

Revenue Proposal Reference Group (RPRG) Meeting #1

22 October 2019, 1:00pm – 4:00pm



A large, light gray circular graphic containing a map of Queensland, Australia. The map shows the outline of the state and a network of white lines representing power lines or infrastructure, with several circular nodes along the lines.

Introduction

Gerard Reilly

1. Provide base-level foundation of understanding about Powerlink and its operations.
2. Involve the RPRG in the development of Powerlink's proposed "Hybrid+" capital expenditure forecasting methodology.
3. Establish the broad scope of Powerlink's business narrative to support the Revenue Proposal, prior to collaboration with the Customer Panel in December 2019.
4. Inform the RPRG about the intended elements to be included in Powerlink's Framework and Approach (F&A) Initiation Letter, due to be submitted to the AER end October 2019.

Stakeholder group	Representatives
RPRG members	<ul style="list-style-type: none">• Mark Grenning, EUAA• Ayden Rye, Shell• Kerry Connors, ECA• Georgina Davis, QFF• Henry Gorniak, CS Energy
CCP23	<ul style="list-style-type: none">• Mark Henley (Chair)• David Prins• Bev Hughson
AER	<ul style="list-style-type: none">• Slavko Jovanoski, Director
Powerlink	<ul style="list-style-type: none">• Jenny Harris, GM Network Regulation• Gerard Reilly, GM Communications• Matthew Myers, Manager, Revenue Reset• Greg Hesse, Stream Lead – Capital Expenditure• Andrew Bannister, Stream Lead – Operating Expenditure• Dana Boxall, Stream Lead – Finance and Modelling• Alastair Andrews, Stream Lead – STPIS

A large, light gray circular graphic containing a map of Queensland, Australia. The map shows the state's outline and a network of white lines representing power lines or transmission routes, with several circular nodes along the routes.

RPRG governance

Matthew Myers

- **Sitting fees / financial support** – RPRG members need to confirm if sitting fees are being sought.
- **Travel costs** – RPRG members to provide relevant details to Chair for processing.
- **Non-financial support** (e.g. education on regulatory, economic, engineering or industry matters) – consider individually throughout the RPRG process.

Q: Any questions regarding the Terms of Reference?

- The AER and CCP23 recognises Powerlink’s engagement process as an important part of the overall Revenue Determination process.
- The AER and CCP23 are committed to participating in the engagement process when it can add most value, e.g.:
 - providing information where appropriate on technical and regulatory matters (AER);
 - providing customer views, based on experiences from other jurisdictions, when relevant (CCP23) – noting CCP23 provides its advice to the AER and not directly to network businesses.
- The AER and CCP23 will aim to attend and participate in RPRG meetings where topics are most relevant.
- Views expressed by AER representatives are intended to provide initial input to the RPRG and will not bind the AER Board.
- Powerlink welcomes AER and CCP23 involvement throughout the engagement process as an important factor in achieving a Revenue Proposal that is capable of acceptance by customers, the AER and Powerlink.

- The Customer Panel remains Powerlink's primary mechanism for receiving ongoing input and feedback to inform Powerlink's decision-making.
- The RPRG's role is to enable Powerlink to engage in more detail, and more regularly, on the Revenue Proposal.
- *Input* will be sought on key positions related to the Revenue Proposal from the RPRG.
- *Agreement* on key positions (including any statements regarding whether the Revenue Proposal is capable of acceptance) must come from the full Customer Panel.
- **For consideration and discussion: RPRG customer representative to report back to the Customer Panel at each meeting on a rotational basis.**

- Refer to handout for discussion.

A faint, light gray map of Queensland, Australia, is centered in the background. It is overlaid with a large, light gray circle. The text is centered over the map.

Interim Chief Executive introduction

Kevin Kehl

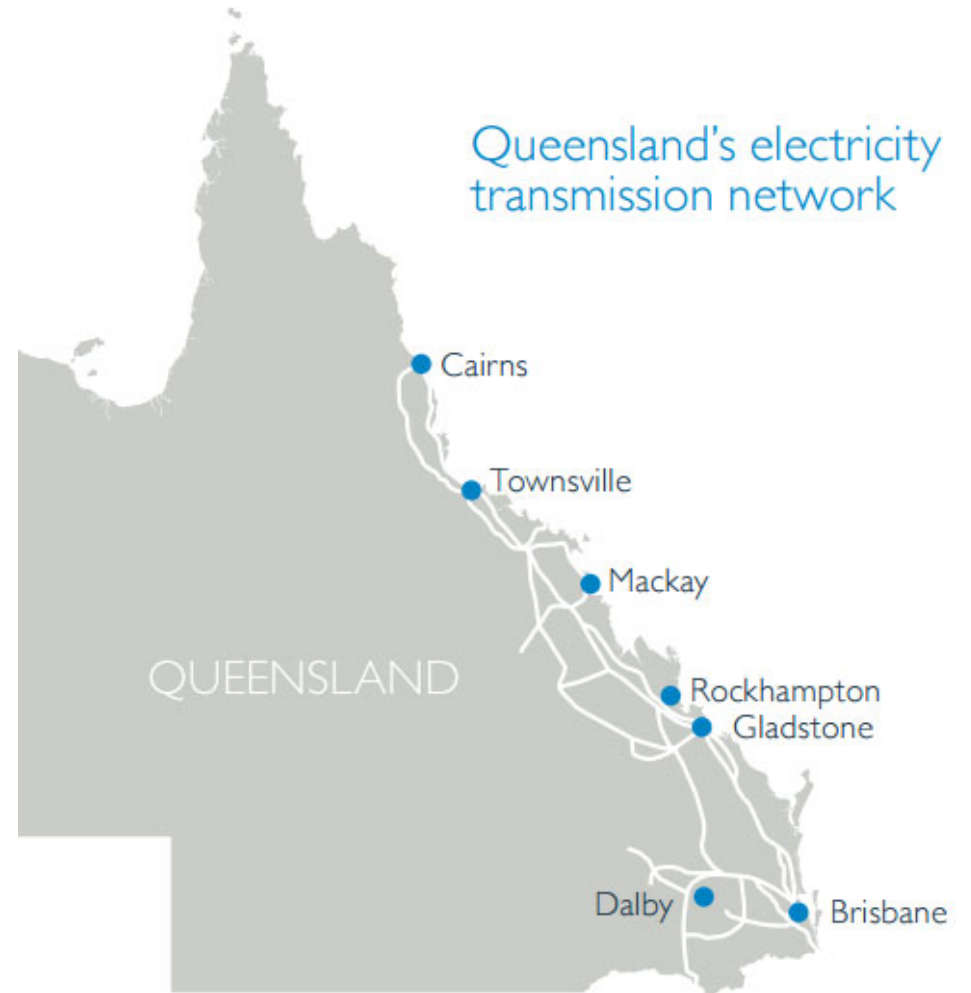
A large, light gray circular graphic containing a map of Queensland, Australia. The map shows the outline of the state and a network of power lines with several circular nodes, representing the RPRG (Regional Power Reliability Group) area.

