

# Regulated Energy Networks Asset Management Plan 2019/20 to 2023/24 AMS 01-08



**Final  
PUBLIC**

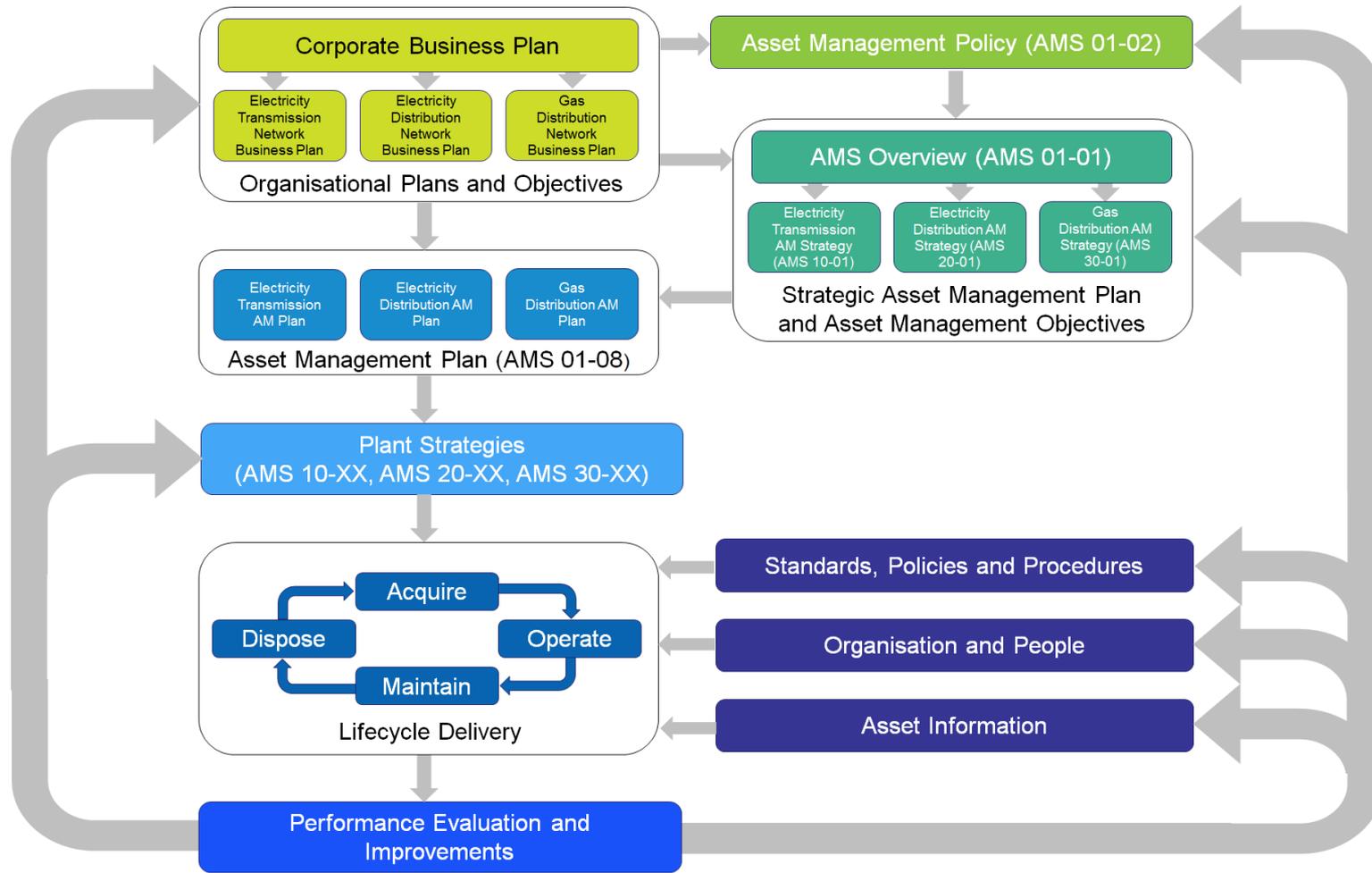
25 March 2019

# Contents



- ▶ **Asset Management System**
- ▶ **Key Factors, Risks and Focus Areas**
- ▶ **Network Status Summary**
- ▶ **Asset Management Objectives**
- ▶ **Performance Targets**
- ▶ **Capex**
- ▶ **Electricity Distribution AMP**
- ▶ **Gas Distribution AMP**
- ▶ **Electricity Transmission AMP**
- ▶ **Appendices**
  - › Asset Management Policy
  - › IT Plan

# Asset Management System



The documents shown in this diagram are available on ECM and Sharepoint

# Key Factors - Internal



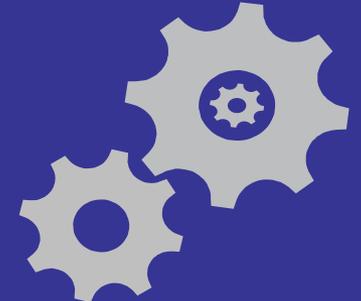
## Benchmarking

- Electricity distribution network is ranked 11<sup>th</sup> out of 13 distribution businesses
- Electricity transmission network is ranked 1<sup>st</sup> in OPFP
- Gas network 4<sup>th</sup> lowest Totex per customer in Australia



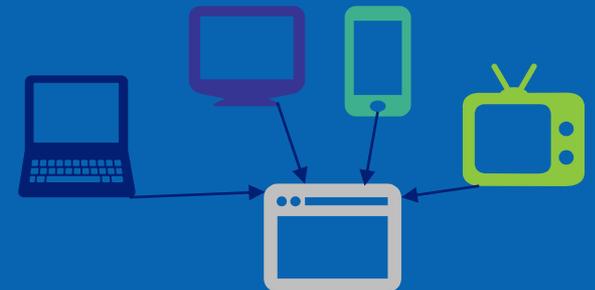
## Network Age & Condition

- Condition 5 asset replacements
- NDT and staking for distribution poles
- Gas LP mains replacement
- Major EHV asset replacements on 10 year horizon



## Data & Information

- Information Management Platform being developed
- Automation of operational processes during outage events
- Increasing demand on communications network
- Next Generation Business Focused Analytics – 12 use cases



# Key Factors - External

## Customers

- Cost sensitive
- Facilitate their energy choices
- Support safety programs
- Value of Customer Reliability has dropped
- Pro-active customer engagement



## New technologies

- Electric Vehicle take up forecasted to increase
- More efficient appliances leads to lower energy consumption
- Batteries and Solar PV becoming cheaper and more accessible



## Uncertain growth

- Minimum demand shifting to day time
- Peak demand shifting to evening
- Decreasing gas & electricity consumption per customer but increasing peak demand
- New customer connection volumes remain solid
- Some new households choosing to opt for all electricity



## Changing use of networks

- Large scale battery storage gaining attention
- Growth in DER leading to increased reverse flows
- Gas 2050 – Hydrogen future
- Solar & wind generation is changing risk profile of network



## Economic Regulations

- New CAPEX Incentive Scheme from 2018 for Gas
- Longer periods required for forward planning
- Longer consultation periods for price reviews
- Increased attention to non-network solutions; uncertain ownership
- RIT for REPEX T and D
- System strength and integrity
- Financial incentives encouraging DER take up



## Safety regulations

- Regulatory & technical hurdles to be overcome to meet REFCL obligations including ZSS rebuilds
- New F-factor scheme
- Impact of codified areas uncertain
- Business risk due to cost recovery processes
- Climate change leading to longer bushfire seasons, drought and increased storm activity



## Changing energy environment

- Forecasted Power Station closures
- Transition to renewables / “low emissions” to meet government commitments
- Depletion of gas reserves in the wholesale network requires investment in alternative fuels



# Status of Key Risks

## Safety

- REFCL's continue to be installed and will reduce bushfire risk
- Use of real time meter data for early detection of faults, reducing fire starts and electric shocks
- Equipment replacements based on condition and criticality
- Explosive failures have been added to the critical risk program
- Gas safety risks stable; controlled through delivery of mains replacement programs

## Failure to supply

- Summer preparedness program working with AEMO
- Minimise cancellation of planned outages
- Security of Transmission under threat from power station closure
- Value of unserved energy incorporated into Risk Based Asset Management decisions
- Major risks mitigated by spares & contingency plans for key assets
- Uncertain gas availability for gas power stations

