasingly complex raft of issues

Planning and Operational Challenges

- Demand patterns are evolving, with higher maximum and lower minimum demands challenging the operation of the network, and the balance of supply and demand
- Restrictions on planned maintenance due to system security and system strength challenges; level of network constraint is limiting ability to take outages to maintain and replace assets.
- Voltage management as the demand profile changes

- More variable generation - Shift from coal to renewables makes the system more volatile, requiring tighter real-time coordination and more responsive network switching.
- Significant connection upgrades and augmentations are required to support growing loads from sectors such as data centres, as well as renewable generation to supply these loads.
- Increased need for live line working when replacing Lines/towers/groundwire/insulator while keeping full supply

Critical Asset Failure

- Risk of explosive asset failure. Must be assessed and managed during replacement projects where many workers are present.
- Risk of failure of high-value, very long lead-time assets (e.g. transformers >3 years, increasing spares required)

- Extreme wind events are increasing the risk to our transmission towers, increasing reliability risk to our network, which was built to older standards.
- high corrosivity area increase risk of transmission line failures, requiring Increased inspection cadence and timely asset replacements.
- Telecoms and protection system issues - Send/receive channel asymmetry and earthing/tripping comms causing primary protection maloperation or inoperability.

Condition Assessment

- Transition from highly manual maintenance data collection approach to a digitised system
- Management of storage, retrieval, and use of large datasets, including photographic and video imagery, to enhance evidence-based assessments.

- Streamline engineering assessments for transmission towers by leveraging drone inspections, tower modelling, material forensics feedback and standardised corrosion models, to enhancing end-of-life condition evaluations
- Automate risk and performance assessments through integrated asset systems, digitised workflows, and algorithmic condition scoring to improve reliability and support consistent, data-driven decision-making.

Generators & Load Closures

- Increasing volume of enquiries and applications for new load connections particularly in metro stations
- Renewable generation and new interconnectors changing power flows and requiring augmentation of the network
- Growing complexity in protection and control schemes is driving advanced comms needs and just-in-time replacement of the comms network with new technology to support rising connection volumes.

- Risk of Alcoa Portland smelter closure impacting local voltage control and minimum demand levels
- Uncertain timing of future generator retirements introducing volatility in network service requirements and complicating long-term system planning.
- Declining reliability of coal-fired generation is increasing operational risk and reducing system resilience, particularly during peak demand periods
- Imminent closures of coal power generation with potential for disorderly exits

Changing Regulations

- New VIC planning framework legislated; new planner appointed (VicGrid)
- Vic access control over connections inside & outside REZs
- Market Impact Incentive scheme removed; to be replaced
- New transitional security framework in implementation, due EOY
- New system strength framework obligations due EOY

Major Projects

- Redevelopment projects at MLTS, SYTS and SMTS which are approaching end of asset life and are critical to the operation of the 500 kV network
- Need for major transmission line projects including tower replacements on the HYTS to APD 500 kV lines

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Focus Areas

4. We are undertaking initiatives to manage key risks and issues

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Network Performance & Resilience

- Develop tower resilience program considering extreme weather events resulting in tower collapse
- Extreme weather events managed through Network Resilience and Emergency Response plans
- Network spares & contingency plans for key assets

Network Safety

- Meeting Energy Safe expectations
- Landowner safety awareness
- Formal Safety Assessments across the asset classes As Far As Practicable
- Electricity Safety Management Scheme update
- Rectifying low spans: raising conductors on highest-risk spans below
- Targeted asset replacement programs based on condition and risk

Asset Info & Systems

- Uplift ratings management across our systems
- Digitise collected data and improve data control, quality (e.g. remove paper workflows) and decision making (e.g. incident response)
- Simplify and automate info. access
- Controlled and shared asset ratings data amongst stakeholders
- Improved support services (data systems and processes)

Network Planning

- Uplift joint planning processes across Victoria and the NEM with AEMO/ VicGrid and the Distribution Businesses
- Developing internal planning capabilities to support Victoria's changing network need
- Align asset management strategies to enhance data quality for network planning, including maintaining up-to-date station output ratings

Future Network

- Align repex plans to changing network need associated with VTP and expected demand growth
- Improve shared network data, quality and governance processes/tools amongst network users and planners
- Align tactical and operational asset management practices with stakeholder's preferences