RPRG Induction Session

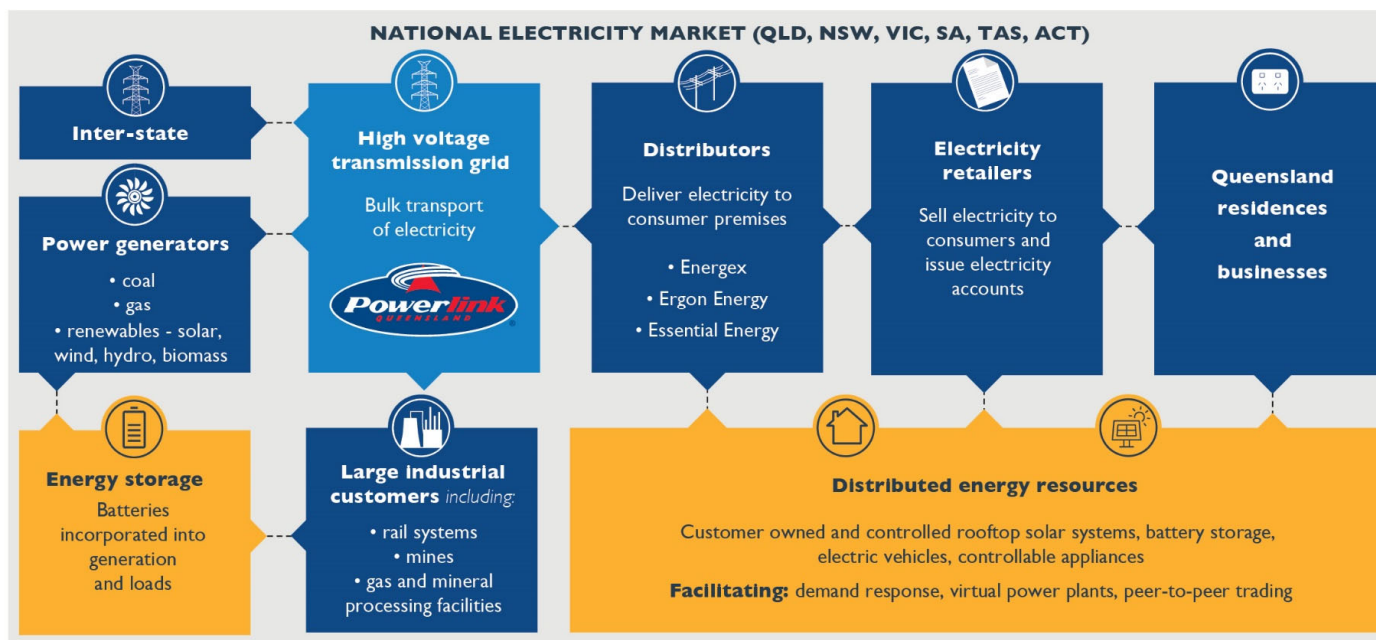
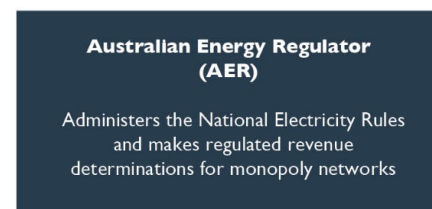
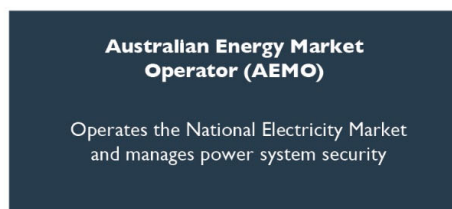
Matthew Myers

- About Powerlink – **Matthew Myers**, Manager Revenue Reset
- BAU engagement between Powerlink and its Customer Panel – **Mark Grenning**, EUAA
- Operating environment – **Stewart Bell**, Acting EGM Strategy and Business Development
- External regulatory environment – **Jenny Harris**, GM Network Regulation
- Revenue Determination process background – **Jenny Harris**
- Our approach to the 2023-27 Revenue Determination process – **Matthew Myers**

- We own, develop, operate and maintain the electricity transmission network in Queensland.
- Our transmission network runs approximately 1,700km from Cairns down to New South Wales, delivering electricity to more than four million Queenslanders.
- We transport high voltage electricity, generated at major power stations, through our transmission grid to the distribution networks owned by Energex, Ergon Energy and Essential Energy (in northern New South Wales) to supply customers.
- We also transport electricity to high usage industrial customers such as rail companies, mines and mineral processing facilities, and to New South Wales via the Queensland/NSW Interconnector transmission line.



Our role in the energy supply chain



- Powerlink's definition of a customer is someone who receives or consumes a good, service, product or idea.
- Powerlink's definition of a stakeholder is someone who can affect, or be affected by, Powerlink's actions, objectives and policies.



Direct Customers

Generators, Large Loads, Network Service Providers, Telco's, Consultancy and Services.



Indirect Customers

4 million Queenslanders.
Individuals, businesses,
& organisations.



Internal Customers

Our colleagues across
the business who depend
on our work.

