Western Power's fifth access arrangement

Public forum

Friday, 25 March 2022

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Welcome and overview

Jenness Gardner, ERA CEO

Agenda

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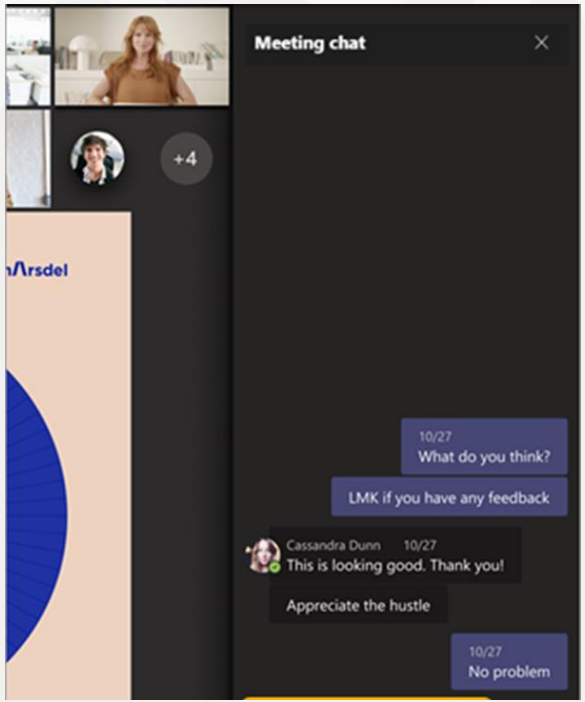
Economic Regulation Authority

How to ask questions



- Please ask questions at any time, using the Teams chat function at the top right of the meeting window.
- If you would also like a particular question to be answered, please give it a thumbs up.
- We'll answer questions after the Western Power presentation, and after the assessing expenditure presentation.

Economic Regulation Authority

02

Chair’s remarks

Steve Edwell, ERA Chair

03

Western Power presentation

Sam Barbaro, Western Power A/CEO

What we will cover today

1. Overview of Western Power and our AA5 proposal
2. Our response to the changing energy landscape
3. Customer experience
4. Network tariff development
5. Revenue path and rate of return

About Western Power

3,000+
strong workforce

2+ million
people connected

1GW grid
connected solar

824k
poles & towers

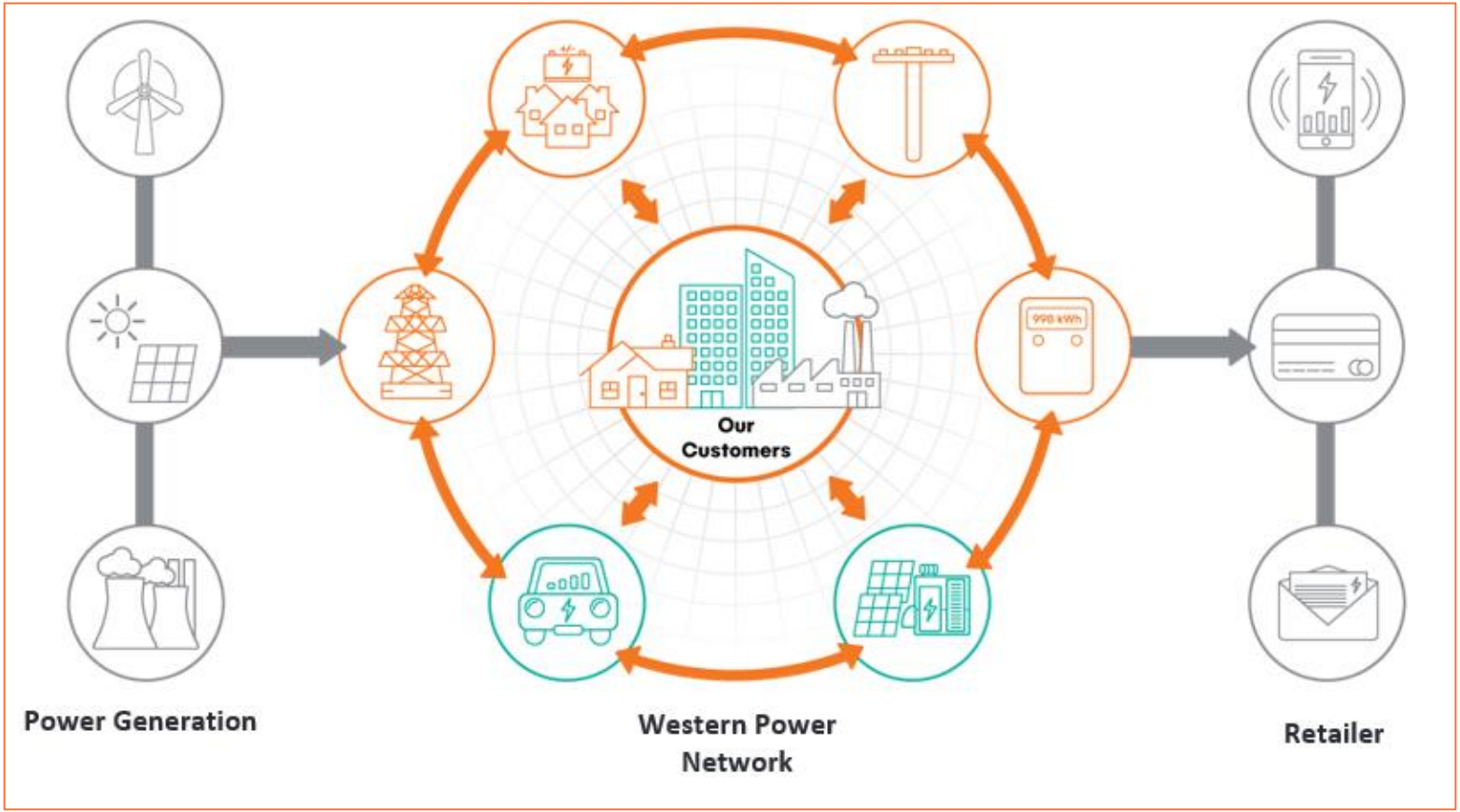
13
Community batteries

95
stand-alone power systems

274k
streetlights

103k
km of power lines

Energy supply chain



Our transmission network (Tx)

Rebuild cost:	~$12BN	Typical life span:	35 -70 years	# of poles:	~39,500	Circuit length:	7,660 kms

Substation yard

Transmission towers (Yandin windfarm)

Our distribution network (Dx)

Rebuild cost:	~$23BN	Typical life span:	30-60 years	# of poles:	~786,000	Circuit length:	95,860 kms

Standalone power system (SPS)

Overhead and underground infrastructure

Batteries & storage solution

Our SCADA & telecommunication network

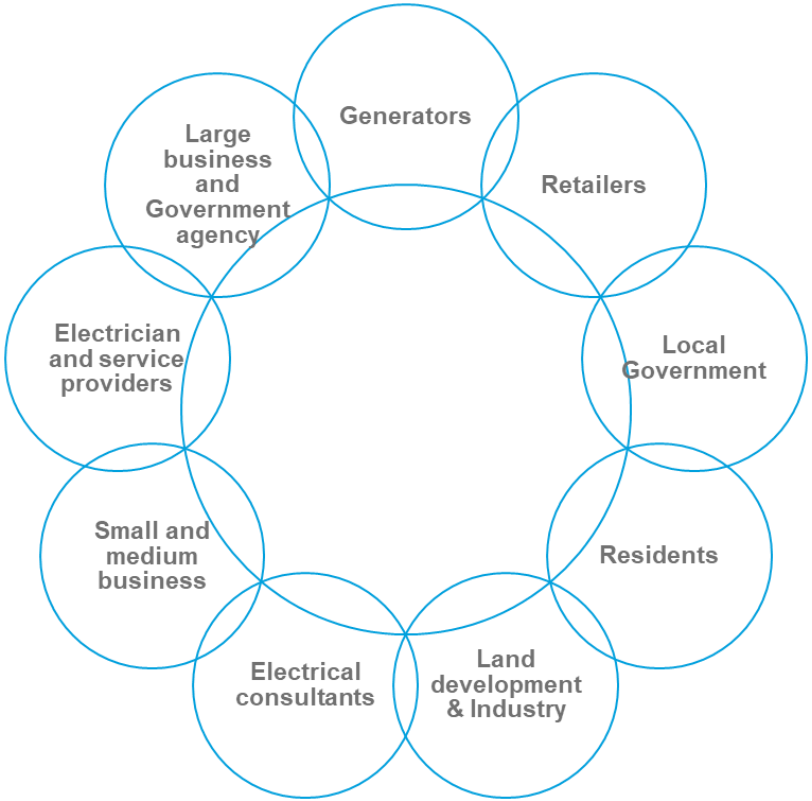
Rebuild cost:	~$1BN	Typical life span:	15-20 years	# of assets:	~14,050	Fibre/cable:	~2,200 kms

Substation automation

Telecommunication tower

Distribution automation devices

Our AA5 engagement



More than **2,000 customers engaged**, reflecting **over 800 hours of engagement**

Our proposal was guided by customers

Our AA5 proposal

Customers seek four key outcomes

enabled via the transition to a modular grid

Improve resilience to extreme climate events
Adopt new technology that better supports customers
Improve use of technology to support two-way energy flows, remote supply, storage, and communication