Assets Performance

- Increased asset works to support better understanding of asset health and refurbishment to restore condition
- Improve asset risk modelling through automation and advanced analytics.
- Standardising Formal Safety Assessments to improve management of controls

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Transmission Network Performance Targets

5. Network Performance Targets CY2026

These are key metrics on the Transmission's Network Performance for our users and customers:

- Maintaining the network's reliability, assessed against target level of unplanned outages
- Minimising the impact of our planned network outages on wholesale market prices
- Identifying and delivering 'low-cost' beneficial capability upgrades to the network

Electricity Transmission Network Objectives	Measure	Regulatory Targets
Maintain a reliable and secure network	STPIS – Service Component (Unplanned) (From 1 April 2022 – new TRR)	Lines (fault, forced) Transformer (fault, forced) Reactive plant (fault, forced) Loss of supply event (>0.05, >0.30) Average outage duration 17.09%, 10.14% 11.97%, 11.97% 20.67%, 27.78% 1, 1 / year 45.6 mins
	STPIS – Market Impact Parameter Component ¹ (planned & unplanned) (From 1 April 2022 – new TRR)	≤ 1,525 Dispatch intervals (excl. customer-initiated outages) after the AER agreed to a more pragmatic interpretation of the scheme
	STPIS – Network Capability Component (From 1 April 2022 to 31 March 2027)	Identified NCC project completed last year.

¹ Market Impact Component (MIC) is suspended from RY28–32 under STPIS v6, and only Service Component and Network Capability Component remain

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Overview of Major Programs

6. Ausnet's Major Programs CY2026 comprises projects aligned to asset management and network objectives

- AusNet has developed a suite of projects for its Major Programs CY2026 that directly linked to asset management objectives and risk controls as set out in the SAMP and AMS 10-01¹
- These projects are the key short – medium term asset interventions to ensure our network is safe, reliable, resilient, compliant and fit for purpose for the evolving operating environment
- AusNet applies relevant AER guidelines, and our decision method follows a five-step process as per AMS 10-24 Asset Renewal Planning Guide - baseline risk per asset class, options analysis, cost-benefit assessment, preferred option, and delivery