Asset base
2018/19

86%

Prescribed Services (red)

- Required to meet obligations
- Fully regulated by AER
- User pays share for existing grid through TUOS

5%

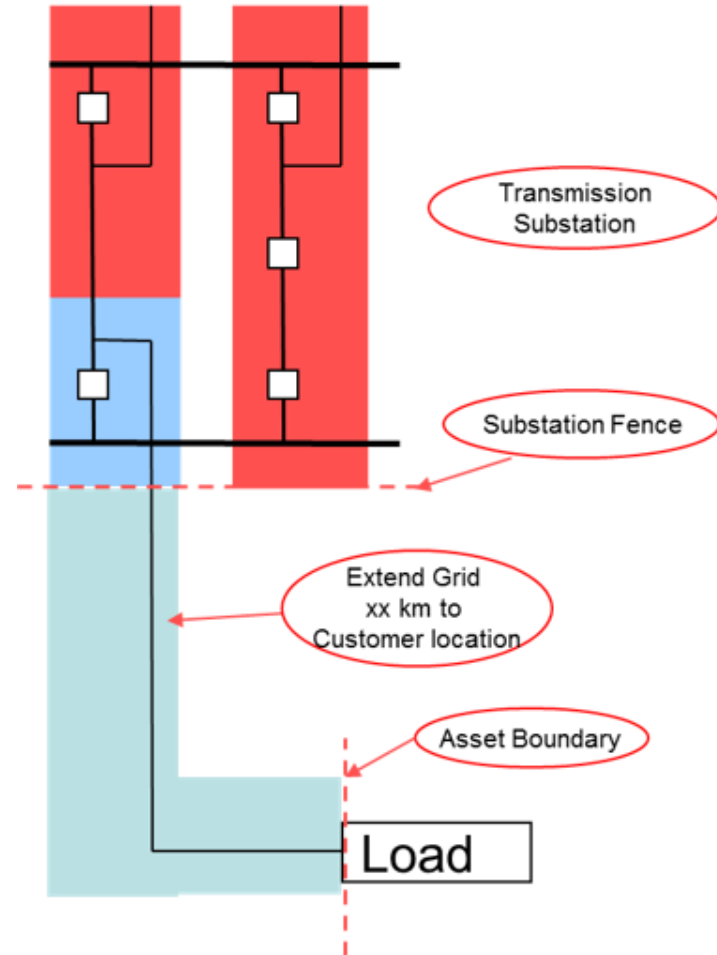
Negotiated Services (blue)

- Above standard services
- Can only be provided by Powerlink
- Lightly regulated by AER
- User pays

9%

Non-Regulated Services (green)

- Requested by 3rd party – often a connection
- Contestable – could be provided by others
- Bilateral contract








The cost of our regulated service



7%

The cost of Powerlink's high voltage electricity grid represents around 7%* of the total delivered cost of electricity for the typical Queensland residential electricity consumer.

Electricity supply chain components	Proportion of electricity bill
 Generation	33%
 Transmission	7%
 Distribution	40%
 Retail and other [^]	16%
 Environmental policies	6%

*2018 Residential Electricity Price Trends Report

[^]Includes costs associated with retail, losses and errors in the estimated value of all other supply chain cost components, the AEMC 2018 Residential Price Trends Report refers to this overall component as residual.