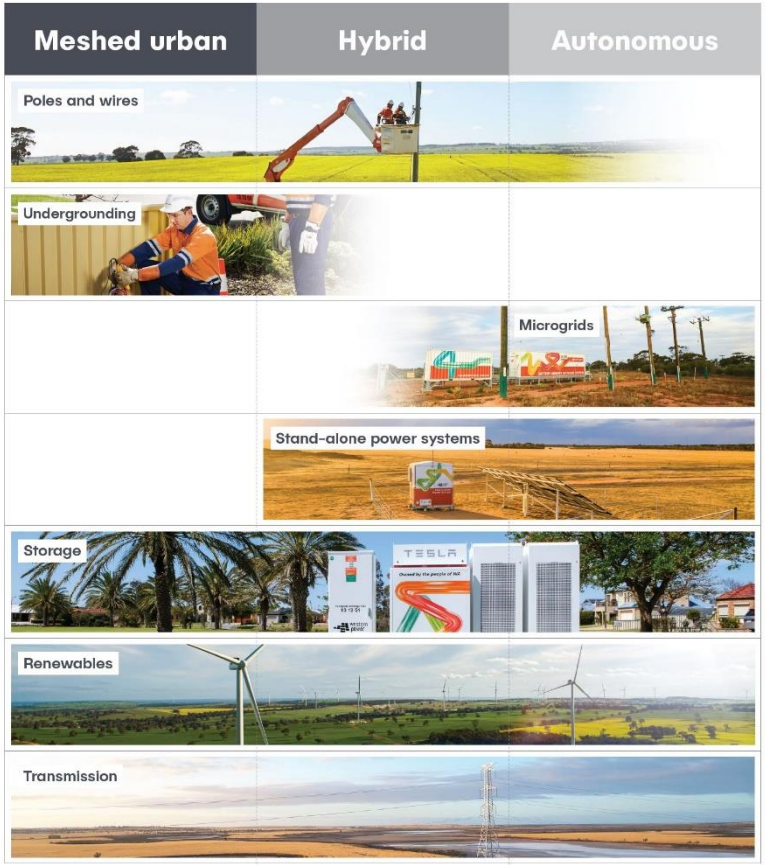
AA5 Financial Summary

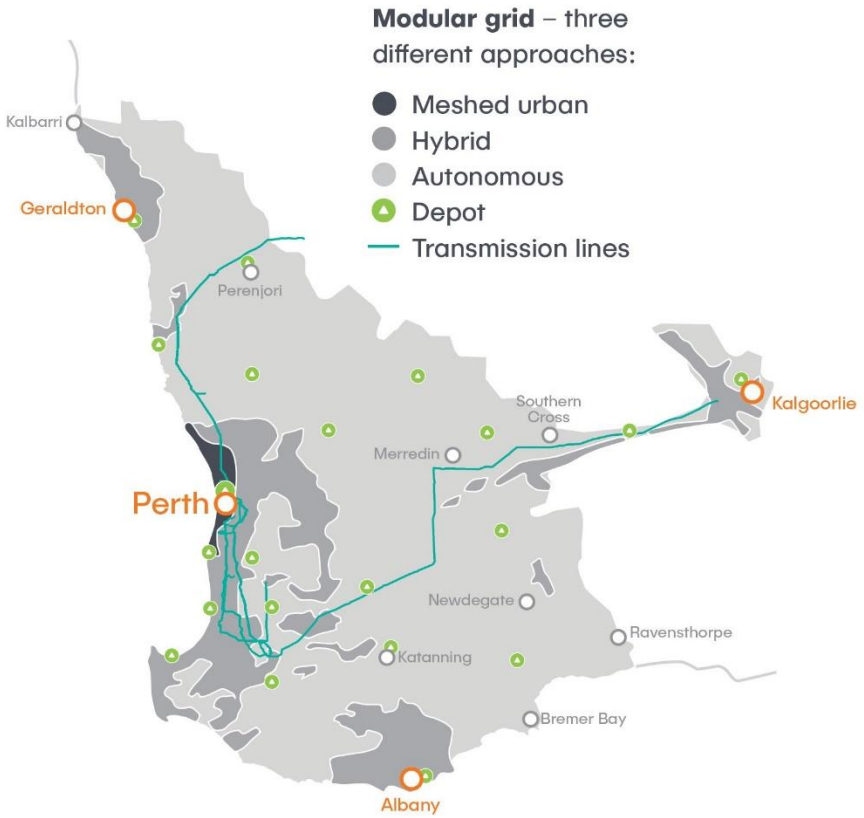
Smoothed revenue[1]	$7.5BN
Capex[2]	$5.4BN
Opex[3]	$2.2BN

Notes:

[1] in real terms FY22$
[2] in real terms FY22$, including $1BN of Gifted Assets & Cash Contributions
[3] in real terms FY22$, excluding Tariff Equalisation Contribution (TEC)

What do we mean by modular grid



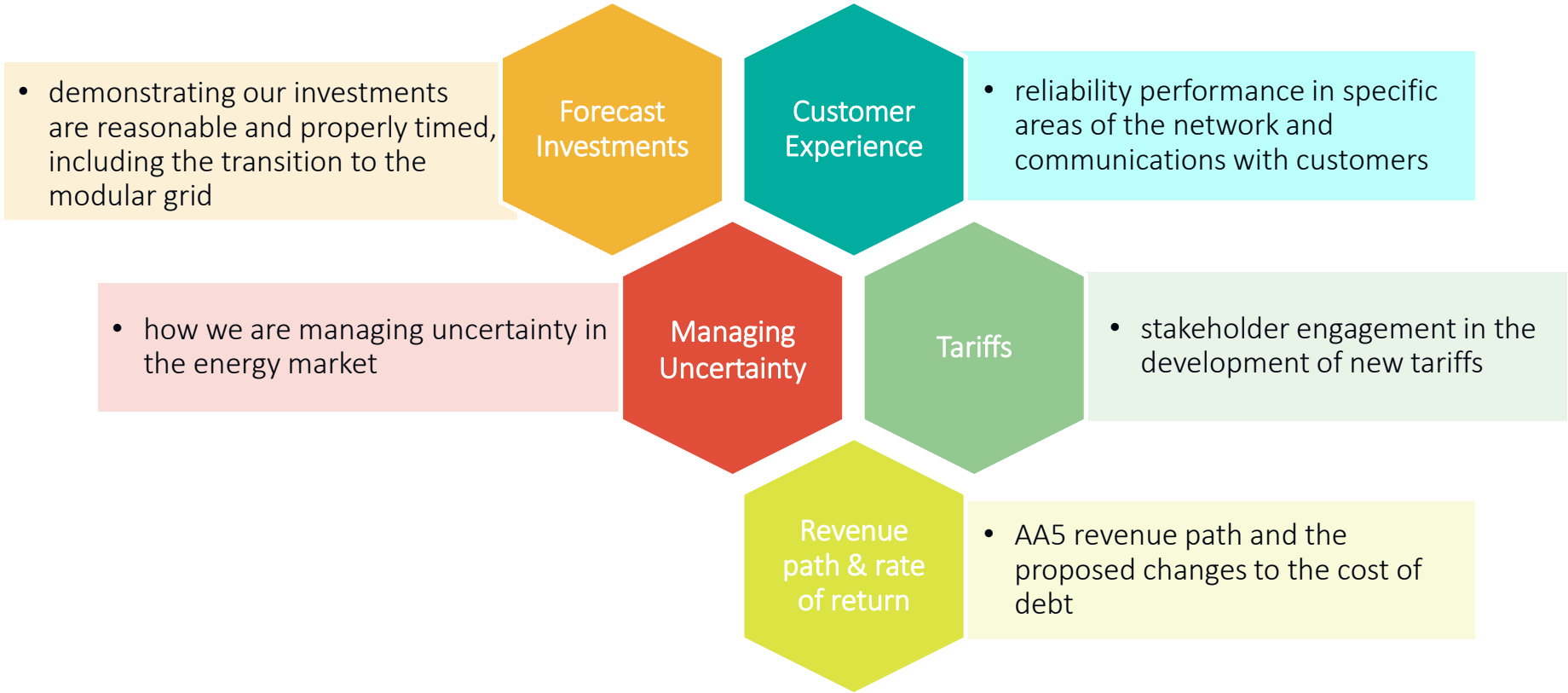


How our AA5 proposal compares to AA4

Key Financial Elements [1]	AA5 Proposal	Changes from AA4
Revenue	$7.5 billion	• 10% reduction primarily driven by a lower rate of return
Capital expenditure	$5.4 billion	• 30% increase to address the challenges associated with the changing use of the network and improve technology and communication that support new services and markets
Operating expenditure	$2.2 billion	• In line with AA4, before applying network and labour cost escalations, despite managing new obligations and functions
Rate of return	4.73%	• A reduction of nearly 20% due to changes in market conditions
Prices	Prices rise by less than inflation	• Prices rose above inflation • AA5 price rices 50% lower than AA4

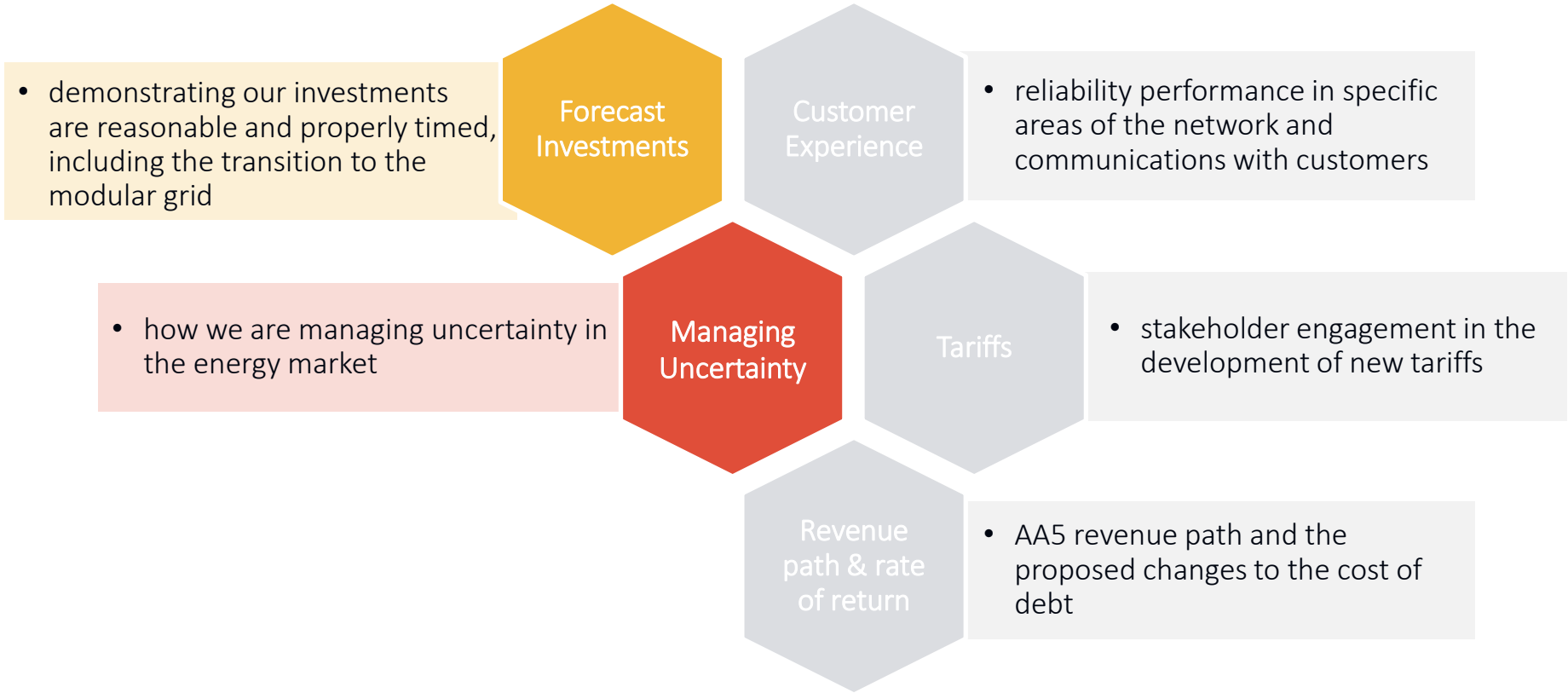
1. Financial metrics presented in $ real as at 30 June 2022.