## Network capacity

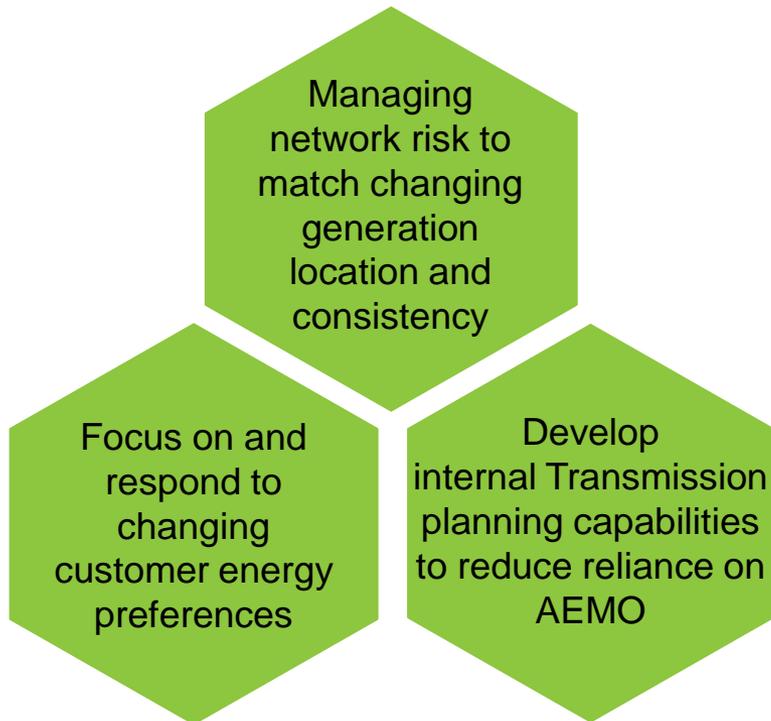
- Small gas network augmentation program will meet ongoing growth in gas demand
- Low growth in electricity demand provides adequate time to add capacity or engage demand side response
- Enhancing internal Transmission planning capabilities to reduce reliance on, and actively influence AEMO.

This Plan aims to maintain risk in line with AusNet Services' Risk Appetite Statement

# Key AM Focus Areas (1 of 2)



## Strategic focus areas



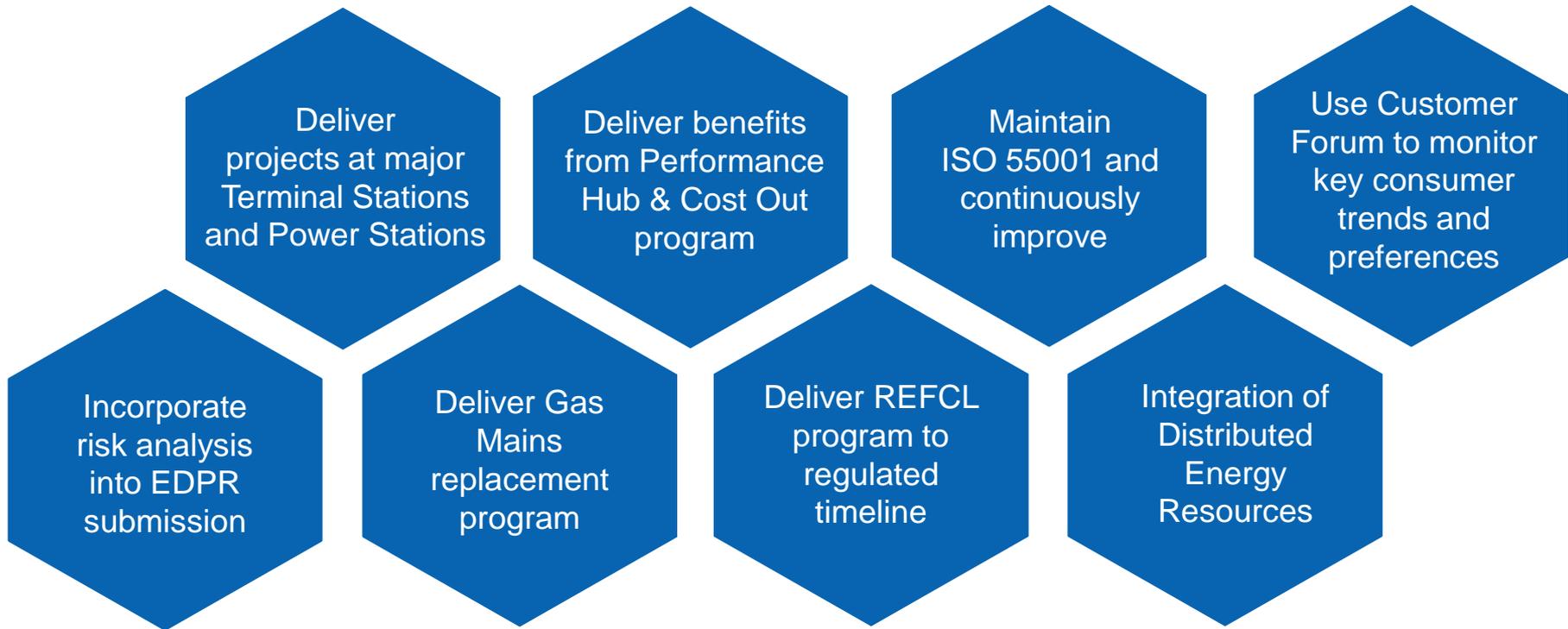
## Improvement focus areas



# Key AM Focus Areas (2 of 2)



## Tactical focus areas



# Network Status Summary



	Electricity Distribution		Electricity Transmission		Gas Distribution	
<b>Safety</b>		REFCL's and Smart Meter data used to improve safety		10 year project forecast proposed to managed C5 assets		Maintaining performance due to low pressure mains replacement
<b>Reliability</b>		Uncertain effects of REFCL operation on reliability		Major replacement projects target C5 assets		Improving performance due to low pressure mains replacement
<b>Security</b>		Demand growth and augmentation requirements being monitored		New generation introduces uncertainty in North-West loop		Secure by design
<b>Major CAPEX</b>		REFCL projects, Pole, Crossarm and Conductor Replacement		SVTS and WMTS redevelopments continuing		Customer connections, Mains replacement
<b>OPEX trend</b>		EDDAM program optimising OPEX, overspent due to IT systems		Underspent on corrective maintenance		EDDAM program extended to Gas assets, Underspent in all key variances
<b>Age &amp; Condition</b>		Assets ageing but condition stable, stations maintained		Assets ageing, condition to be monitored if replacement projects are deferred		Mains & city gates maintained, Transmission pipelines ageing but condition stable

KEY	Current status	Exceeding target	Meeting target	Not meeting target
	Expected change from current status			

# RES Strategic Priorities



Drive efficiency and effectiveness throughout the portfolio

Achieving or sustaining top quartile performance

Lead network transformation and embrace change

Safeguarding the future  
Strengthening the network  
Exploring alternative fuel options

Generate trust and respect with customers and partners

Improving customer focus and outcomes

---

We work safely

Ensure a relentless focus on safety

# Performance Targets (Primary Measures)



Network	Measure	Target
Gas	<b>Emergency Response Times</b> - Metro business hours - Metro after hours - Non-Metro all hours	<ul style="list-style-type: none"> <li>• 95%</li> <li>• 90%</li> <li>• 90%</li> </ul>
Gas	<b>Mains Leaks / km</b> <b>Service Leaks / 1000 Customers</b>	<ul style="list-style-type: none"> <li>• <math>\leq 0.095</math></li> <li>• <math>\leq 5.2</math></li> </ul>
Gas	<b>Leaks / 1000 customer connections</b>	<ul style="list-style-type: none"> <li>• <math>\leq 24</math></li> </ul>
Gas	<b>Low Pressure mains decommissioned</b> <b>Medium Pressure mains decommissioned</b>	<ul style="list-style-type: none"> <li>• <math>\geq 70</math> km</li> <li>• <math>\geq 7</math> km</li> </ul>
Gas	<b>Unplanned Supply Average Interruption Duration Index (USAIDI)</b>	<ul style="list-style-type: none"> <li>• 1 minute</li> </ul>
Electricity Distribution	<b>Network related electrical shock incidents reported to ESV</b>	<ul style="list-style-type: none"> <li>• &lt; 35 CY19 reducing to &lt; 31 CY23</li> </ul>
Electricity Distribution	<b>F-factor</b>	<ul style="list-style-type: none"> <li>• &lt;221 IRUs FY20 to FY24</li> </ul>
Electricity Distribution	<b>Fire Risk (Incidents)</b>	<ul style="list-style-type: none"> <li>• &lt; 6,500 FY20 to FY24</li> </ul>
Electricity Distribution	<b>Network reliability</b> - USAIDI (minutes) - USAIFI - MAIFI	<ul style="list-style-type: none"> <li>• <math>\leq 150.04</math> annually CY19 to CY23</li> <li>• <math>\leq 1.871</math> annually CY19 to CY23</li> <li>• <math>\leq 5.431</math> CY19 reducing to <math>\leq 5.415</math> CY23</li> </ul>
Electricity Transmission	<b>Incentive schemes</b> - STPIS - Service Component (unplanned) - STPIS – Market Impact Parameter Component (planned & unplanned)	<ul style="list-style-type: none"> <li>• <math>\geq</math> -\$1M (FY2018 to FY2022)</li> <li>• <math>\leq 1,245</math> Dispatch intervals (excl. customer initiated outages)</li> </ul>