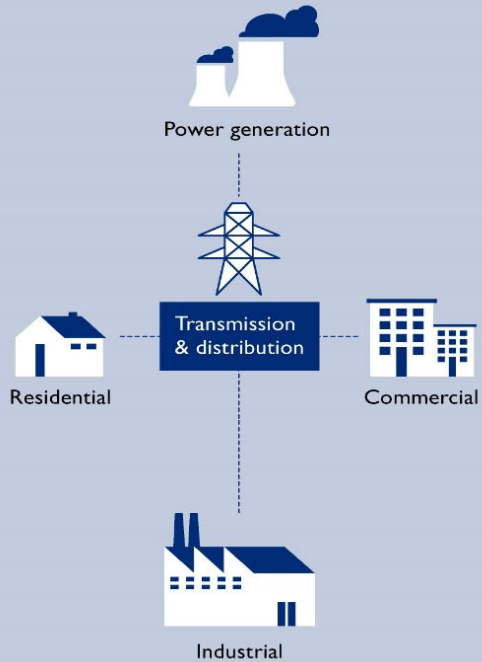
RPRG Induction Session

BAU engagement – Powerlink & its Customer Panel
Mark Grenning, EUAA

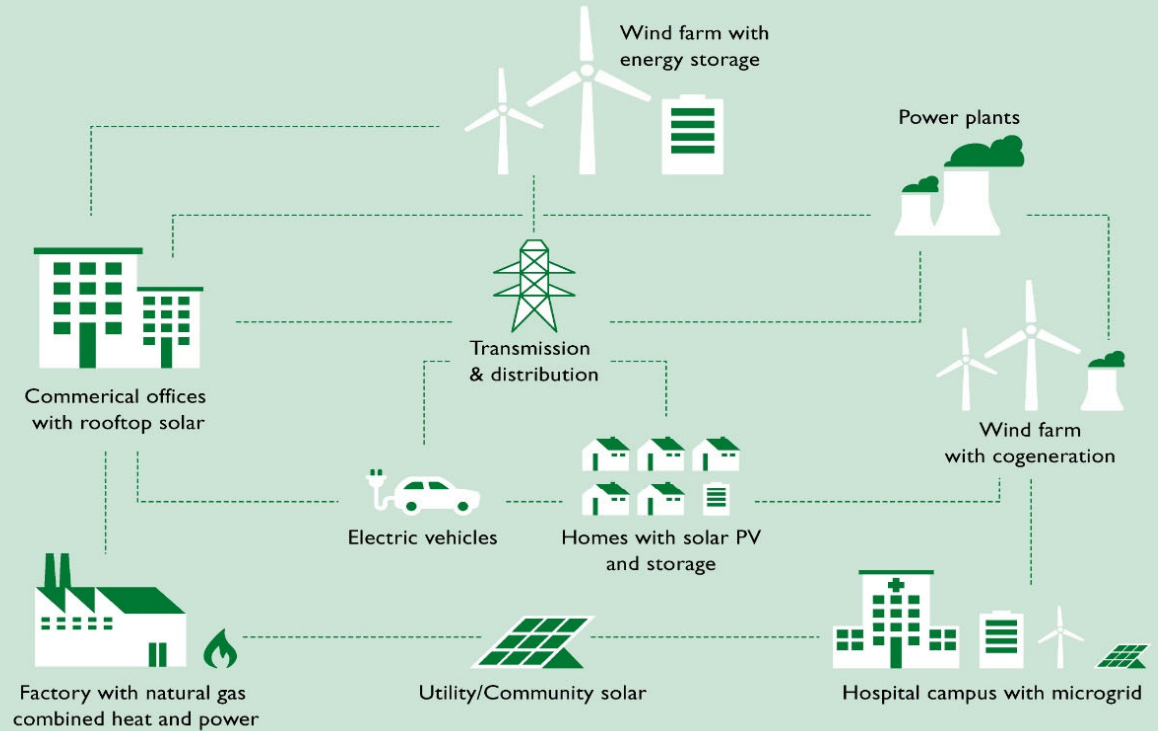
RPRG Induction Session

Operating environment
Stewart Bell

One-way power system



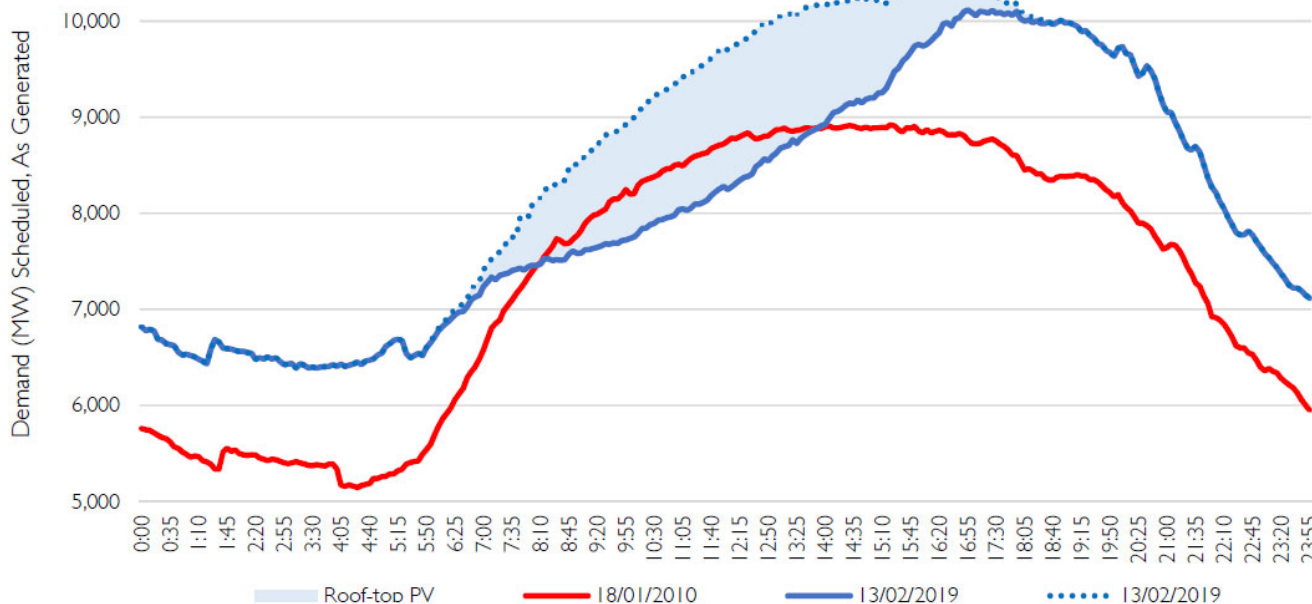
Smart, Flexible Energy System



Changing shape of demand



Evolution of Maximum Demand Over Time

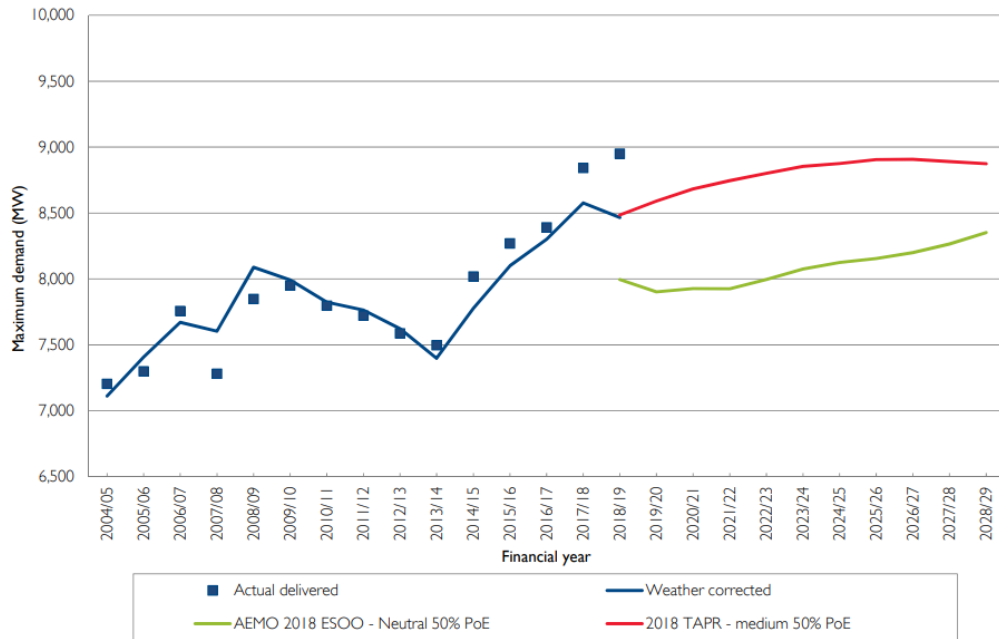


Dashed line includes the estimated production from rooftop solar to indicate end-use consumption

- New 'Operational Demand' record: 10,044MW on 13 February 2019
- Qld NSW Interconnector and Terranora were at full import for network conditions (~300MW) at time of max operational demand
- The transmission network performed well with no outages
- Peak would have been over 10,500MW without rooftop solar
- Changes way we plan network - opportunities to use different solutions in response to shorter peak.