AA5 Issues Paper - Key themes

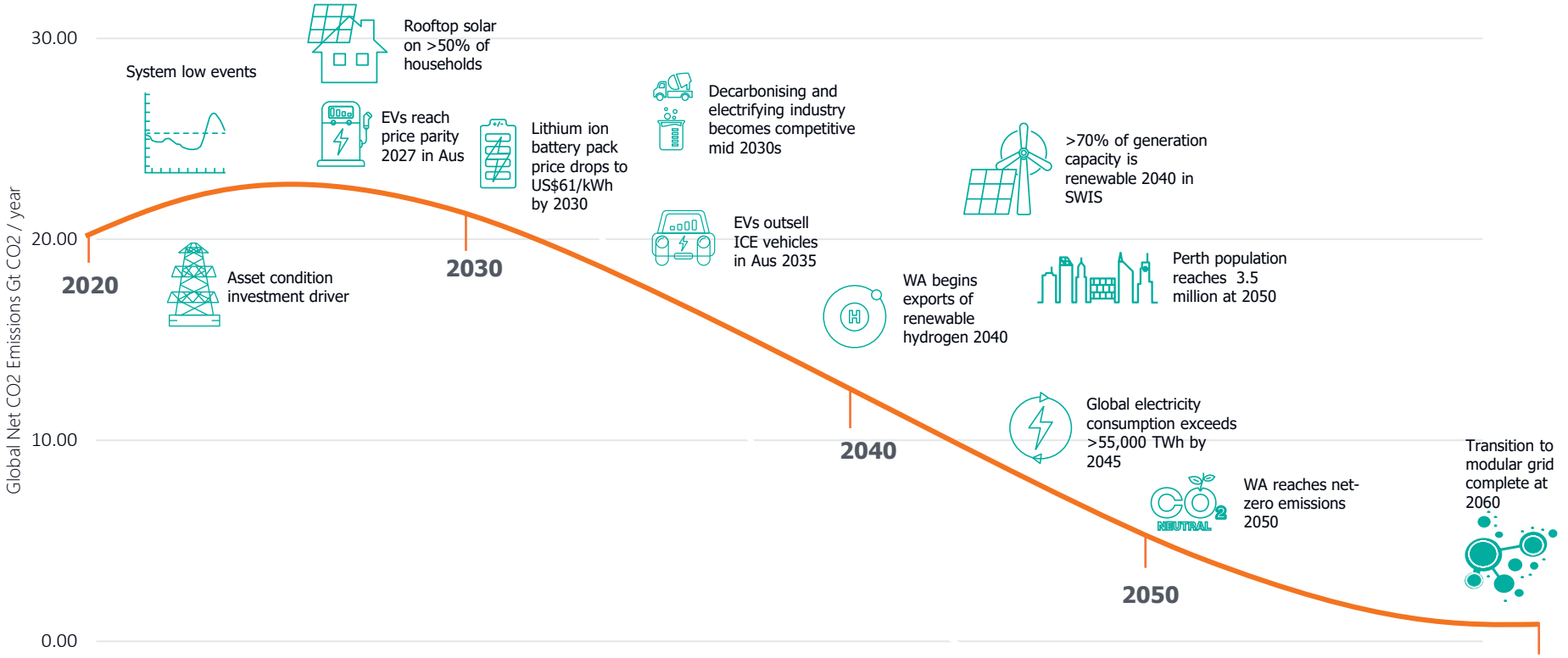


2. Our response to the changing energy landscape

AA5 Issues Paper - Key themes



Customer choice driving decarbonisation



* Illustrative timeline.

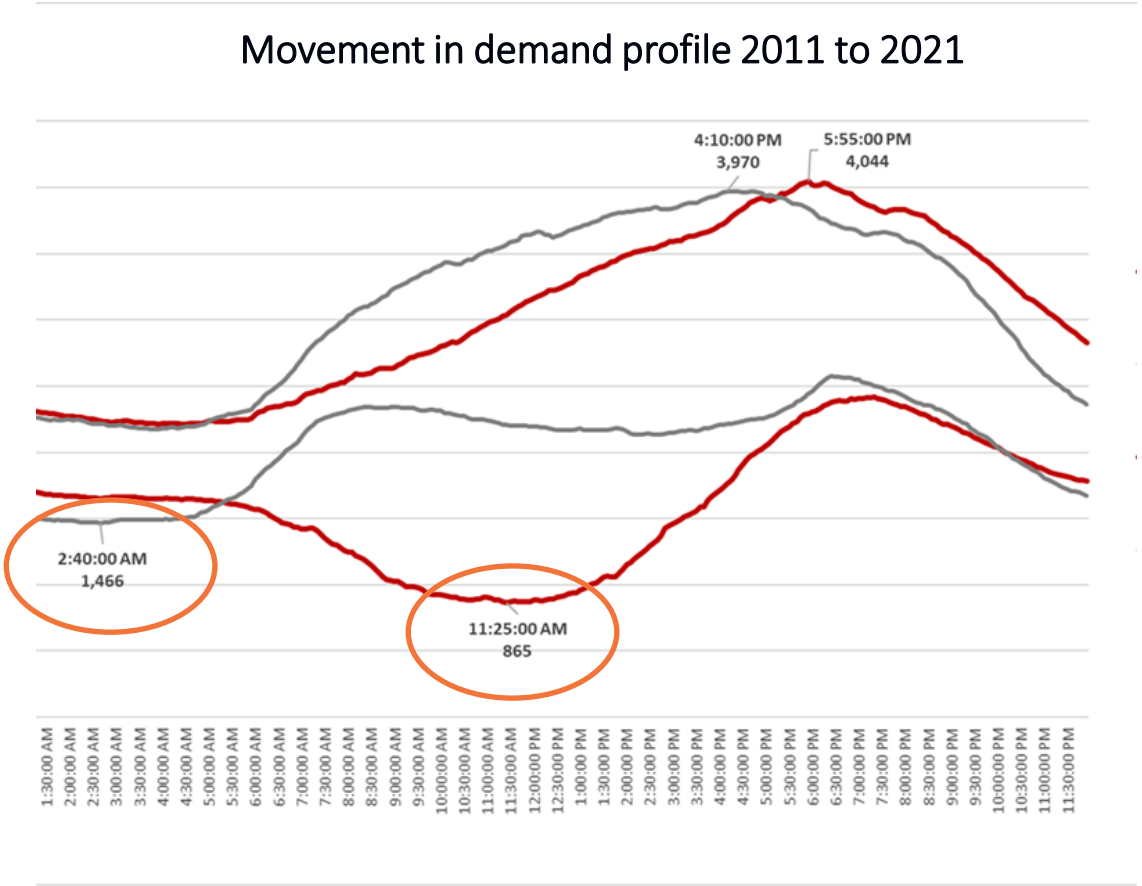
Network challenges are growing

Network challenges	AA3	Today (AA4)	AA5	Trend
Residential Solar PV	-	1,800 MW	3,000 MW	↑
Behind-the-meter Battery Storage	-	40 MW	700 MW	↑
Renewable generation[1]	9%	30%	~40%	↑
Maximum Demand	4,053 MW	4,223 MW	4,360 MW	↑
Minimum Demand[2]	1,593 MW	856 MW	[<600 MW]	↓
Customers connected	1.113M	1.162M	1.297M	↑
Average age of assets – poles (yrs)	28	28	28	-
Average age of assets – conductors (yrs)	38	42	39	-

[1] As a percentage of total generation
[2] Trend continuing downwards rapidly and Western Power continues to work with AEMO and Energy Policy WA on associated implications

Minimum demand – growing challenge

- Minimum demand is now occurring in the middle of the day
- 10 years ago it used to occur in the middle of the night
- 2011 minimum demand was 1,466 MW at 2.40am compared to today's 856 MW at 11.25am



Making balanced decisions

Focus now and into the future

Network condition

Average network age weighted by value

2004	2009	2014	2019	2024	2029	2034	2039
Historical				Projection			

Tx

Generation

Large scale

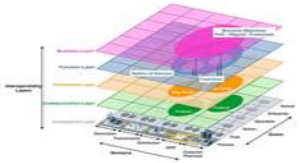
Renewable

Dx

SPS

Undergrounding

DSO

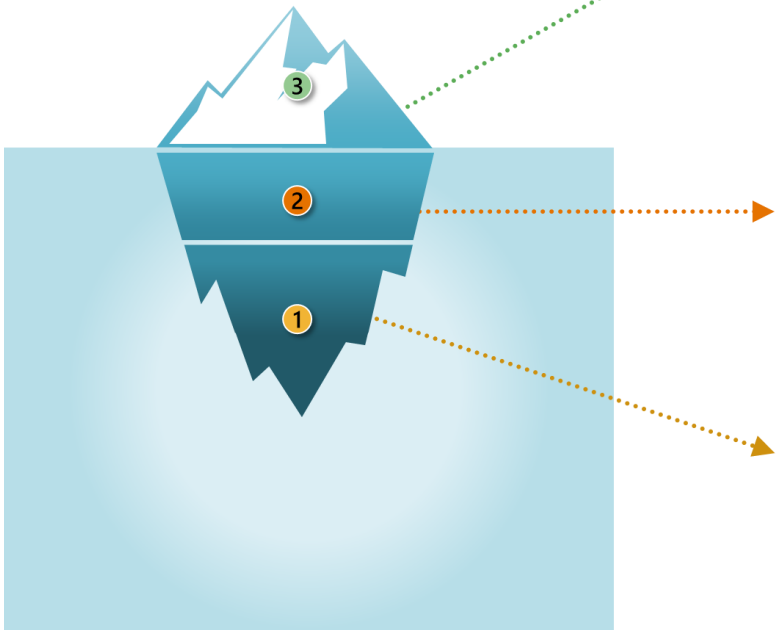


Poles & wires

Small/Medium

AMI

Using robust decision-making frameworks



OUTCOMES

- Which assets to be modernised?
- What solutions do we employ?
- When do we conduct the work?
- What risks are we willing to accept?