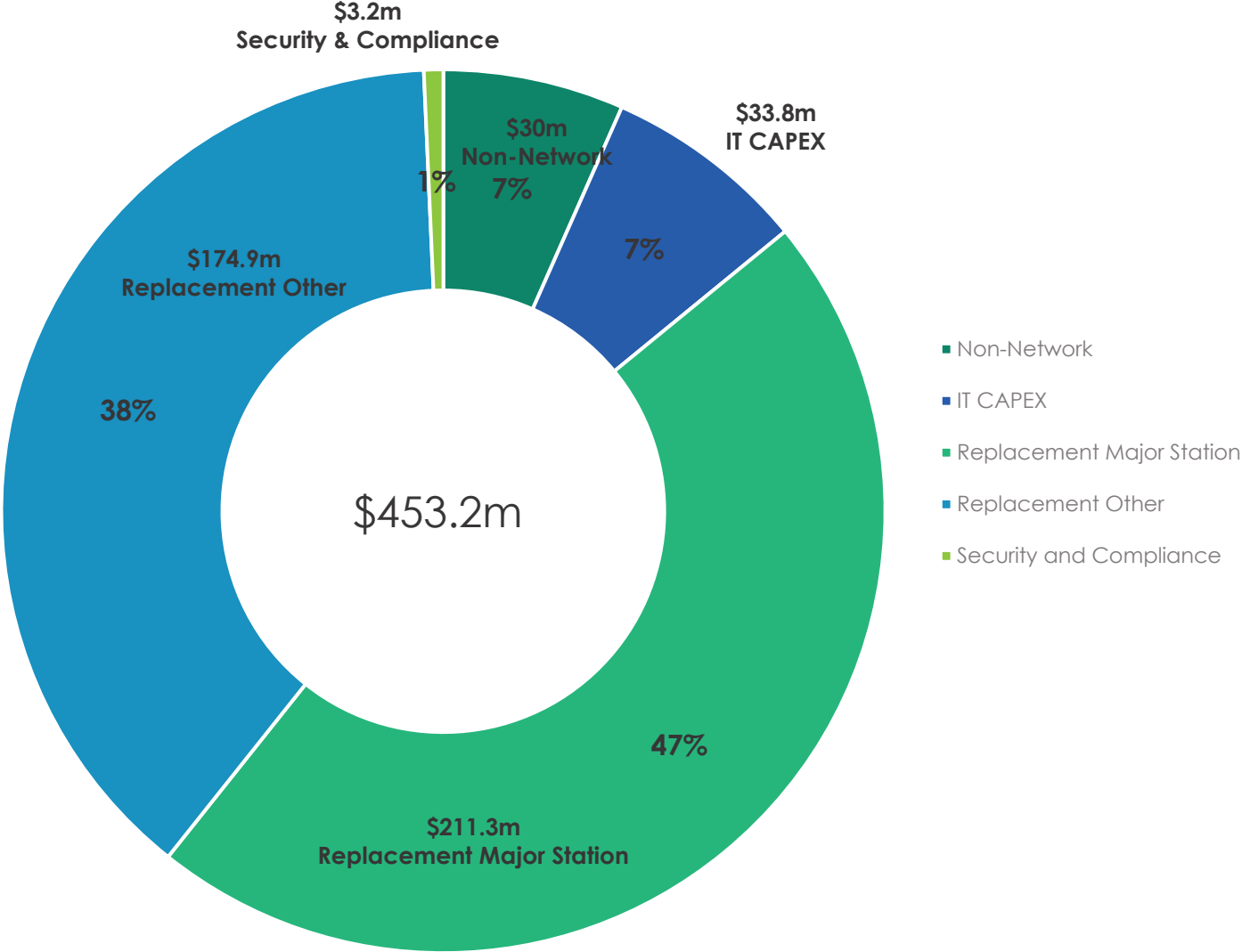
Asset management objectives	Transmission network objectives	Project example
Safety	Minimise risk across our network	- Tower Replacement and Strengthening - Insulator and Ground wire replacements program
Resilience	Improve network resilience through appropriate planning	- Major Station Rebuilds: - progress MLTS, RCTS, SHTS, ERTS, commence SYTS, SMTS, KTS - Targeted tower strengthening
Reliability	Meet reliability targets in a changing environment	Priority preventative and corrective maintenance programs on critical elements such as conductor replacement, insulators and secondary protection
Compliance	Monitor and meet our key compliance obligations	- Rectification of Transmission Line Low Spans - Tower Strengthening Resilience Program
Planning	Advocate for Victoria's energy network of the future	- North-West Comms Loop replacement - South-West Comms Loop replacement
Sustainability	Enhance work practices and processes for delivery	- Uplifting SMTS Training Facility for lineworkers - Rezoning terminals stations to standardise permitting where possible - Developing live line practices to overcome outage restrictions
Competence & capability	Uplift asset management capability	- Enhancement of company-wide processes (e. g. Management of Technical Change, Failure Investigation) - Alignment with ISO 55001:2024 clauses
Continuous improvement	Improve maintenance effectiveness	Smart Aerial Inspection Processing: Safe, effective and innovative inspections. Create a new baseline for conductor replacements

¹ For example, the tower strengthening program addresses resilience and safety objectives, informed by recent extreme weather events and risk assessments.