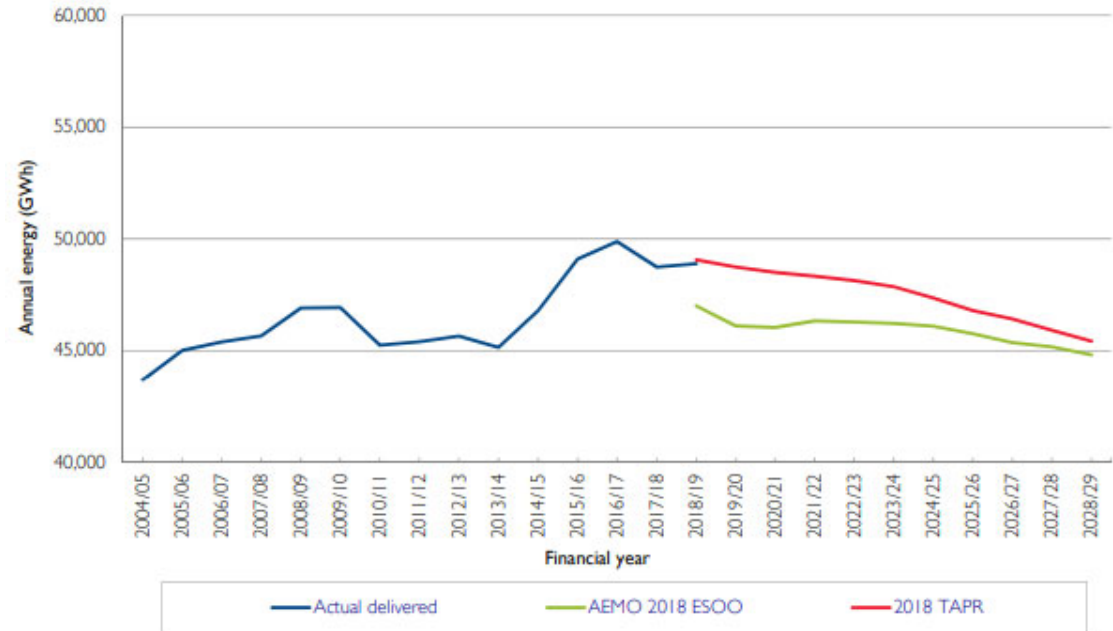
Medium economic outlook forecasts from Powerlink's *Transmission Annual Planning Report 2019*

Demand



- Increasing by average 0.5% over 10 years.

Energy



- Decreasing by average 0.7% over 10 years.