PROCESS

- Decision methodology
- Governance structure

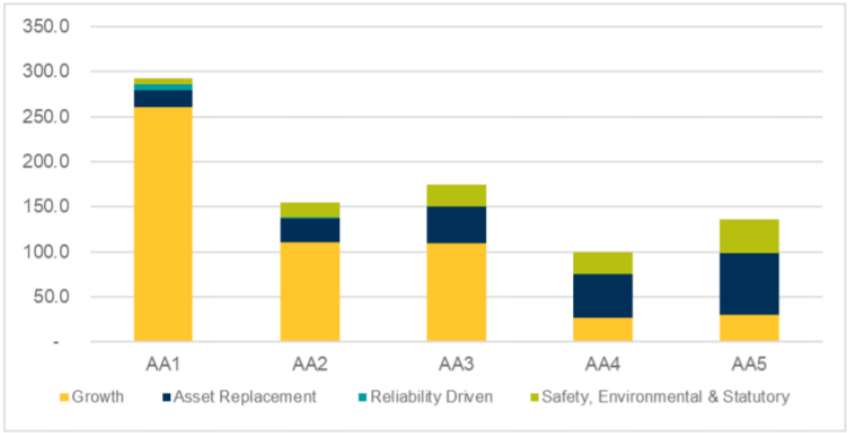
INPUTS

- Supporting data, algorithms, business rules, standards

Forecast expenditure

- Our AA5 forecast expenditure is designed to:
  - maintain safety and service performance;
  - support changing customer behaviour and requirements;
  - facilitate ever increasing demand for renewable generation connections;
  - improve resilience to extreme climate events; and
  - meeting shifting localised demand.

Annualised transmission net capital expenditure by investment category ($ million real at 30 June 2022)



Actual and forecast operating expenditure from previous access arrangements and the AA5 ($ million real at 30 June 2022)

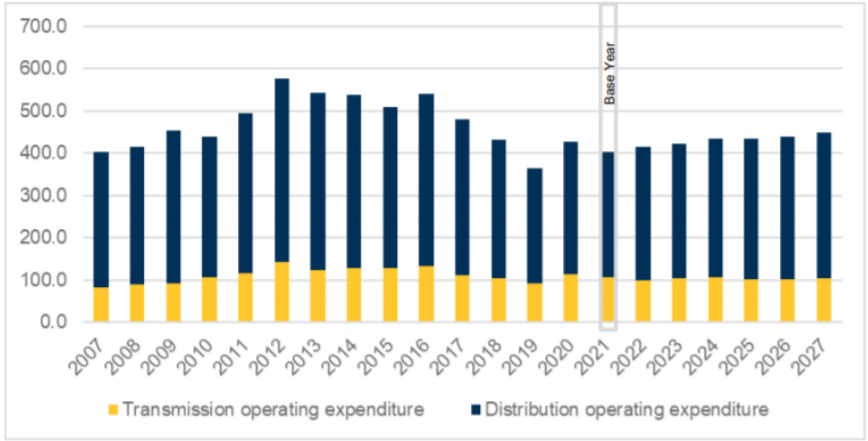


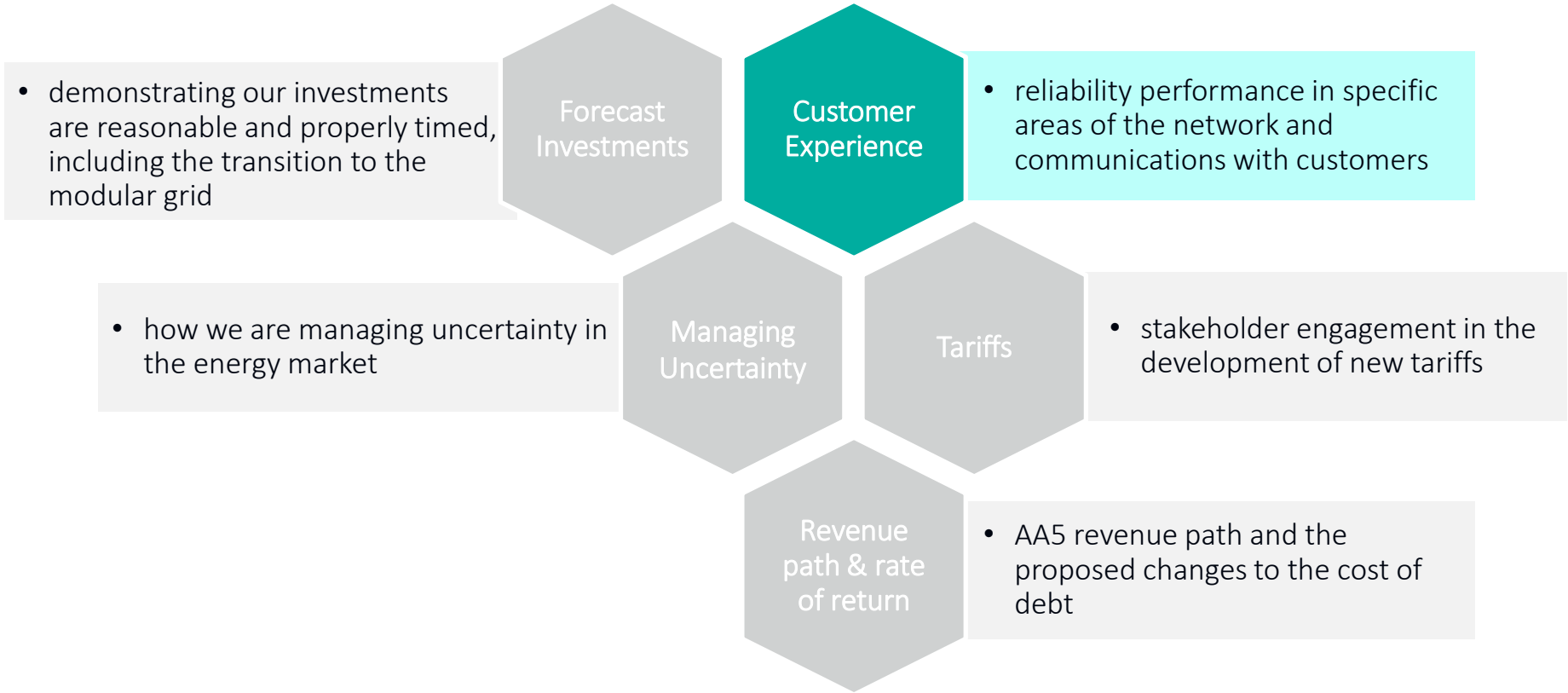
Chart source: ERA issues paper

Capital expenditure key components

Distribution Network $3,480M 34% increase on AA4	Transmission Network $872M 11% increase on AA4	SCADA Network $483M 110% increase on AA4	Non Network $541M In-line with AA4
Ageing and transforming network	**Maintaining reliability and enabling renewable connections**	**Modernising obsolete network and supporting future technology**	**Supporting and enabling the business**
✓ maintaining safety performance ✓ investing in Standalone Power Systems (aligned to government commitments) ✓ undergrounding parts of the network to address reliability and safety issues ✓ accelerating the advanced metering infrastructure deployment ✓ addressing ring main unit (RMU) quality issues	✓ addressing the ageing asset base ✓ providing for adequate life extension treatments ✓ facilitating additional capacity for customer connections ✓ rationalising voltages whilst improving network utilisation	✓ addressing asset obsolescence – 69% of fleet is obsolete ✓ meeting compliance requirements (including cyber security obligations imposed by the *Security of Critical Infrastructure Act 2018* and *Security Legislation Amendment (Critical Infrastructure) Bill 2020*) ✓ facilitating the transformation of the network to the modular grid	✓ ICT business enablement projects ✓ ICT infrastructure replacement or renewal projects (5-10 year useful life) ✓ Cyber Security capability uplift ✓ Depot rationalisation for regional locations

3. Customer experience

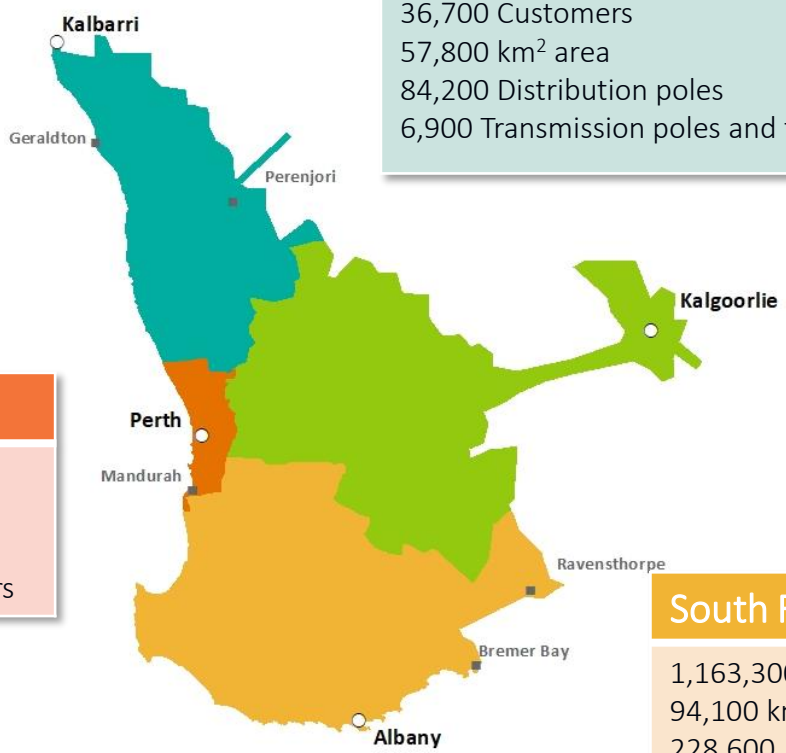
AA5 Issues Paper - Key themes



Our network by region

North Region

36,700 Customers
57,800 km^2 area
84,200 Distribution poles
6,900 Transmission poles and towers