# Capex Changes From Previous Plan



C.I.C

# Capital Expenditure Plan (see notes next page)



C.I.C

# Basis of Capital Plan

## ▶ Distribution

- › Based on Corporate Capex Schedule March 2019
- › REFCL expenditure is included in regulatory allowance
- › Excludes unregulated CAPEX

## ▶ Transmission

- › Based on Corporate Capex Schedule March 2019
- › Forecast assumes outperformance of regulatory allowance by ~ 8%
- › Excludes unregulated CAPEX

## ▶ Gas

- › Forecast assumes outperformance of regulatory allowance by ~ 15%

# ELECTRICITY DISTRIBUTION NETWORK



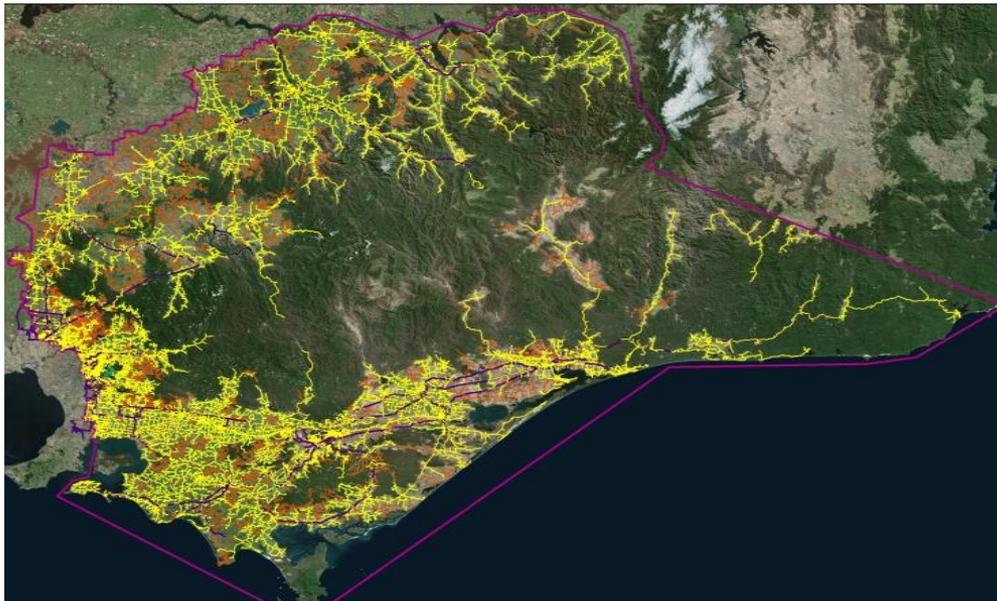
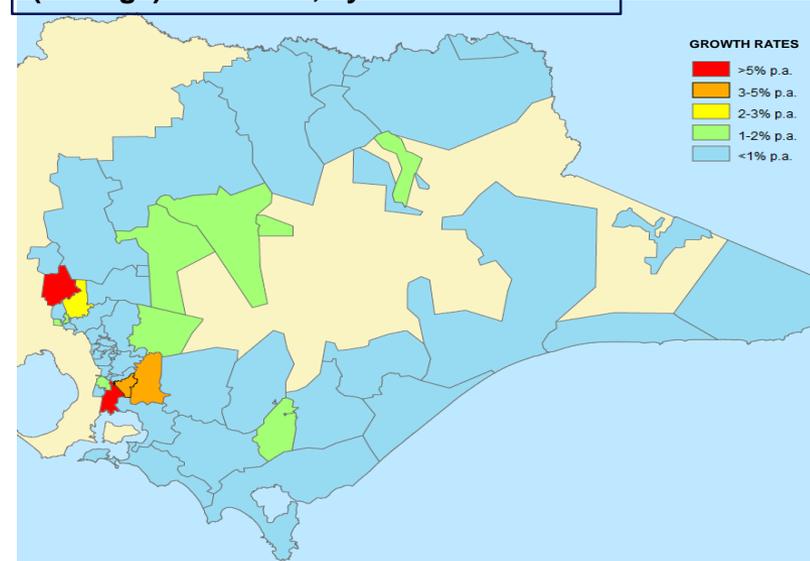
**Asset Management Plan 2019/20 to 2023/24**

# Electricity Distribution Network Overview

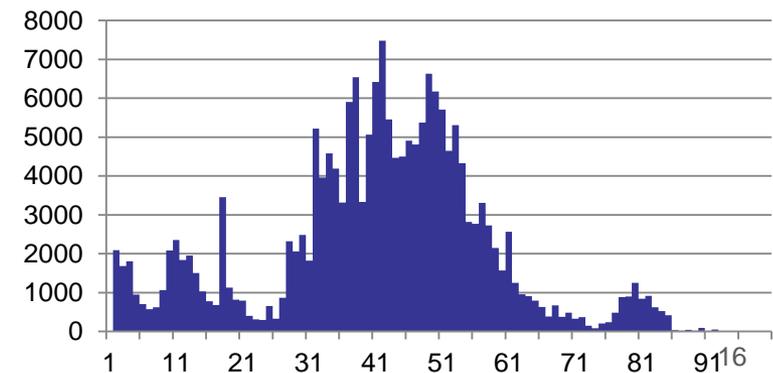


Asset	Number / Length
<b>Zone substations</b>	52
<b>Overhead conductor</b>	38,436 km
- 66 kV	- 2,624 km
- 22/11/6.6 kV	- 22,721 km
- SWER	- 6,430 km
- LV	- 6,661 km
<b>Underground cable</b>	
- 66/22/11 kV	- 2,050 km
- LV	- 4,218 km
<b>Distribution transformers</b>	60,913 units
<b>Poles</b>	312,290 units
<b>Customers connected</b>	737,042
- Overhead	- ~ 50%
- Underground	- ~ 50%

**Maximum demand growth per annum (average) 2016-2020, by zone substation**



**Timber pole age profile**





# Issues & risks – Distribution

## REFCL Program

- Aggressive roll-out program required to meet regulations
- Significant technical complexity & economic delivery risk
- Will reduce fire risk and increase safety
- (See next slide for further details)

## Bushfire strategy

- Use of consistent risk approach
- Adapt inspection and maintenance to address highest risk areas
- Review vegetation management approach
- Consider network redesign to eliminate high-risk spans

## Solar concentration

- Distribution network is not designed for large scale distributed energy
- Large & clustered solar systems likely to cause constraints, voltage and protection issues
- Uncertain impact of battery storage
- Opportunities for Demand Response

## Codified areas

- Covered or underground conductor required for new connections and replacements
- Affects 1,500 km of network
- Overlap with REFCL program creates balancing issues

## Benchmarking

- Distribution network is most expensive in Victoria and is under further pressure due to expenditure required for REFCLs and Poles
- High cost network will be a target for alternative technology suppliers

## Poles

- Poles & pole top structures are the largest capex program
- Pole replacements forecast to increase
- Alternative staking & rebutting techniques need further evaluation

## Regulations

- New F Factor scheme introduced placing greater weight on Codified Areas
- No appeal process after AER's final EDPR determination