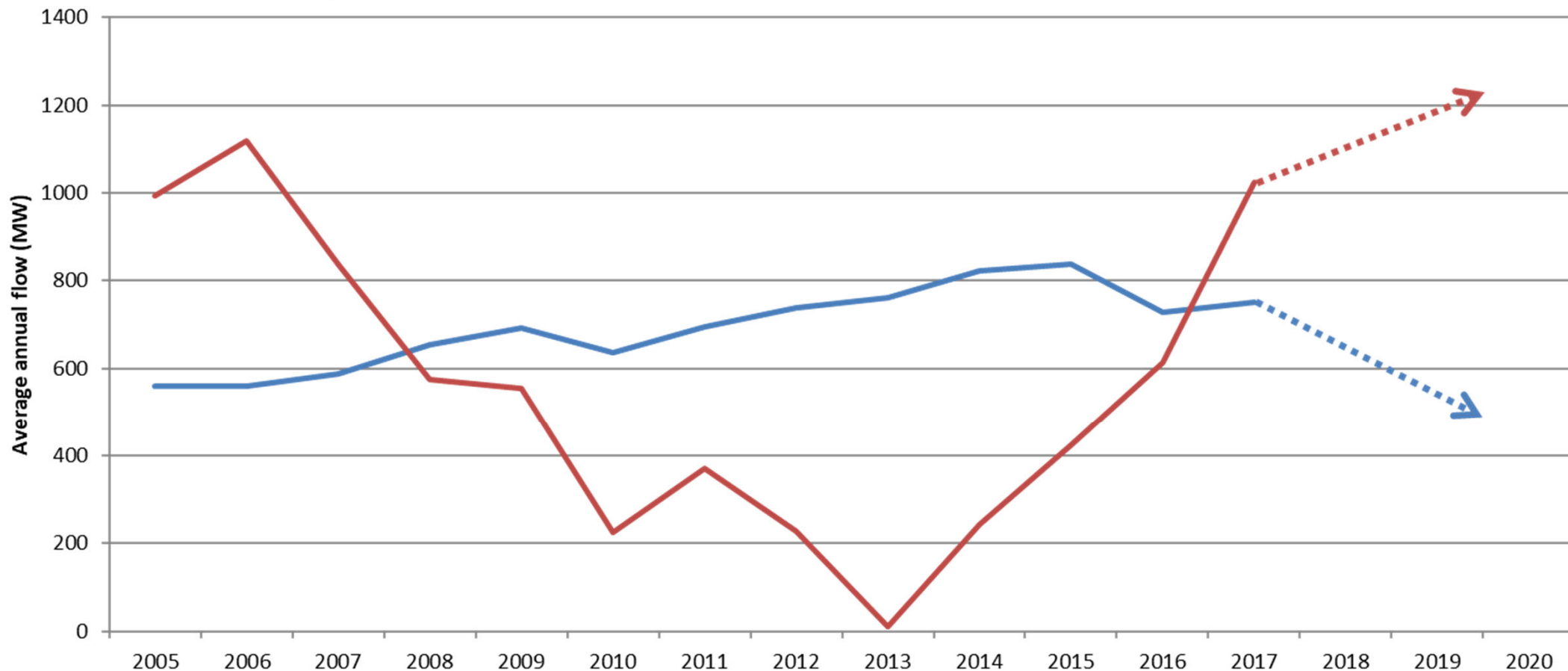
Changing network flows



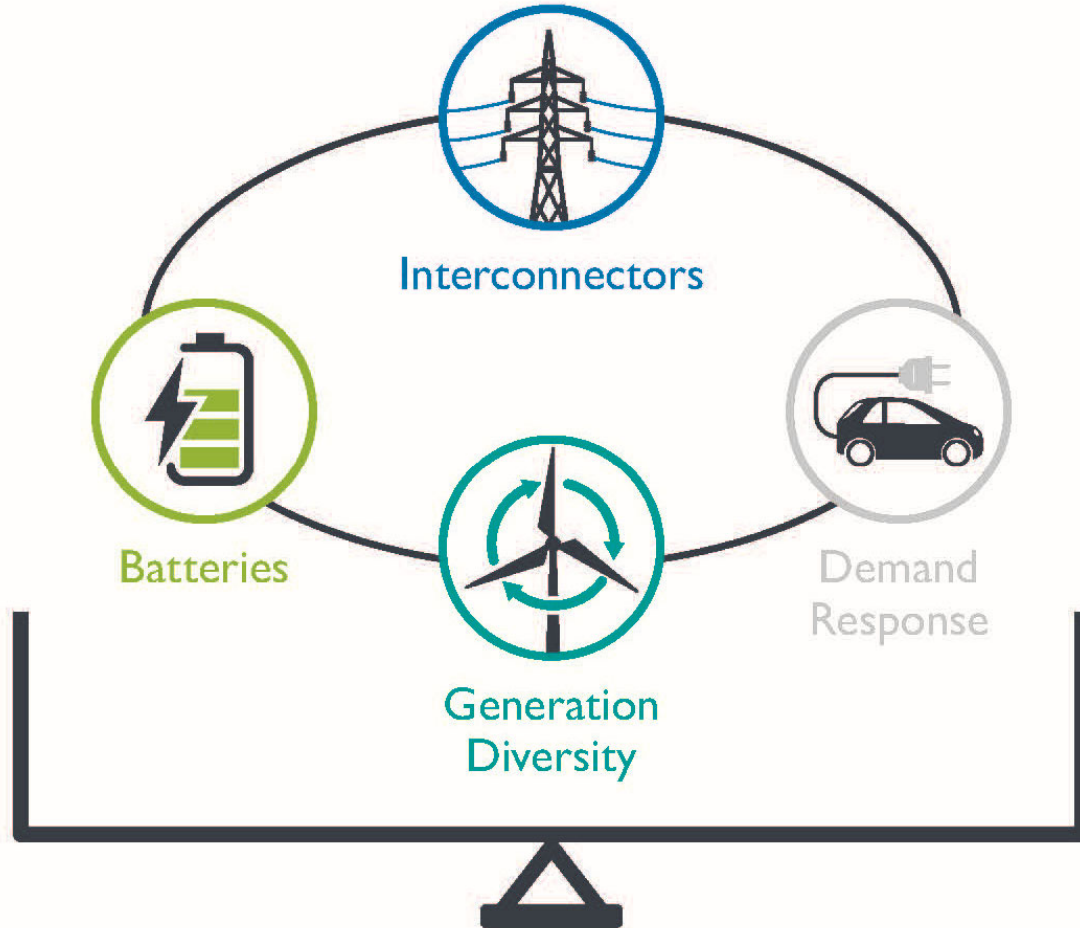
A tale of two flow-paths

— Cental Qld to North Qld

— Central Qld to South Qld



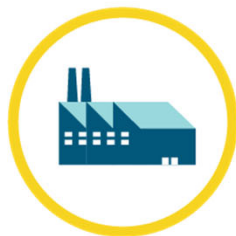
Power system of the future – optimal balance