East Region

42,500 Customers
94,910 km^2 area
126,500 Distribution poles
5,700 Transmission poles and towers

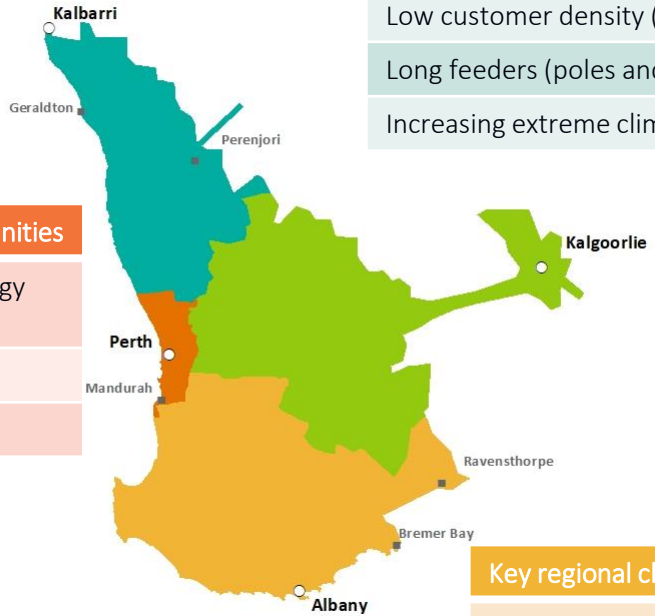
Central Region

940,500 Customers
8,110 km^2 area
347,100 Distribution poles
15,500 Transmission poles and towers

South Region

1,163,300 Customers
94,100 km^2 area
228,600 Distribution poles
12,900 Transmission poles and towers

Regional challenges and opportunities



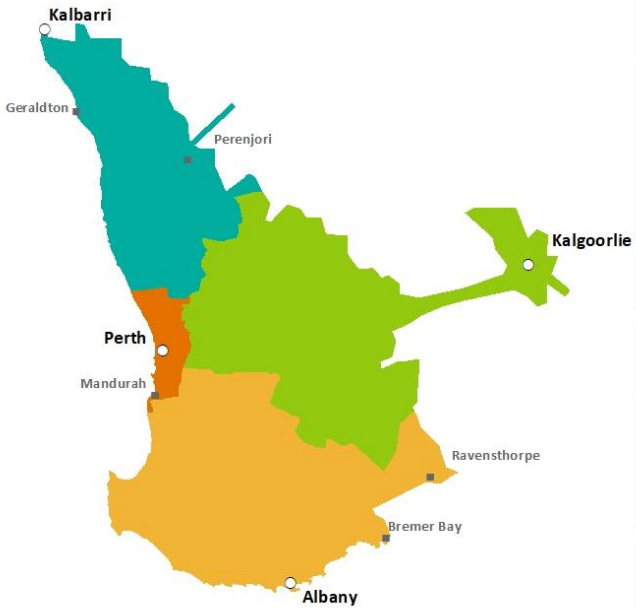
Key regional challenges and opportunities
Increasing levels of wind and solar generation
Low customer density (higher cost to serve)
Long feeders (poles and wires), contribute to higher reliability risk
Increasing extreme climate events (Cyclone Seroja, bushfires)

Key regional challenges and opportunities
Significant levels of distributed energy resources
Industrial demand hubs
High customer density

Key regional challenges and opportunities
Increasing levels of wind and solar generation
Low customer density (higher cost to serve)
Long feeders (poles and wires), contribute to higher reliability risk
Single circuit 220kV transmission line to Eastern Goldfields
Increasing extreme climate events (bushfires)

Key regional challenges and opportunities
Large scale industrial zones
Low customer density (higher cost to serve)
Long feeders (poles and wires), contribute to higher reliability risk
Increasing extreme climate events (bushfires)

Investments by region



North Region

325 SPS units to be installed
31,000 AMI to be installed
5,500 poles to be replaced / reinforced / removed

Central Region

628,000 AMI to be installed
22,200 poles to be replaced / reinforced / removed
875 km overhead network to be replaced with underground cable

East Region

812 SPS units to be installed
28,000 AMI to be installed
19,300 poles to be replaced / reinforced / removed

South Region

721 SPS units to be installed
108,000 AMI to be installed
15,300 poles to be replaced / reinforced / removed

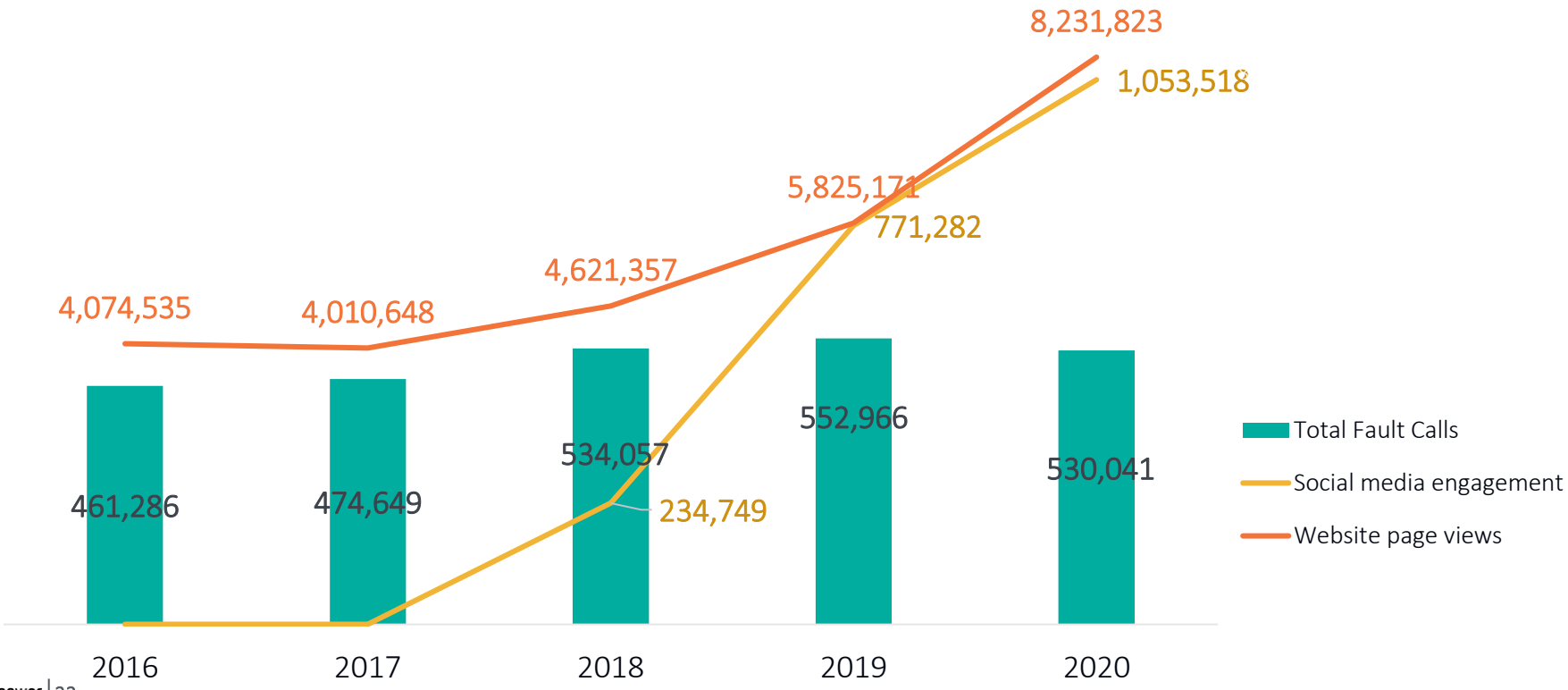
SPS

Undergrounding

Poles & wires

AMI

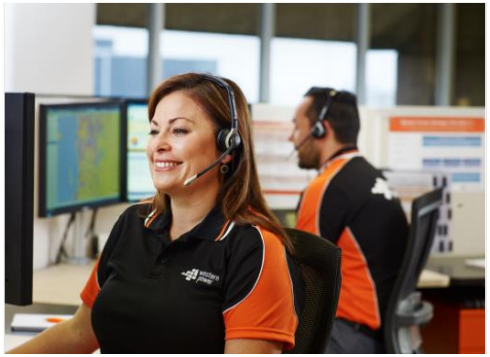
Customers embracing digital engagement



How can we enable this without increasing costs?

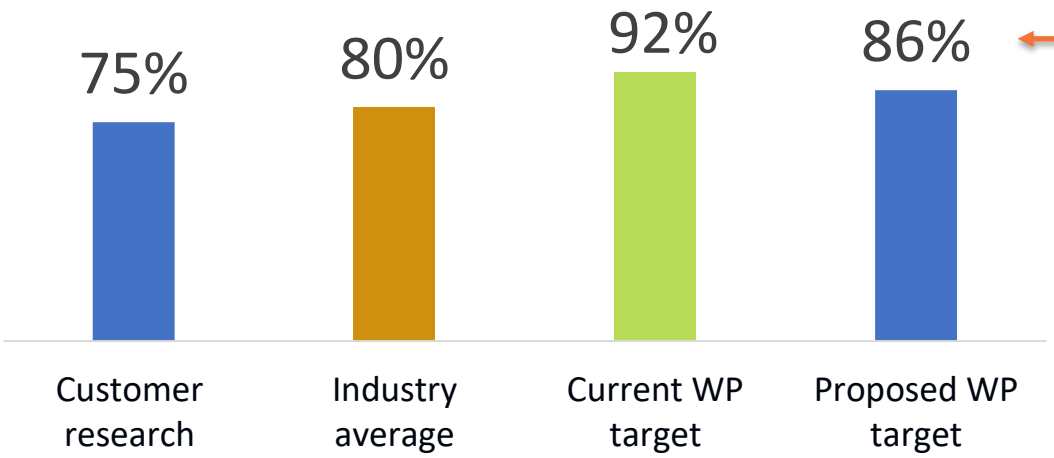
Our customer research suggests a majority support this target for phone calls answered within 30sec

75%+



80%

Industry average for phone calls answered within 30sec



This equates to an average wait time of < 1 minute

Connecting to our network

Existing Policies & Contracts

Standard Access Contract (Model ETAC)