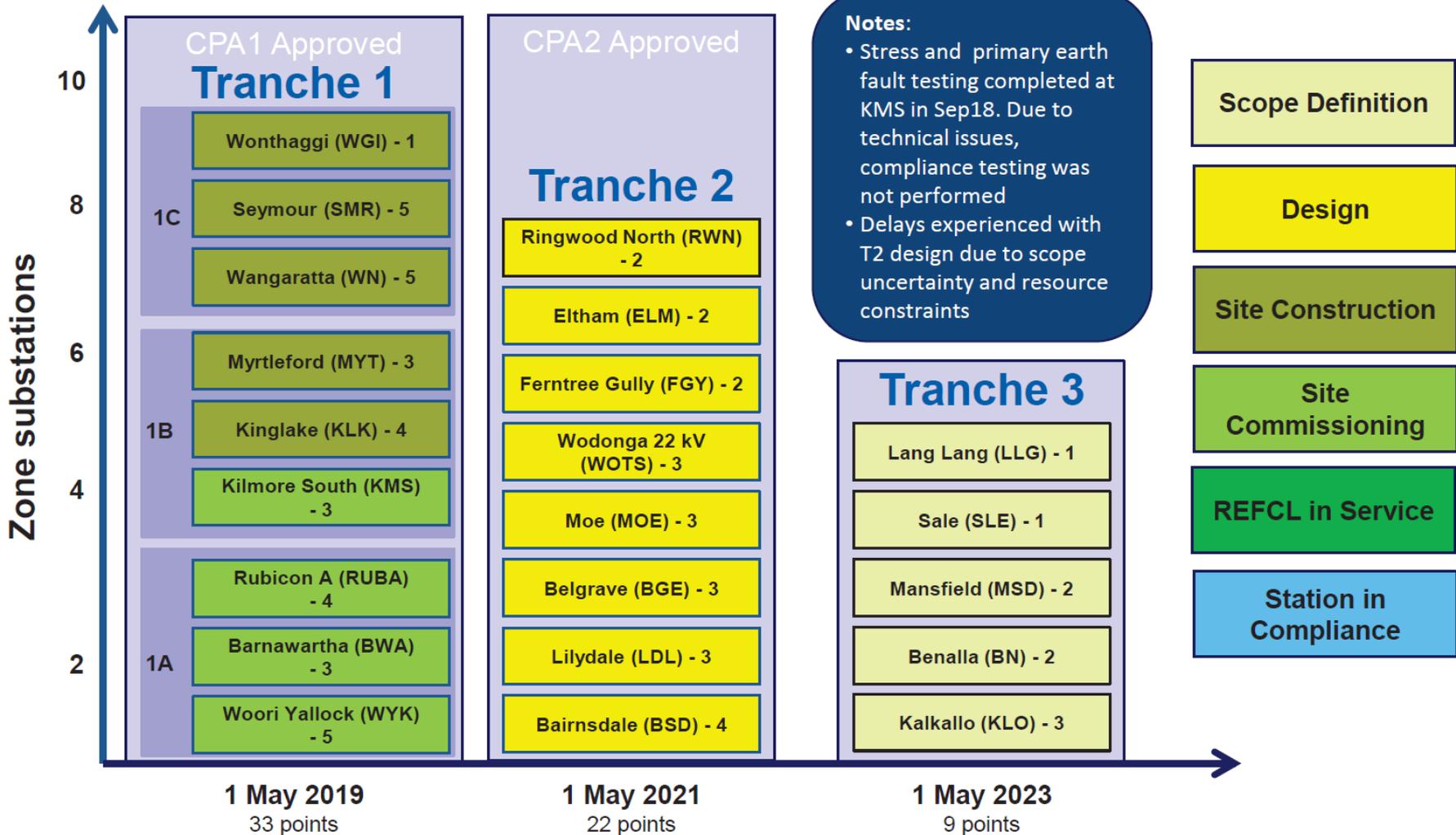
## Targeting expenditure

- Targeted approach to asset programs (risk based) is required to manage expenditure
- Will involve applying differing inspection and maintenance criteria based on asset risk

## Condition assessment

- Condition assessment techniques need development to prevent high consequence failures and replacement expenditure can be better targeted
- Target assets include oil-filled zone sub station plant

# REFCL Program



# Electricity Distribution Strategic Priorities



## RES Strategic Priorities

Achieving or sustaining top quartile performance

Safeguarding the future  
Strengthening the network  
Exploring alternative fuel options

Improving customer focus and outcomes

Ensure a relentless focus on safety

## Electricity Distribution Strategic Priorities

Focus on delivering value for customers by becoming top quartile in operating cost

Move from a statically managed network to a dynamically managed network

Improve our services for customers and become a trusted advisor in facilitating their energy choices

Deliver REFCL Program

# Electricity Distribution Network Objectives



## RES Strategic Priorities

Achieving or sustaining top quartile performance

Safeguarding the future  
Strengthening the network  
Exploring alternative fuel options

Improving customer focus and outcomes

Ensure a relentless focus on safety

## Electricity Distribution Network Objectives

Achieve top quartile operational efficiency

Improve efficiency of network investments  
Prepare for future network usage

Maintain long-term network reliability

Implement REFCLs within prescribed timeframes  
Reduce risks in highest risk areas

# Performance targets 2019



Electricity Distribution Network Objectives	Measure	Target
Reduce risks in highest bushfire risk areas	<b>Network related electrical shock incidents reported to ESV</b>	<ul style="list-style-type: none"> <li>• &lt; 35 CY19 reducing to &lt; 31 CY23</li> </ul>
	<b>F-factor</b>	<ul style="list-style-type: none"> <li>• &lt; 221.1 IRUs FY20 to FY24</li> </ul>
	<b>Fire Risk (Incidents)</b>	<ul style="list-style-type: none"> <li>• &lt; 6,500 FY20 to FY24</li> </ul>
Maintain long-term network reliability	<b>Network reliability</b> - USAIDI (minutes) - USAIFI (interruptions) - MAIFI (interruptions)	<ul style="list-style-type: none"> <li>• ≤ 150.04 annually CY19 to CY23</li> <li>• ≤ 1.871 annually CY19 to CY23</li> <li>• ≤ 5.431 CY19 reducing to ≤ 5.415 CY23</li> </ul>