07

Planned Expenditure

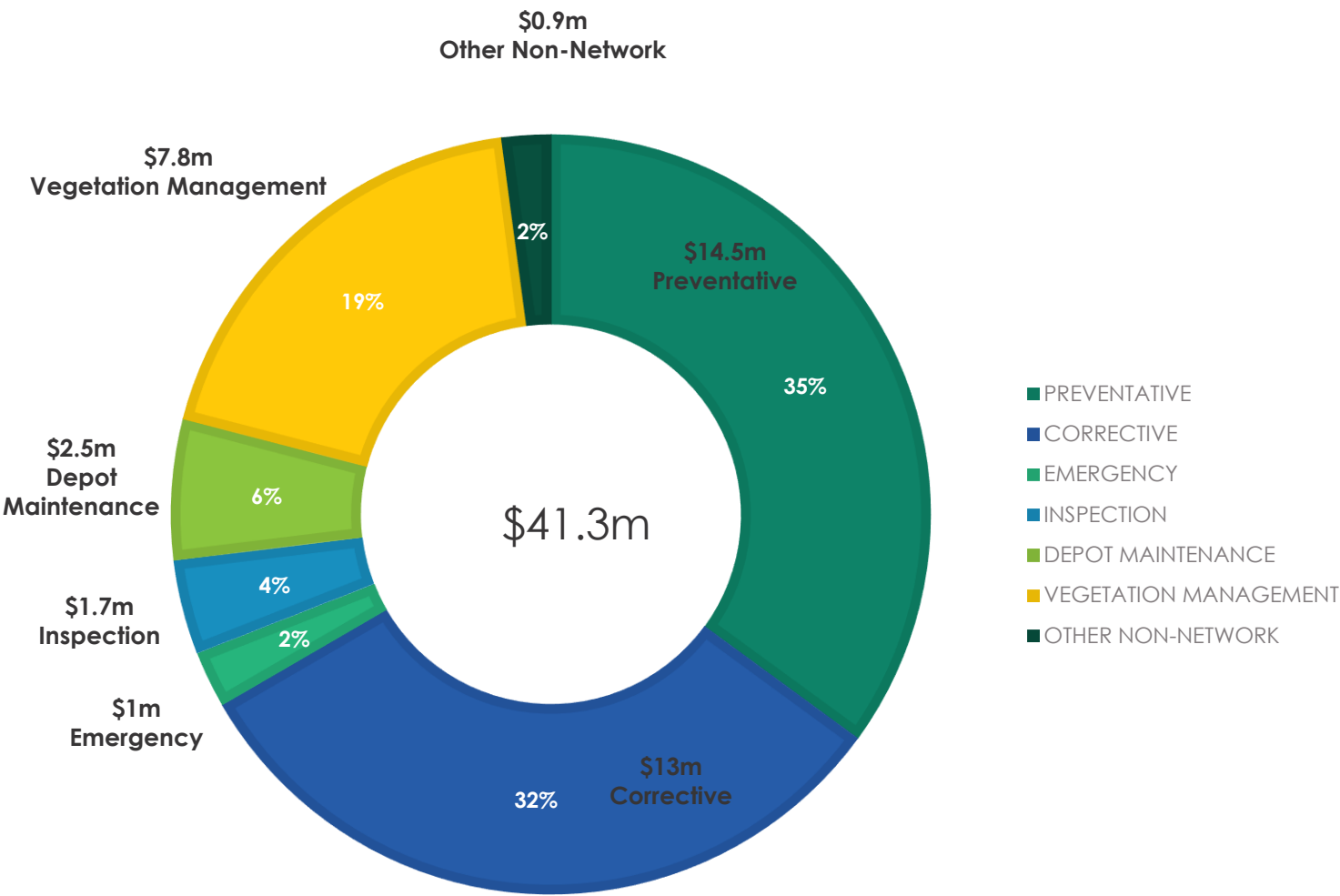
7.1. 2026 CAPEX Forecast



Project ID	Key Replacement Major Station
TD-0006168	Moorabool Terminal Station Circuit Breaker Replacement
TD-0008004	RCTS Transformer and Switchgear Replacement
TD-0008023	LYPS and HWTS 500kV Circuit Breaker Replacement Stage 2
TD-0015755	MLTS Reactor Replacement
TD-0014633	SMTS H Tx Replacement
TD-0007772	TSTS Transformer and 66kV Circuit Breaker Replacement
TD-0008033	SYTS 500kV GIS Replacement
TD-0008025	SMTS 500kV GIS Replacement
TD-0007996	SHTS B2 and B3 Transformer Replacement
TD-0003597	TTS 66kV Circuit Breaker Replacement
TD-0003454	KTS A4 500/220kV Transformer Replacement

Project ID	Key Replacement Other
TD-0014597	Transmission Insulator Replacement
TD-0012063	T624 to T628B HYTS-APD tower replacement (Stage 1)
TD-0014572	Tranche1 Rectification Low Spans, TL
TD-0009897	North East Network Comms Replacement
TD-0010117	South West Network Comms Replacement
TD-0013738	ROTS 500KV GIL Replacement
TD-0013827	VNSC & Comms Sites Battery Replacement
TD-0013861	North West SDH Comms Replacement
TD-0014486	Phasor Measurement Units Project 2024
TD-0009959	DC Batteries & Supply System Repl.
TD-0014579	HYTS-APD tower replacement project (Stage 2)
TD-0014429	HWTS A3 220KV Bushing Replacement
110AM-P	AEMO PMU Installations phase 2
TD-0011622	Critical Prot Replacement - Western Reg