Applications & Queuing Policy

Contributions Policy

- Changes to the Access Code in July 2021 led by Energy Policy WA resulted in amendments being made to the Standard Access Contract, Applications and Queuing Policy and Contributions Policy during the AA4 period
- Significant stakeholder engagement was undertaken by EPWA as part of that process
- Western Power has used these transitional polices and contract as the basis for the policies and contract for the AA5 proposal
- Minor amendments have been proposed to improve clarity and applicability and better deliver outcomes for customers

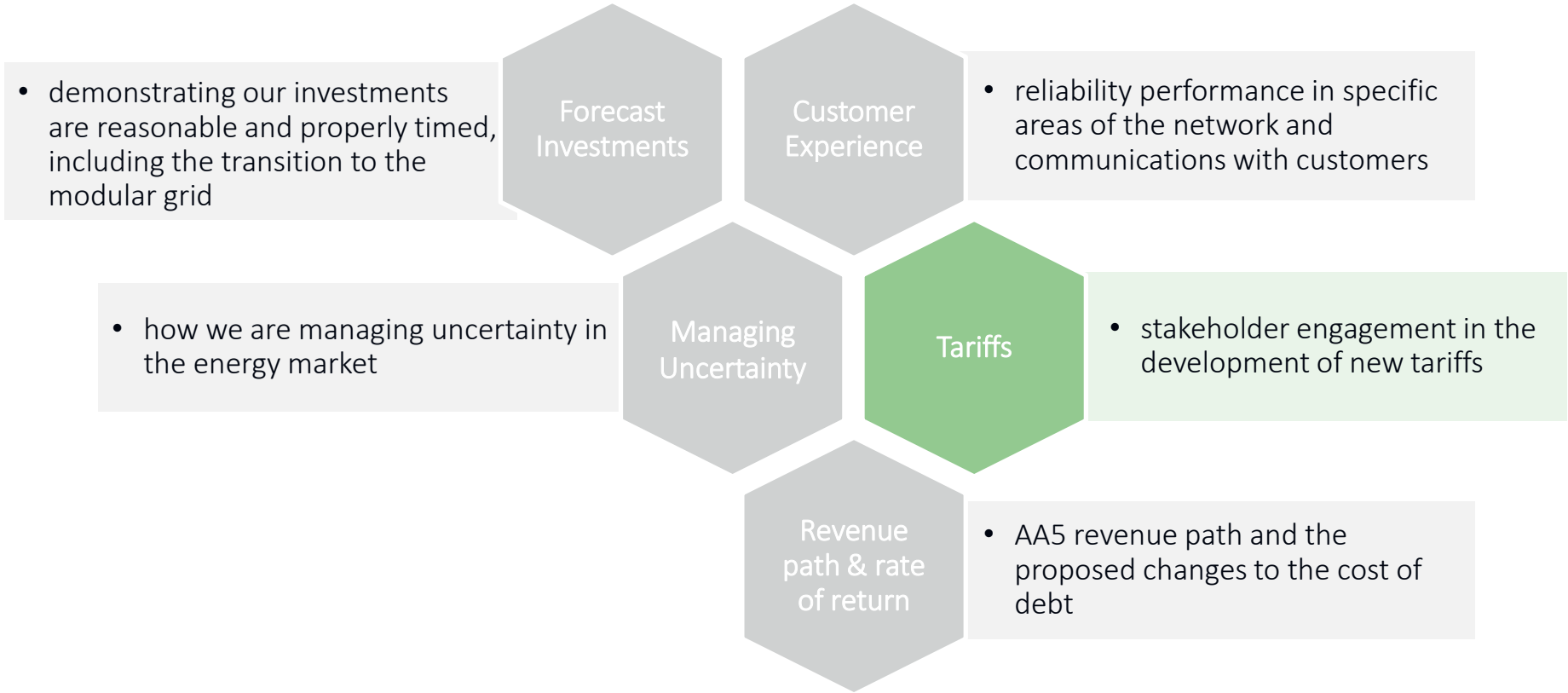
New Policies & Contracts

Multi-function Asset Policy

- The amendments to the Access Code require Western Power to develop a Multi-function Asset Policy as part of its access arrangement to guide how we may use regulated assets to provide new unregulated services.
- Multi-function assets are those that are utilised to provide both regulated network support services and other services
- Western Power supports the introduction of this policy to share the benefits from multi-function assets with end-use customers, who ultimately pay for the shared network

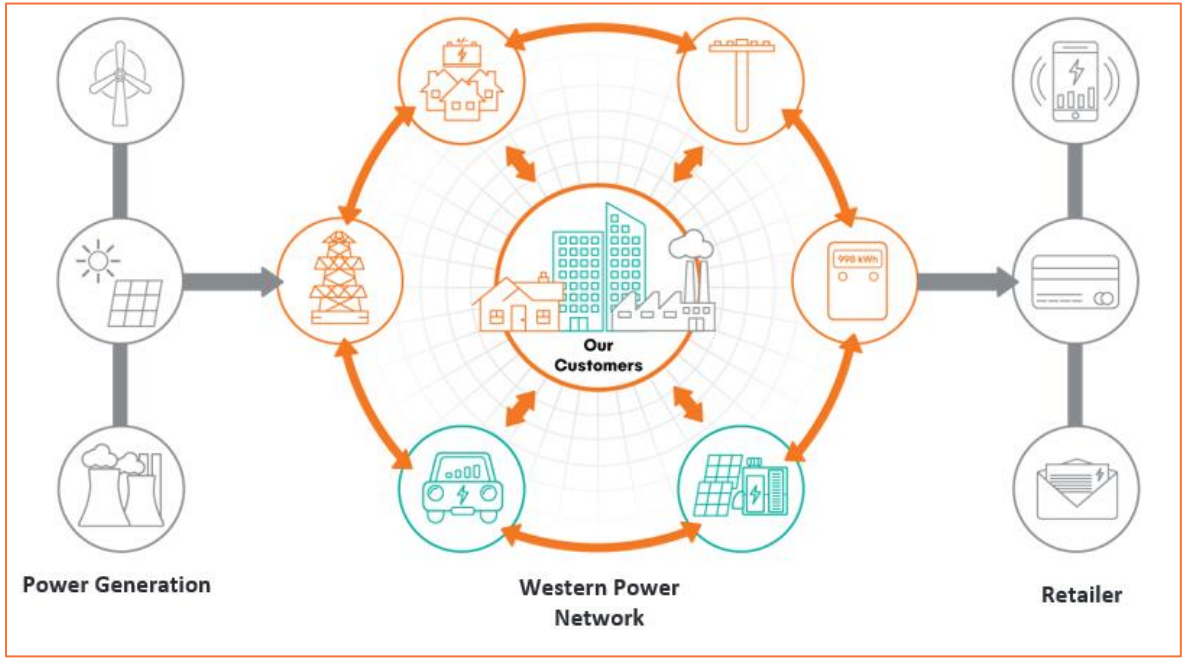
4. Network tariff development

AA5 Issues Paper - Key themes



Network tariff component

- Western Power is responsible for the network tariff component of a customer's bill



Represents ~45% of the average residential bill
(includes the Tariff Equalisation Contribution)

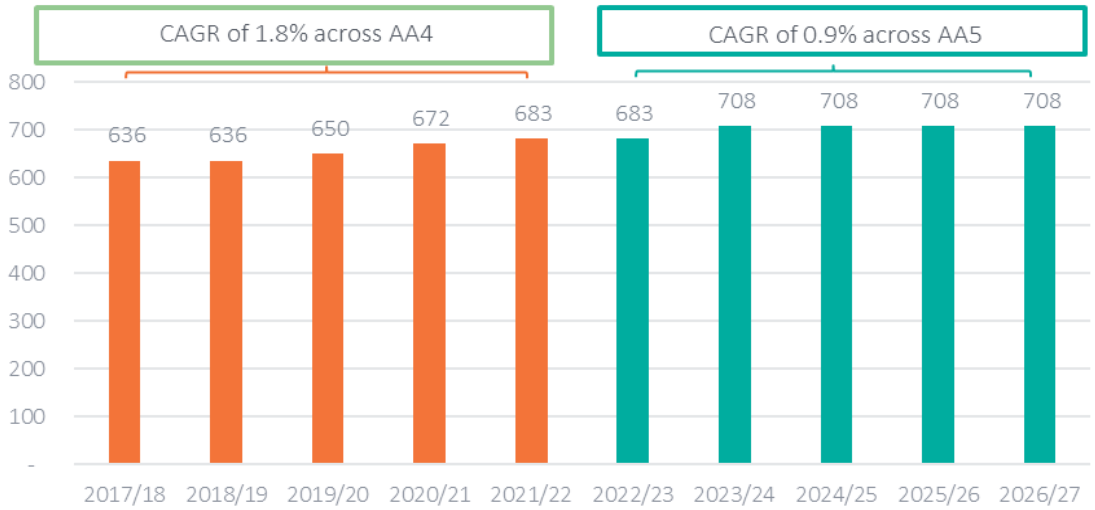
What we are offering customers

- ✓ better price signals to drive consumer behaviour
- ✓ empowering customers to make their own energy decisions - whether an installation behind their meter or participation in community battery schemes to better meet their needs
- ✓ promoting fairness between adopters and non-adopters of new technologies
- ✓ enabling the connection of more renewable generation

Proposed AA5 price path

- Average price changes over AA5 will be less than inflation or less than 1 per cent per annum in nominal terms
- The annual movement for individual tariffs will be capped at 2 per cent each year in line with prior access arrangements

Estimated average nominal network price movements over the AA4 and AA5 periods for residential customers, excluding the TEC