# Planned expenditure programs - Distribution



C.I.C

# Capex Waterfall Chart



C.I.C

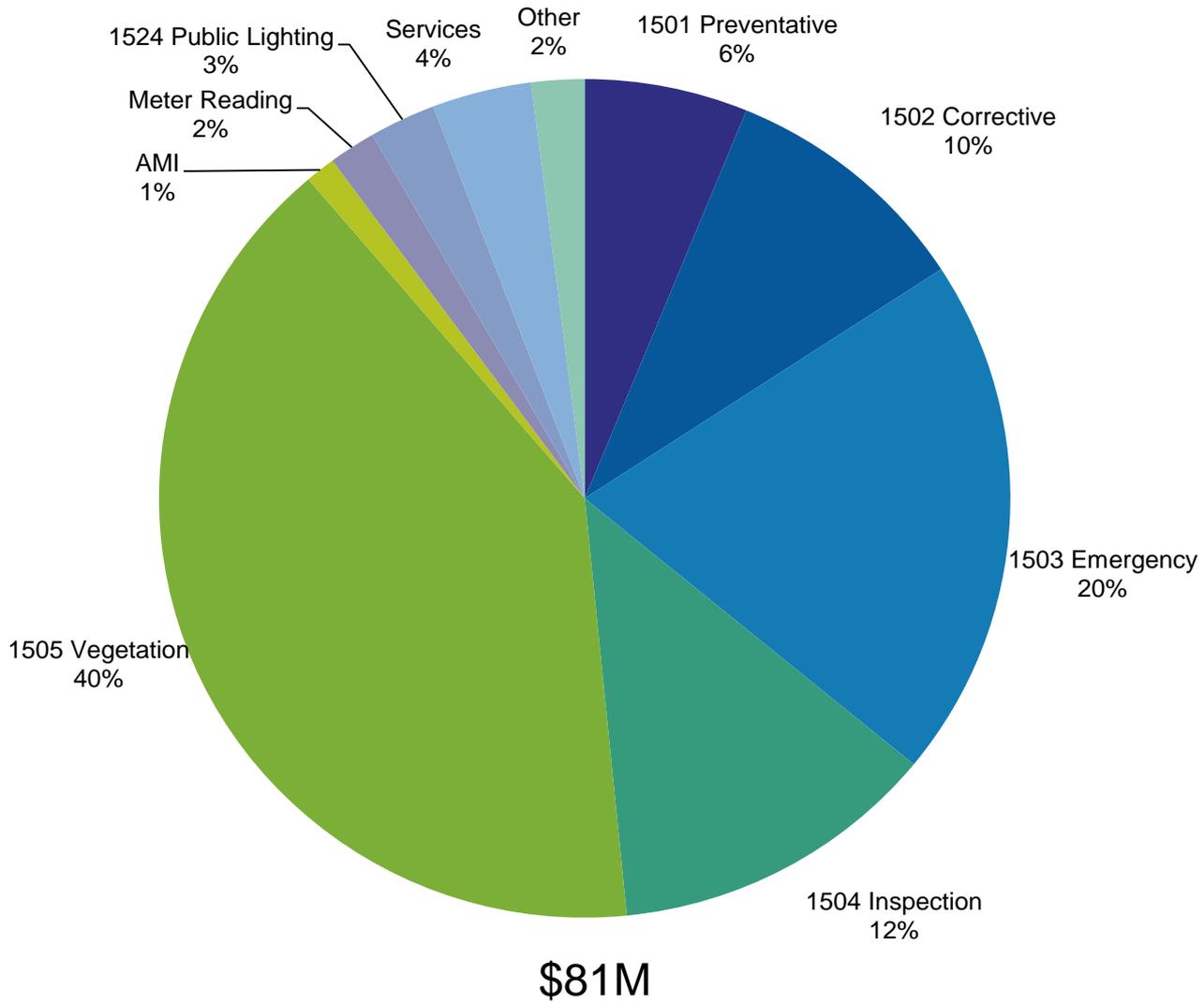
# Capital Expenditure Plan

## Electricity Distribution Capex Forecast



C.I.C

# Distribution Network Opex programs 2019/20

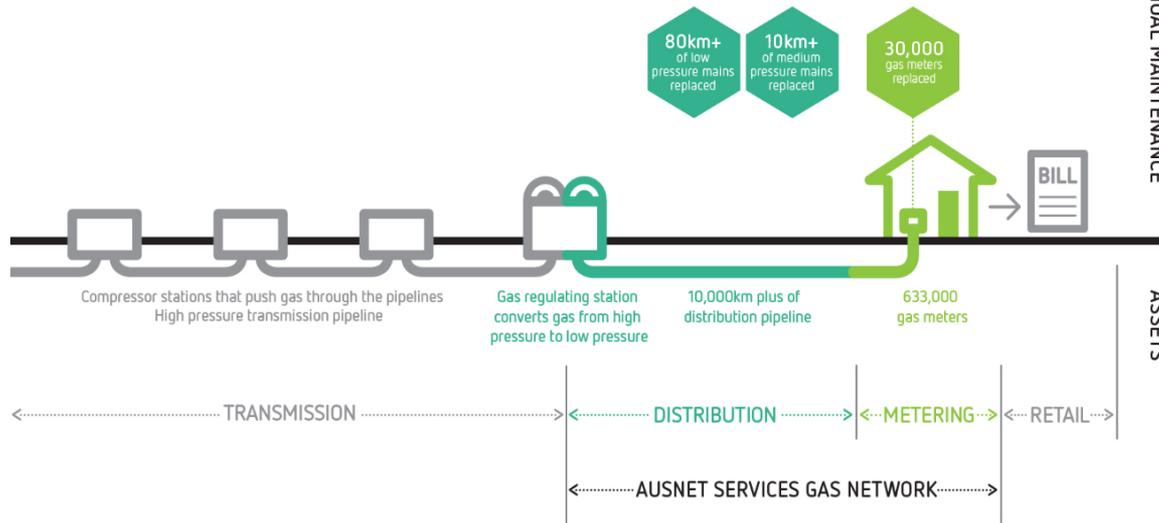


# **GAS DISTRIBUTION NETWORK**

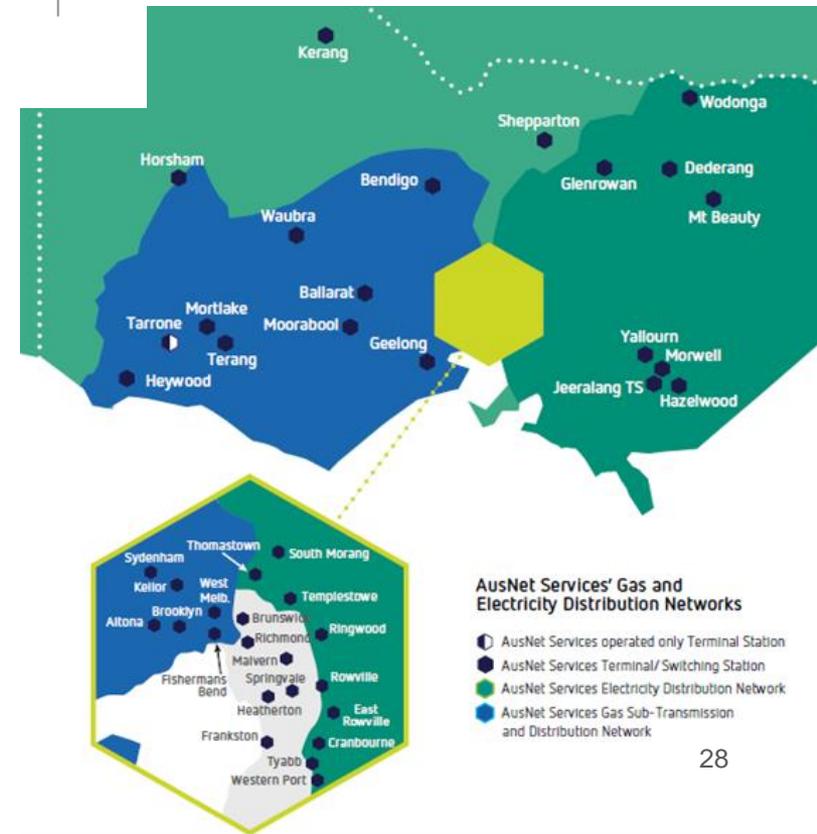
**Asset Management Plan 2019/20 to 2023/24**



# Gas Network Overview



Asset	Number / Length
<b>Transmission Pipelines</b>	183km
<b>Distribution Mains</b>	11,385km
– High Pressure	– 9,840km
– Medium Pressure (MP)	– 681km
– Low Pressure (LP)	– 680km
- Domestic Meters	665,085 units
- I&C Meters	16,832 units
<b>City Gates</b>	40 units
<b>Gas Pre Heaters</b>	40 units
<b>Field Regulators</b>	104 units
<b>District Regulators</b>	65 units
<b>SCADA (remote terminal units)</b>	196 units
<b>Cathodic Protection Units</b>	178 units





# Issues & risks – Gas

## Leakage

- Ongoing program of low & medium pressure replacement to remove the aged and deteriorated LP & MP networks.
- Large volume of medium pressure leaks were experienced in 2017 for networks comprise of high risk mains materials of unprotected steel and 1<sup>st</sup> gen poly.
- These networks have been prioritised for mains replacement for the current GAAR period in order to remove these high risk materials.

## Asset Information System

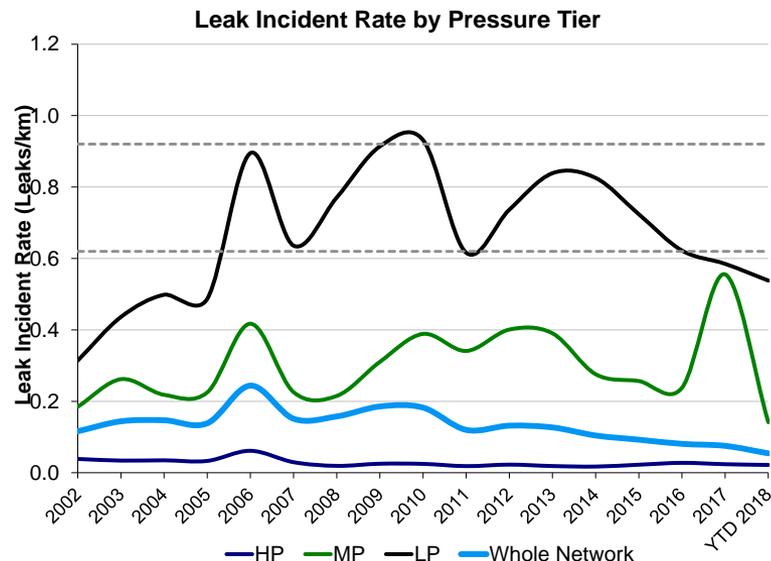
- Critical unsupported asset information systems are currently being utilised such as Hansen Hub and PowerON Gas for customer connection and faults response solutions.
- Hansen Hub and PowerON Gas systems are also not integrated with current asset management systems hindering asset management decision making.