Network Vision – 30 year outlook



Mobility



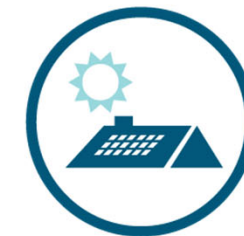
Industrial and commercial loads



Large scale asynchronous generation



Energy export markets



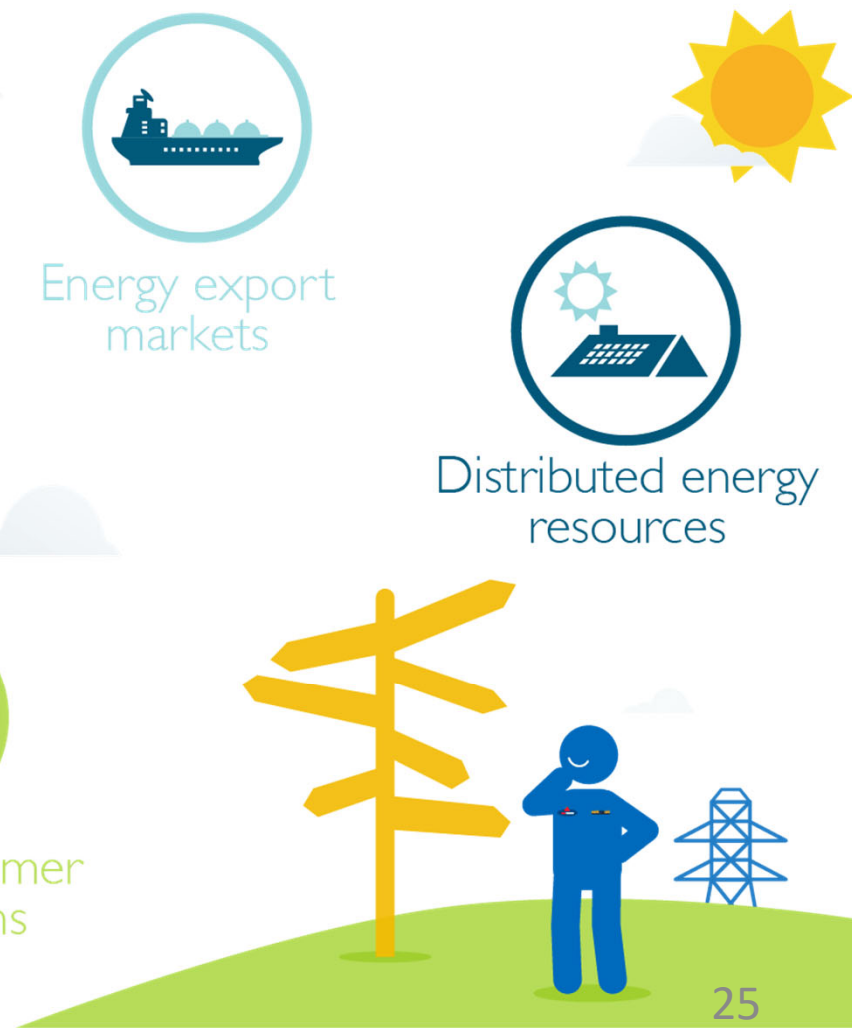
Distributed energy resources



Network designs and operations



End use customer expectations



RPRG Induction Session

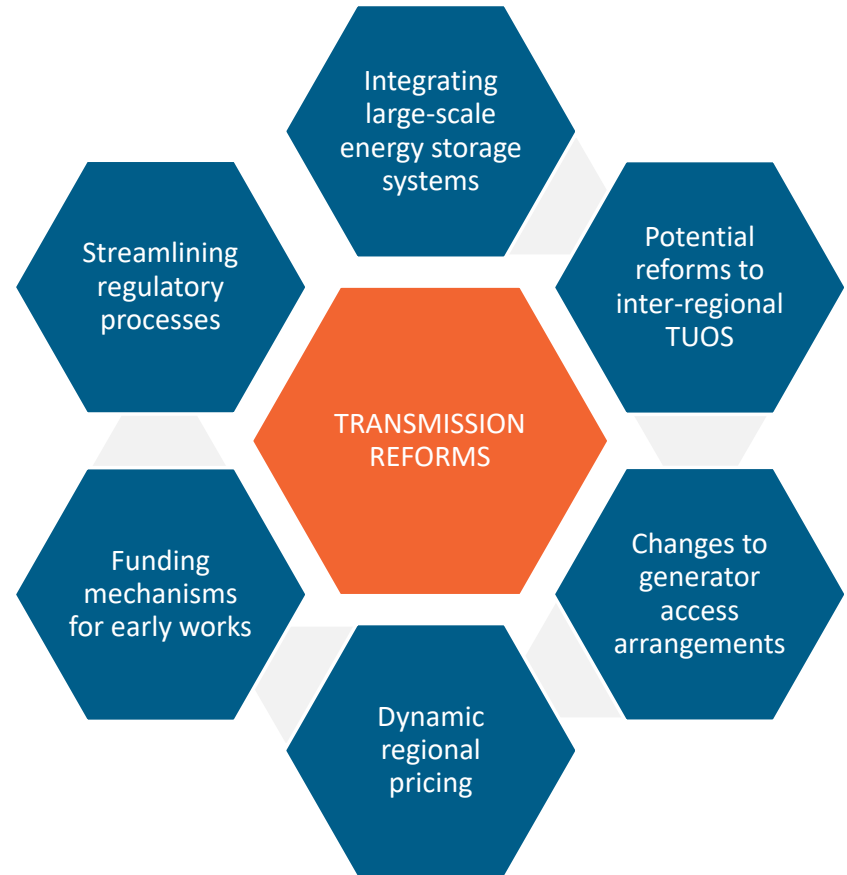
External regulatory environment

Jenny Harris

Most significant reforms in a decade - need to focus on customer outcomes.

External priorities:

- AEMO – actioning the 2018 ISP and 2020 ISP
- Coordination of Generation and Transmission Investment (COGATI) reforms
- Energy Security Board Post-2025 Market Design
- Transmission ring-fencing
- Economic regulatory framework.





Supporting the reliable transition to lower carbon future at lowest cost to customers

Customers need the confidence that appropriate checks and balances have occurred – need opportunity for greater input



Interconnector upgrades – nexus between regulated and competitive parts of the NEM

Need robust but timely analysis with greater opportunity for stakeholder and customer input

Who should pay for interconnector upgrades? Who is deriving the benefits?



Renewable Energy Zones – what are they? How can they help? Who should pay for them?

Key considerations




Who is Tx revenue collected from?



How are Tx prices determined?

- Focused on what we are hearing from our customers:
 - Affordability – not one dollar more, not one day earlier
 - More effective use of network
 - Better understanding of pricing arrangements – greater predictability
 - Inform our next Revenue Proposal
- Looking to influence decision-making in external environment
 - Integrated System Plan
 - COGATI reforms

A large, light gray circular graphic containing a map of Queensland, Australia, with a power line network overlaid on it.

RPRG Induction Session

Revenue Determination process background

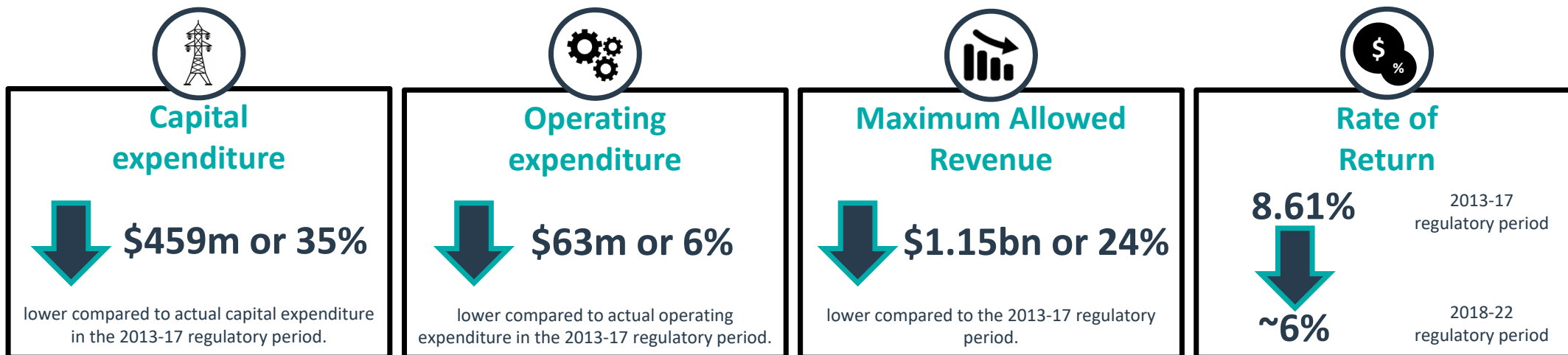
Jenny Harris

- The annual revenue amount which Powerlink collects for its prescribed (regulated) services is determined by the AER through a Revenue Determination process every five years.
- ~80% of Powerlink's revenue comes from prescribed (regulated) services. Majority of the remaining amount of revenue comes from non-regulated services.
- Our current regulatory period runs from 1 July 2017 to 30 June 2022. Next regulatory period is 1 July 2022 to 30 June 2027.