Customer feedback on tariffs

End-use customers

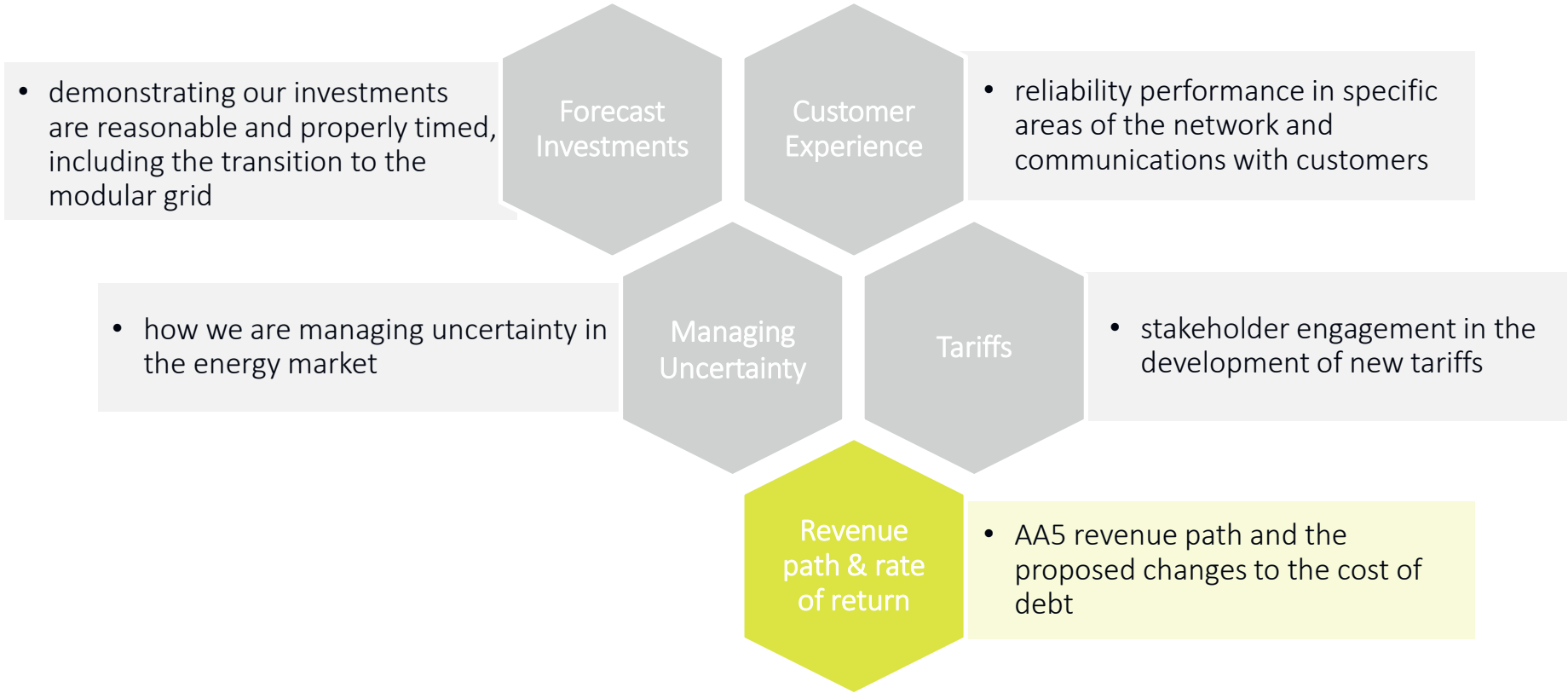
- Preferences for transitions path were split, with the size of movements influencing feedback
- End-customers are more sensitive to price increases than price decreases
- End-customers support the concept of a transition path cap
- Most end-customers support a slow transition path

Users

- Recognise the value of tariff reform and, more specifically, cost reflectivity
- Want to keep network tariffs low but also providing incentives for new technologies
- Users support the concept of a transition path cap
- Most users support a slow transition path

5. Revenue path and rate of return

AA5 Issues Paper - Key themes



Revenue building blocks

Return on assets is calculated as the Regulated Asset Base multiplied by the regulated rate of retu (or WACC).

Depreciation is a pass through of the modelled depreciation of our Regulated Asset Base (RAB). We use available tax rulings to establish economic lives.

Opex is a pass through of the operating expenditure required to safely operate and maintain the networks.

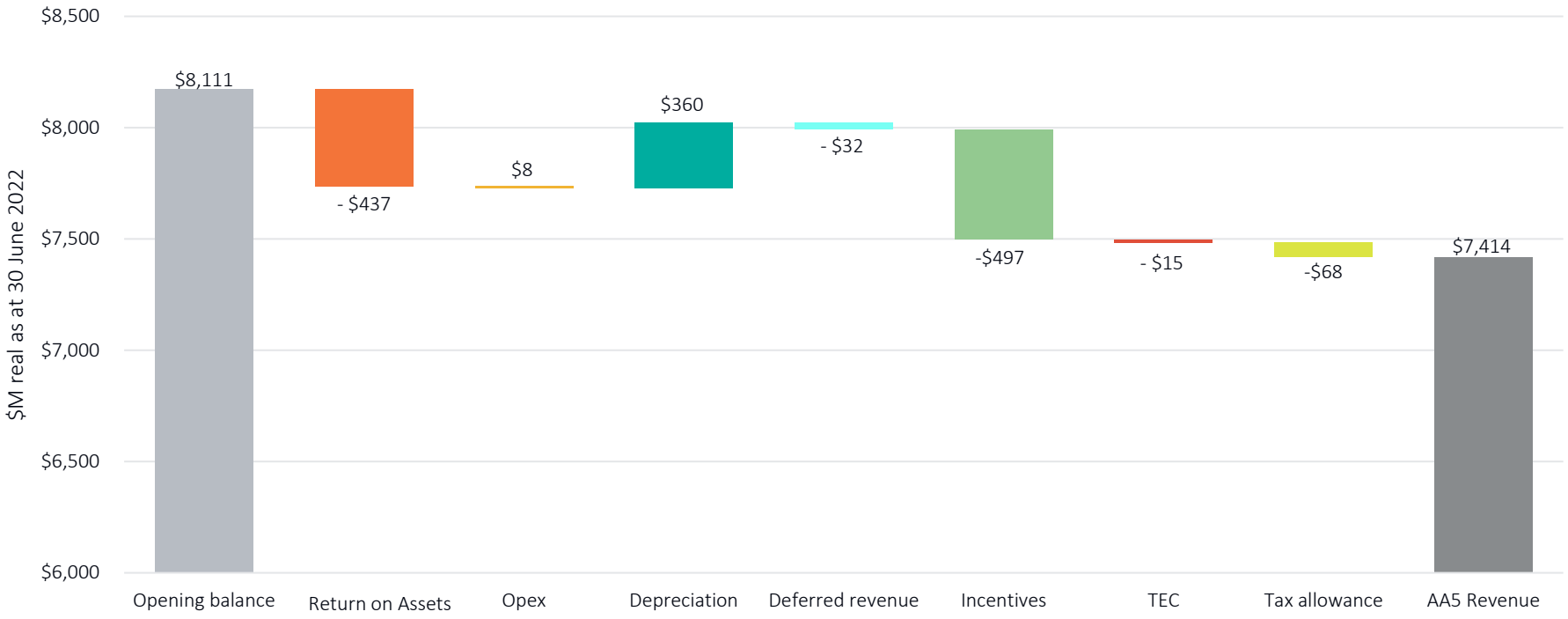
Tariff Equalisation Contribution (TEC) is a straight pass through of costs.

Tax recovers our theoretical tax costs, on the basis of the forecast costs and revenue in the AA.

Deferred revenue is the recovery of AA2 revenue that was deferred to smooth very high increases in tariffs in AA2. The recovery amount is calcualted on the same basis as AA4.

Regulatory incentives revenue are rewards or penalties based on service standard performance or improvements in opex efficiency during the prior AA. (Very minimal in AA5, not shown on graph)

Changes in revenue from AA4 to AA5[1]



[1] Changes in revenue (unsmoothed), $ million real at 30 June 2022

Return on assets

- The return on assets (also known as the weighted average cost of capital – WACC) is the return we earn on investment in our network. It is intended to provide incentives to undertake efficient investment by ensuring we recover the efficient cost of capital
- Our AA5 submission follows the approach in the Access Code and the ERA's current practice in calculating the WACC for the AA5 period, with the exception of:
  - Adjusting the term of the risk-free rate from 5 years to 10 years, consistent with other Australian regulatory jurisdictions; and
  - Use of the trailing average approach to the allowed return on debt, consistent with other Australian regulatory jurisdictions.
- Our proposed AA5 period average **WACC** is **4.73%** - this is 20% lower than the AA4 WACC

Questions

Economic Regulation Authority

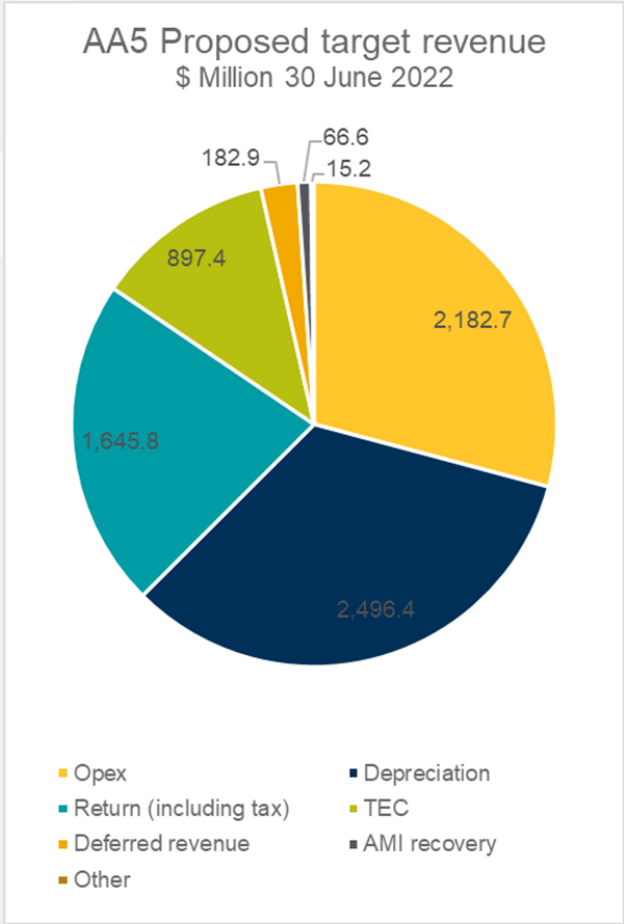
04

Assessing expenditure

Elizabeth Walters, ERA Assistant Director

Assessment of expenditure

- Operating expenditure feeds directly into target revenue (30%).
- Capital expenditure is recovered through depreciation and a return on the investment (>50%).
- Access Code requirements
- Efficiency
- Other requirements
- Long-term interests of consumers