## Meter replacement

- Life expired meter replacement expenditure is lumpy
- Replacement program plans will smooth expenditure
- No individual records for failing domestic meter regulators
- Failed domestic regulators to be replaced with meter exchange program

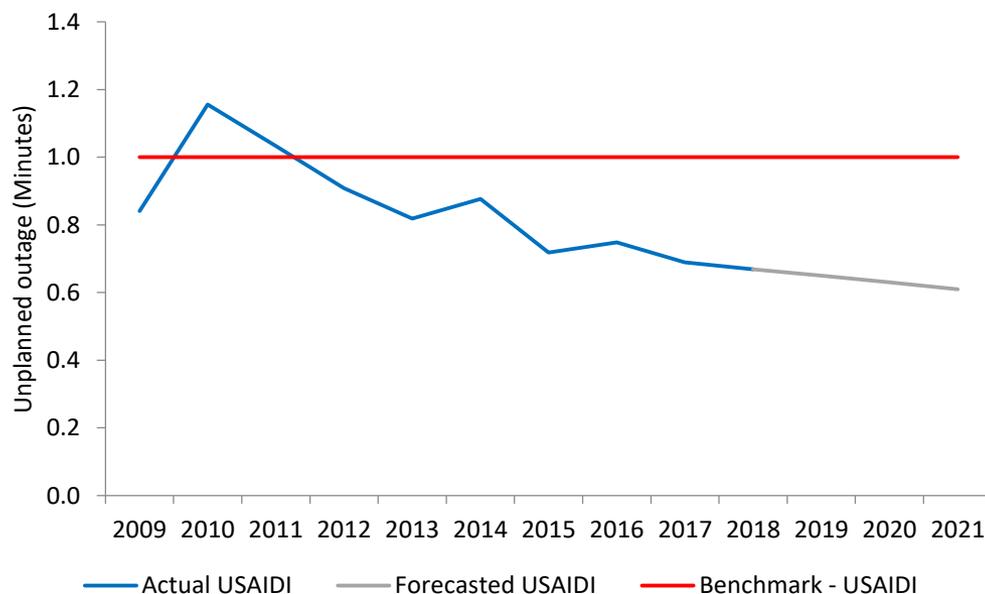
## New connections

- Some customers choosing not to connect to gas network
- Marketing program introduced to encourage connection & increase utilisation on the network
- Gas network has large growth corridors and new estates continue to sprawl across the network



## Network reliability - Gas

Unplanned outage minutes per customer



### ► Unplanned outage in minutes/customer (USAIDI)

- › USAIDI is steadily trending down and forecasted to continue to improve in the coming years

### ► Augmentation program

- › Two new field regulators completed in 2018 to provide security of supply to the Ballarat network
- › 4 kilometres of mains reinforcement to be constructed in the Craigieburn network to improve reliability ready for Winter 2019
- › A transmission pipeline extension and two new field regulators project currently at BC approval stage to be constructed to improve supply in the Geelong gas network.

# Gas Distribution Strategic Priorities



## RES Strategic Priorities

Achieving or sustaining top quartile performance

Safeguarding the future  
Strengthening the network  
Exploring alternative fuel options

Improving customer focus and outcomes

Ensure a relentless focus on safety

## Gas Distribution Strategic Priorities

Remain top quartile on cost performance and continue our focus on delivering value to customers

Secure a future for gas by increasing network utilisation and establishing a path forward for alternative fuel options

Improve services that customers value through prudent and sustainable investment

Ensure a relentless focus on safety

# Gas Distribution Network Objectives



## RES Strategic Priorities

Achieving or sustaining top quartile performance

Safeguarding the future  
Strengthening the network  
Exploring alternative fuel options

Improving customer focus and outcomes

Ensure a relentless focus on safety

## Gas Distribution Network Objectives

Maintain top quartile operational efficiency

Undertake prudent and sustainable investment

Delivery of services valued by our customer

Maintain safety in accordance with the gas safety case

# Performance targets 2019



Gas Distribution Network Objectives	Measure	Target
Maintain safety in accordance with the gas safety case	<b>Low Pressure mains decommissioned</b> <b>Medium Pressure mains decommissioned</b>	<ul style="list-style-type: none"> <li>• <math>\geq 70</math> km</li> <li>• <math>\geq 7</math> km</li> </ul>
	<b>Mains Leaks / km</b> <b>Service Leaks / 1000 Customers</b>	<ul style="list-style-type: none"> <li>• <math>\leq 0.095</math></li> <li>• <math>\leq 5.2</math></li> </ul>
	<b>Meter Leaks / 1000 Customer connections</b>	<ul style="list-style-type: none"> <li>• <math>\leq 24</math></li> </ul>
	<b>Third party damages</b> -Mains damages per 1000km -Service damages per 1000 customer connections	<ul style="list-style-type: none"> <li>• <math>\leq 6.6</math></li> <li>• <math>\leq 1.8</math></li> </ul>
Maintain top quartile operating efficiency	<b>Total Factor Productivity</b>	<ul style="list-style-type: none"> <li>• Maintain top quartile operating efficiency</li> </ul>
	<b>Asset cost per costumer</b>	<ul style="list-style-type: none"> <li>• Maintain low cost to customer</li> </ul>
Undertake prudent and sustainable investment	<b>Capital performance</b> -Cost to connect customers -Replacement programs	<ul style="list-style-type: none"> <li>• <math>&lt; \\$2,000</math> per connection</li> <li>• <math>\\$45 &lt; \&amp; &lt; \\$65</math> per customer</li> </ul>
	<b>DTS Unaccounted for Gas</b> <b>Non-DTS Unaccounted for Gas</b>	<ul style="list-style-type: none"> <li>• <math>&lt; 3.3\%</math></li> <li>• <math>&lt; 4.9\%</math></li> </ul>
	<b>Capital Efficiency Sharing Scheme Performance Index</b>	<ul style="list-style-type: none"> <li>• <math>&gt; 100</math></li> </ul>
Delivery of services valued by our customers	<b>Unplanned Supply Average Interruption Duration Index (USAIDI)</b>	<ul style="list-style-type: none"> <li>• 1 minute</li> </ul>
	<b>Emergency Response Times</b> - Metro business hours - Metro after hours - Non-Metro all hours	<ul style="list-style-type: none"> <li>• 95%</li> <li>• 90%</li> <li>• 90%</li> </ul>