7.2. 2026 OPEX Program

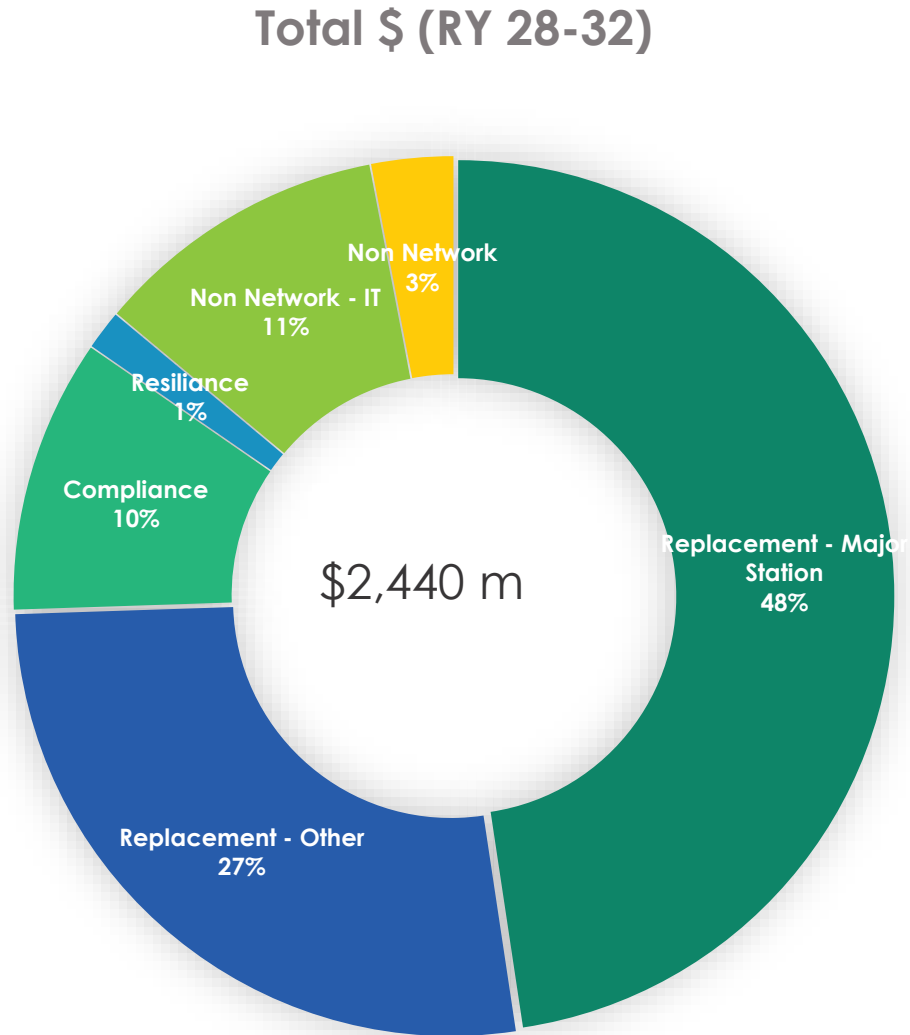


Step changes for

- New overall OPEX value to be approx. \$41.3M
- Increase to allow for depot maintenance
- Increase to allow for emergency

CY26 OPEX figures are being finalised at time of publication, but no material changes are expected

7.3. 2027-2032 TRR 5 yr CAPEX Program



- Major station projects (\$1,165.5 million)
- Asset replacement programs (\$655.1 million)
- Compliance and resilience (\$282.7 million)
- ICT and digital infrastructure (\$266.1 million)
- Non-network capex (\$73.8 million)

08

Document Control

8. Version Control & Approvals

Version	Status	Description	Author(s)	Approver	Approval Date
1	Draft	Previously included in AMS 01-08 Initial draft, now split by network	Stuart Dick Mathieu Durox	Liz Ryan	01/10/2025