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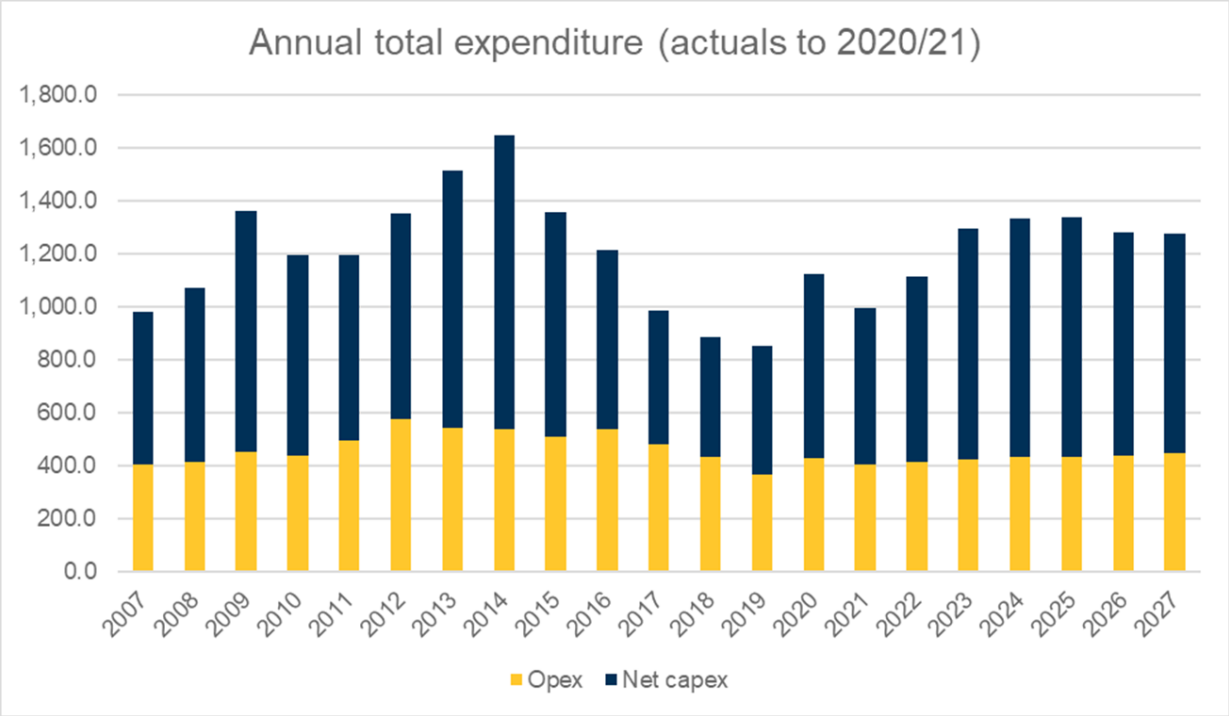
Annual total expenditure

($ million real at 30 June 2022)



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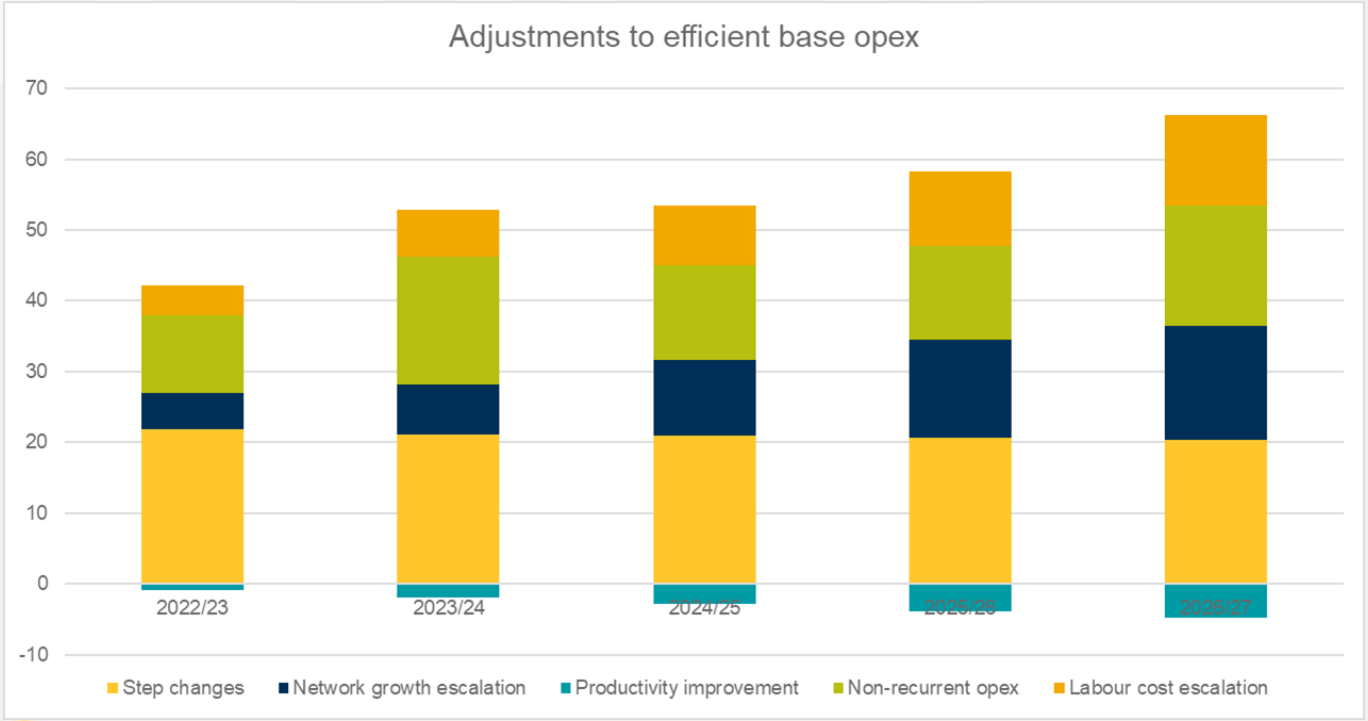
Operating expenditure – Base, step, trend

($ million real at 30 June 2022)



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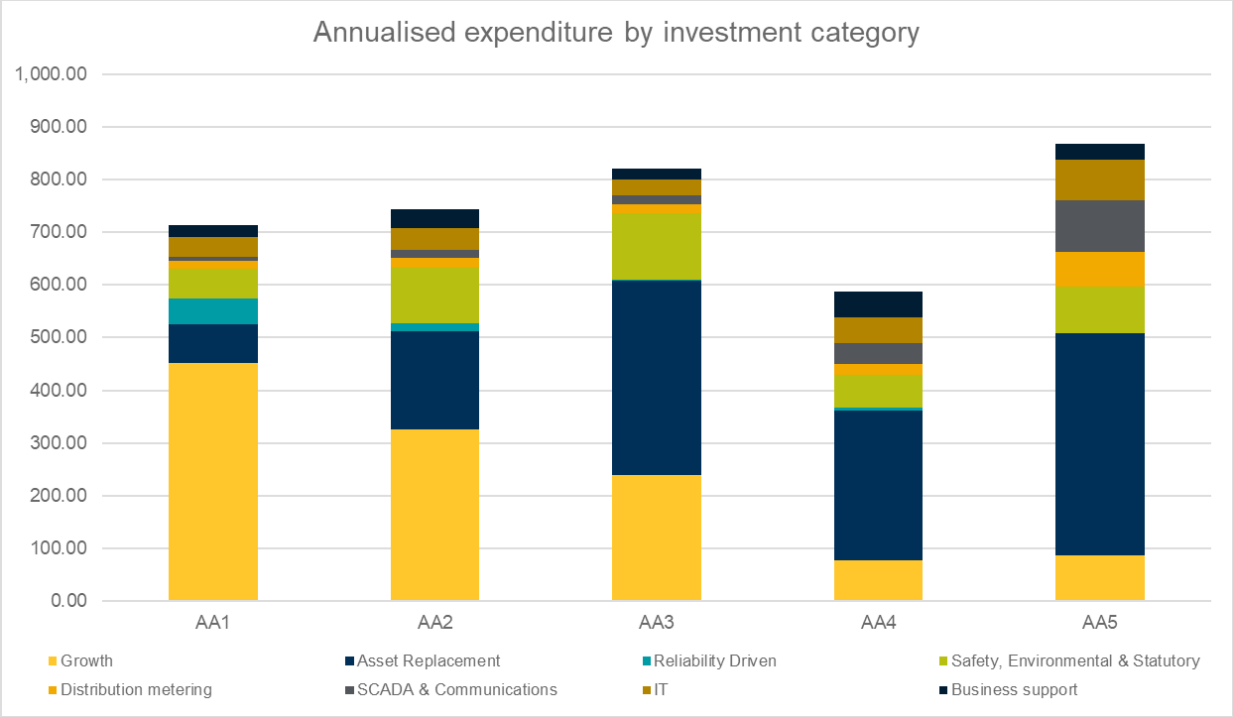
Net capital expenditure by investment category
($ million real at 30 June 2022)



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Major expenditure areas

Replacing/rebuilding the network

- Network renewal underground program:
  - $440 million, net of capital contributions of $241.9 million to underground 875km of overhead distribution lines.
- Stand-alone power systems:
  - $330 million to install 1,861 units.

Data and visibility

- SCADA, communications and IT:
  - $435 million higher than AA4.
- Advanced meters:
  - $317 million to replace all (795,130) meters with advanced meters.

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Challenges for expenditure assessment

- The future grid is likely to look quite different.
- DER and new technologies are replacing the traditional network.
- Relevant matters currently under development (e.g. next Whole of System Plan, Distribution System Operator).
- Western Power's grid strategy.
- How to determine:
  - Whether the proposed investment for AA5 is reasonable, properly timed and based on sound cost estimates.
  - Mix between operating expenditure and capital expenditure.
  - Minimising risk of expenditure/assets that are not required or fit for purpose.

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Questions

Economic Regulation Authority

05

Conclusion

Jenness Gardner, ERA CEO

For more information

- You can view Western Power's proposal and supporting documents and the ERA issues paper at www.erawa.com.au/AA5
- Our team is always available to talk further – please contact via info@erawa.com.au in the first instance.
- The first public submissions period closes on **Wednesday, 20 April 2022.**
- Further consultation will take place in the regions prior to the draft decision.
- A second full round of consultation, including another public forum, will occur following the ERA's draft decision – circa September 2022.

Economic Regulation Authority

Thank you

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