# Planned expenditure programs - Gas



C.I.C

# Capex Waterfall Chart



C.I.C

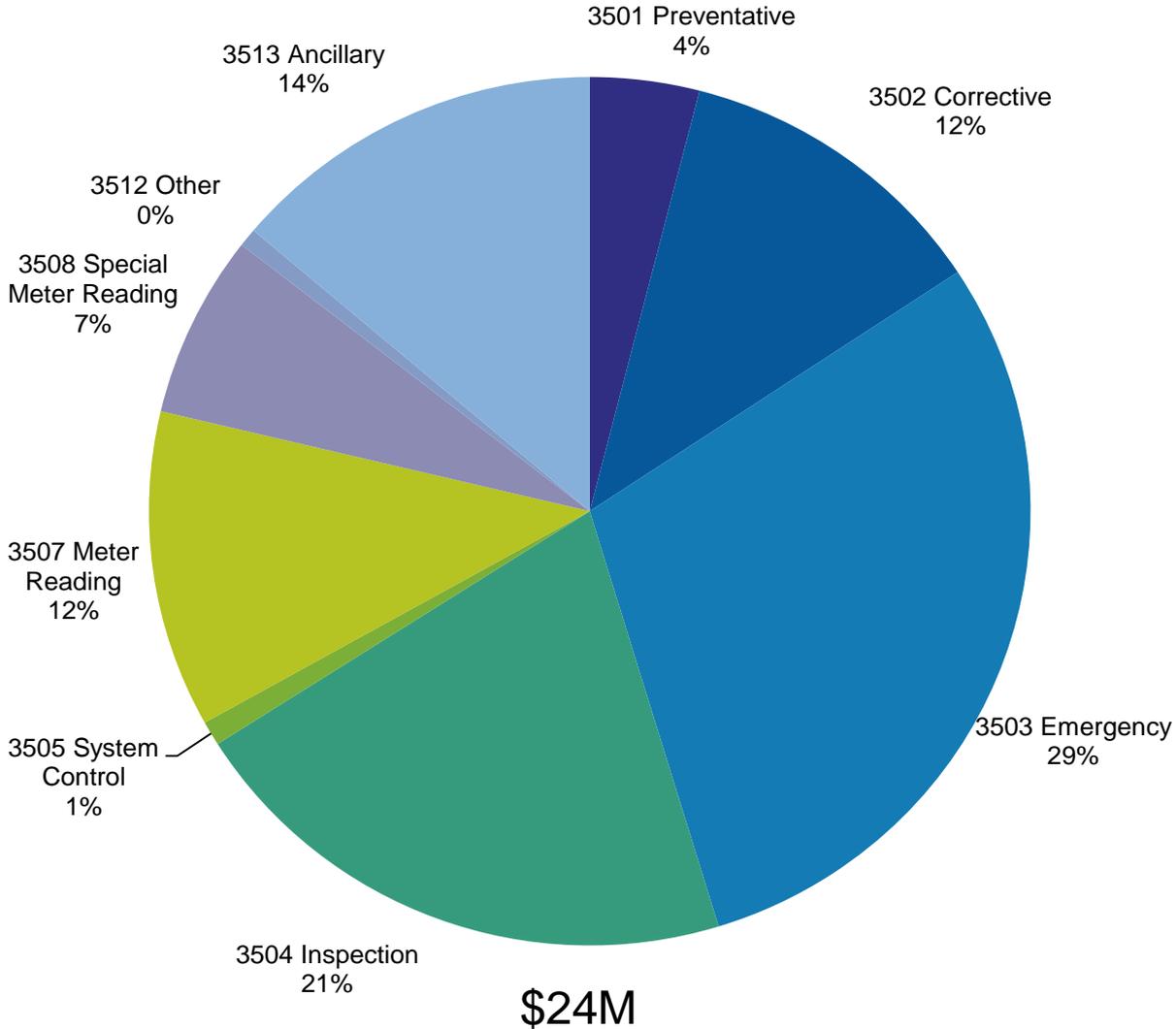
# Capital Expenditure Plan

## Gas Distribution Capex Forecast



C.I.C

# Gas Network Opex programs 2019/20

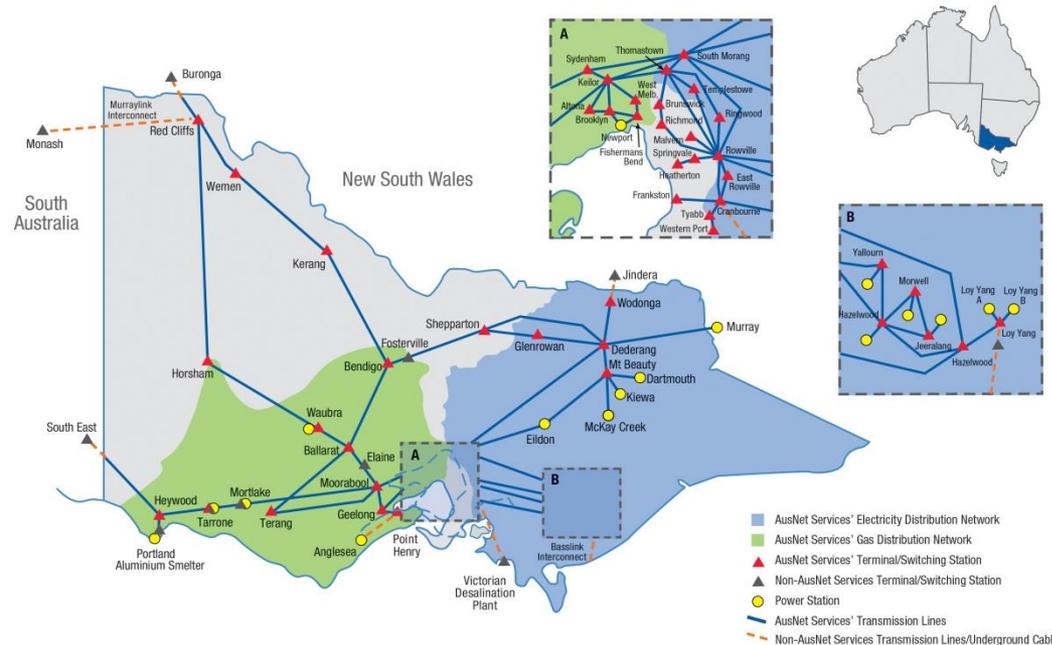
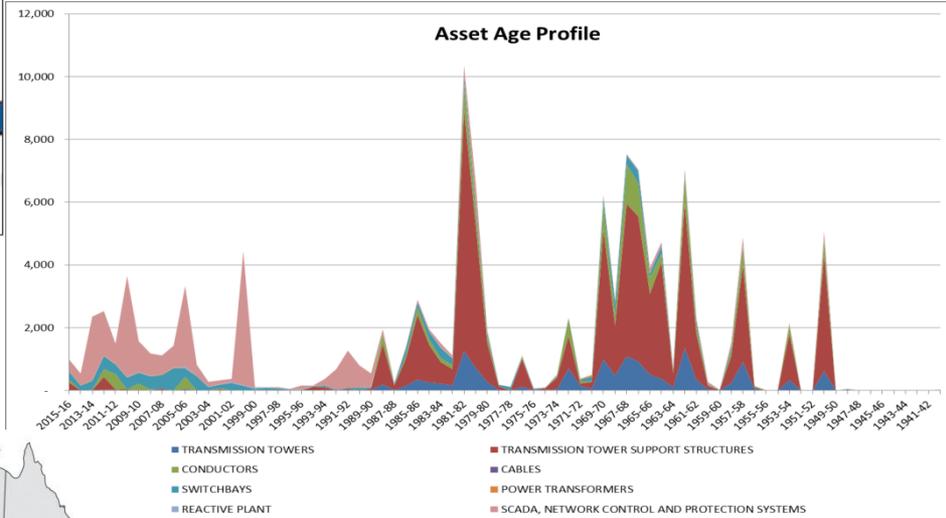
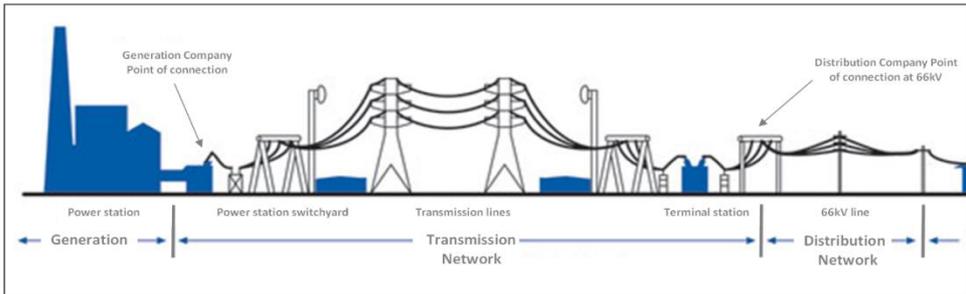


# ELECTRICITY TRANSMISSION NETWORK



**Asset Management Plan 2019/20 to 2023/24**

# Network Overview



Asset	Number/length
<b>Towers</b>	13,262
<b>Conductors</b>	12,098 km
<b>Switchbays</b>	9,218
<b>Power Transformers</b>	358
<b>Reactive plant</b>	518



# Issues & risks - Transmission

## Generator & load closure

- Hazelwood PS closure led to reprioritisation of projects.
- Alcoa Portland smelter to continue operating until at least 2021.
- Closures would result in major change to network services and power flows

## Major Projects

- Redevelopment projects at WMTS, ERTS, SVTS, FBTS, HWTS and HYTS
- Deferral of WMTS leads to additional asset risk which must be managed during rebuild
- North Western loop communications replacement project

## Interconnectors & generators

- Renewable generators (NW of state) and new / expanded interconnectors (new SA connection and Heywood & Basslink upgrades) would change power flows affecting lines, transformers, stability & security
- Increasing volume of enquiries and applications for new connections.

## Explosive asset failure

- Risk of explosive failure incorporated into criticality and risk assessment of assets
- Risk must be managed during replacement projects when many workers are present

## Condition assessment

- Increase in risk due to type failure of Toshiba connection transformers
- Condition assessment techniques need development to ensure high consequence failures are prevented through targeted replacement expenditure
- Transition from desktop assessment to evidence based assessment

## Changing regulations

- Implementation of Regulatory Investment Test (RIT) for asset replacement may lead to extended project timeframes.
- RIT to include impact of high consequence events in cost-benefit analysis
- NEM design being questioned due to SA blackout

# Electricity Transmission Strategic Priorities



## RES Strategic Priorities

Achieving or sustaining top quartile performance

Safeguarding the future  
Strengthening the network  
Exploring alternative fuel options

Improving customer focus and outcomes

Ensure a relentless focus on safety

## Electricity Transmission Strategic Priorities

Remain top quartile on cost performance by delivering good value for customers

Strengthen the regulated network to transition to a low-carbon energy future by connecting renewable generation

Partner with AEMO to actively influence and drive timely planning decisions that address network priorities

Ensure a relentless focus on safety

# Electricity Transmission Network Objectives



## RES Strategic Priorities

Achieving or sustaining top quartile performance

Safeguarding the future  
Strengthening the network  
Exploring alternative fuel options

Improving customer focus and outcomes

Ensure a relentless focus on safety

## Electricity Transmission Network Objectives

Achieve top quartile operational efficiency

Target investment to strengthen the network for the future

Maintain a reliable and secure network

Reduce known safety risks

# Performance targets 2019



Electricity Transmission Network Objectives	Measure	Target
Maintain a reliable and secure network	STPIS – Service Component (unplanned)	≥ -\$1M (FY2018 to FY2022)
	STPIS – Market Impact Parameter Component (planned & unplanned)	≤ 1,245 Dispatch intervals (excl. customer initiated outages)
	STPIS – Network Capability Component	Increase 15 min short term rating of BATS-HOTS 220kV transmission line.
		Increase 15 min short term rating of HOTS-RCTS 220kV transmission line.
	SmartWires Research Project – Install 30 SmartValve devices at WOTS on the Jin-WOTS 330kV transmission line to deliver approximately 7Ω of controllable series reactance to increase the interstate power transfer capability.	

# Planned expenditure programs - Transmission



C.I.C

# Capex Waterfall Chart



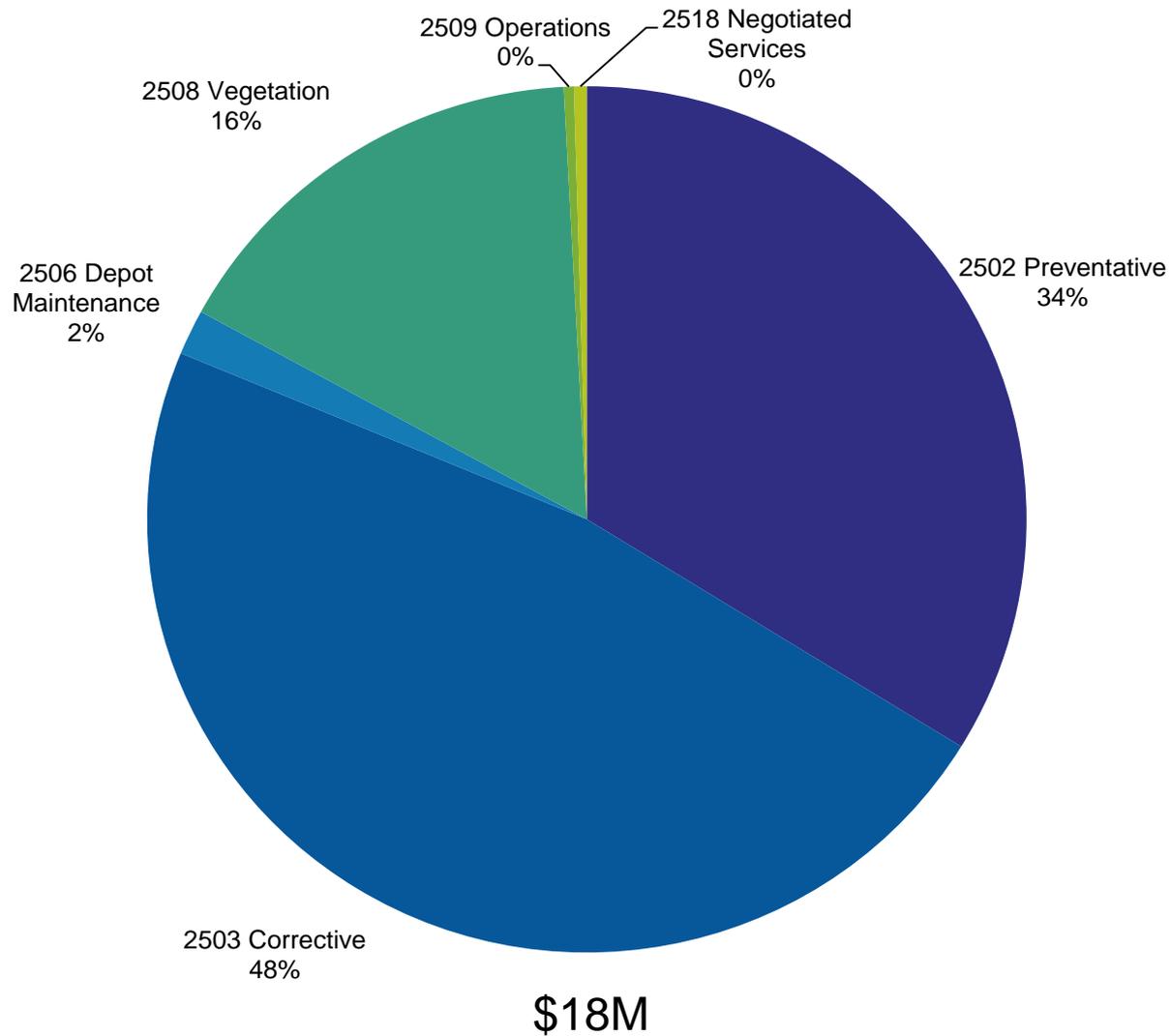
C.I.C

# Capital Expenditure Plan Electricity Transmission Capex Forecast



C.I.C

# Transmission Network Opex programs 2019/20



# Appendices

1. **Asset Management Policy**
2. **IT Plan**
3. **AMP Continuous Improvement Plan**

# Appendix 1

## Asset Management Policy



### Empower communities and their energy future

This policy directs the content and implementation of asset management strategies, objectives and plans for AusNet Services' energy delivery networks. It guides employees, contractors, suppliers and delegates in each asset management decision.

Sound risk management and the continuous improvement practices of our integrated safety, health, environment, quality and asset management systems will manage the complete life cycle of network assets.

- > Hazards and risks to the safety of any person and their property will be minimised *"as far as practicable"*.
- > *Consumers will be provided with information, tools and service options* to facilitate their energy choices.
- > *Effective consultation will take place with stakeholders* to comprehend and integrate their requirements in asset management decisions.
- > The specification and application of assets *will comply with legislation, regulation, Australian Standards and industry codes*.
- > The *national energy laws, rules and their fundamental price, performance and security principles* will guide service development in the interests of customers.
- > *Innovation and technology* will be embraced to economically reduce service risks, increase service value and manage service performance commensurate with customer's emerging needs.
- > *Skilled people will be developed and deployed* to sustainably manage risks, increase the value of services and improve the range of services.
- > Energy network development *will balance the environmental, economic, and social needs of today without sacrificing the interests of future generations*.
- > Practices, systems and facilities *will be continuously improved commensurate with certification to a recognised asset management standard*.

# Appendix 2 IT Plan



## Asset Management

Programs

### Works & Asset Management

*Effectively managing our Work and Assets. Balance our internal **Strategic Objectives** of Network Safety & Operational Efficiency with **External Pressures** to reduce network prices whilst maintaining reliable energy services.*

### Energy Network Management

*AusNet Services Energy Networks will leverage existing infrastructure and emerging technologies to unlock grid flexibility (e.g. multi-directional power flow) and new value streams for our customers.*

### Information Management

*Improving Automation, Network Modelling, Predictive Fault Finding, Condition Assessment, and Network Optimization.*

Supporting Projects & Initiatives \*

- Drawing Management: CAD & Drawing Management Upgrade
- Mobility: Mobility Enablement & Improvements
- Enterprise Asset Management: SAP Continuous Improvement program
- LV Network Analytics & Integration of Renewals
- Reporting
- Lifecycle Updates & Minor Enhancements

- Outage Management & Planning: DOMS Upgrade, Fusion Technical Upgrade, Connection Point Management, GAS OMS Replacement, Fusion Major Upgrade, Refinement and Grouping of Operational Alarms, Consolidate Ratings and Limits, Enhance Distribution Feeder Automation, LV Network Management in DMS, Sync Cause Codes SAP and Fusion, Transmission Switching Instruction Management.
- SCADA: Alstom & OSI Pi Upgrades, Spatial and Asset Data Synchronisation & Quality Improvement, SDMe Inclusion of Zone Sub-Stations and Terminal-Stations, Spatial Data Viewer Consolidation
- Power Quality Management: ION Upgrade
- Protection & Configuration Management: TRESIS/RESIS Migration
- Reporting: RADAR RDB Reporting for AEMO

- Information Management Platform
- Next Generation Business Focused Analytics
- Analytics: Self Service Analytics & Exploratory and Predictive Analytics
- Geospatial Visualisation
- Dashboarding
- Benchmarking
- Reporting:

\* Subject to Prioritisation, Planning, & Approval