Previous determination (2018-22 AER Decision)



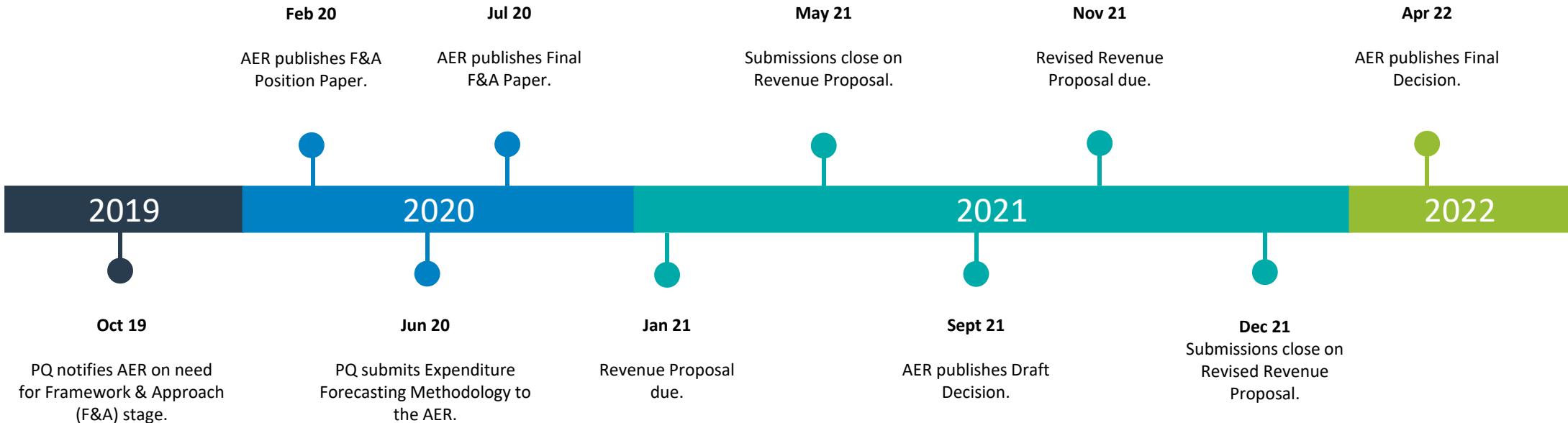
- Powerlink's contribution to electricity bills reduced by a third from 1 July 2017.
- This was due to a range of factors, shown in the diagram below. All figures are over the five year period 17/18-21/22.



All figures in \$16/17.

From 2018-22, the Rate of Return varies year-on-year.

Revenue Determination process milestones



Revenue Proposal – revenue building-blocks



Return on Capital = a measure of return on investments (capex)

Return of Capital = annual regulatory depreciation allowance

Opex = annual operating and maintenance cost allowance

Tax = calculated effective company tax payable

EBSS = carryover amounts for the Efficiency Benefit Sharing Scheme from the previous regulatory period

CESS = carryover amounts for the Capital Expenditure Sharing Scheme from the previous regulatory period

WACC - Powerlink must apply the AER's new Binding Rate of Return Instrument

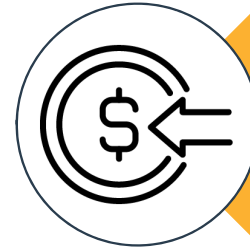
RAB - adjusts each year for new assets (capex), disposals and depreciation

Other elements of a Revenue Proposal



Operating environment

Economic outlook
Government policy
Regulation
Customer drivers



Pricing methodology

How MAR is allocated to categories of prescribed services



Incentives

EBSS - opex
CESS - capex
STPIS – network performance



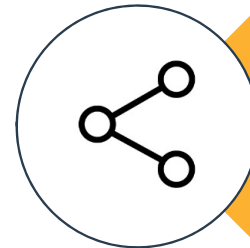
Nominated pass through events

e.g. insurance caps, terrorism,
insurer credit risk



Project estimates

Escalators, estimates



Shared assets

e.g. oil testing

A large, light gray circular graphic containing a map of North Carolina. The map is centered and shows the state's outline with some internal details like major cities and roads.

RPRG Induction Session

2023-27 Revenue Proposal approach

Matthew Myers

Deliver a Revenue Proposal that is capable of acceptance by our customers, the AER and Powerlink.

Balance the needs for appropriate expenditure to manage the network, a reasonable price for customers and appropriate returns to Shareholders.

Meaningfully engage with our customers and other stakeholders.

Ensure the Network Vision is considered within determination forecasts and plans as part of Powerlink's long-term narrative.

Improve efficiency and robustness of the determination process for Powerlink, our customers, stakeholders and the AER.

We are committed to providing a Revenue Proposal that:

- is based on genuine, demonstrated needs;
- allows us to meet all our regulatory obligations for prescribed services; and
- is justifiable to the AER and customers as prudent and efficient.

Snapshot of some of our current areas of focus



Increased external engagement



Benchmarking



Capex investment and planning



STPIS scheme



Capex forecasting methodology



Current performance against current determination



IT expenditure



Capex/opex trade-offs



AEMO ISP and contingent projects



Opex position and potential step changes

Our engagement approach



Break



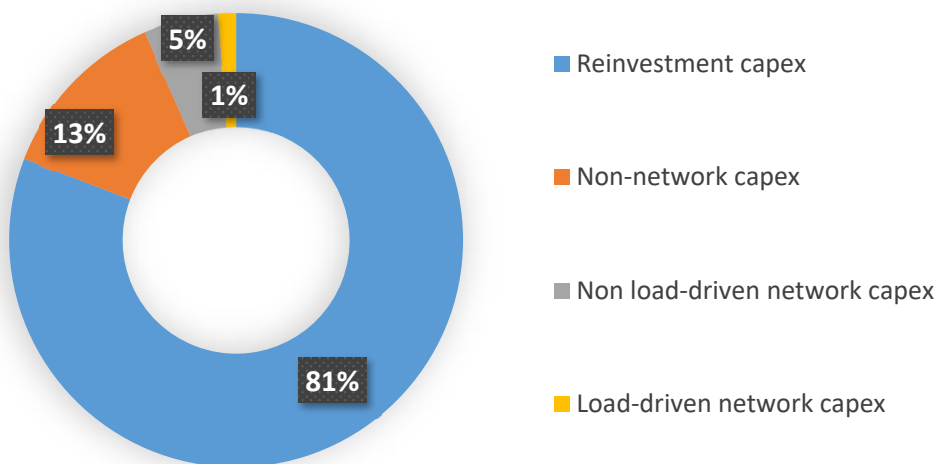
Capital expenditure forecasting

Greg Hesse

A large, light gray circular graphic in the background contains a map of Queensland, Australia. Overlaid on the map is a network of white lines representing power lines, with several circular nodes indicating substations or connection points.

- The cost of:
 - Investing and re-investing in our network assets – such as transmission lines and substations
 - Supporting delivery of network services, including IT, vehicle fleet, tools, equipment, offices and depots.

Capital Expenditure – 2018-22 regulatory allowance

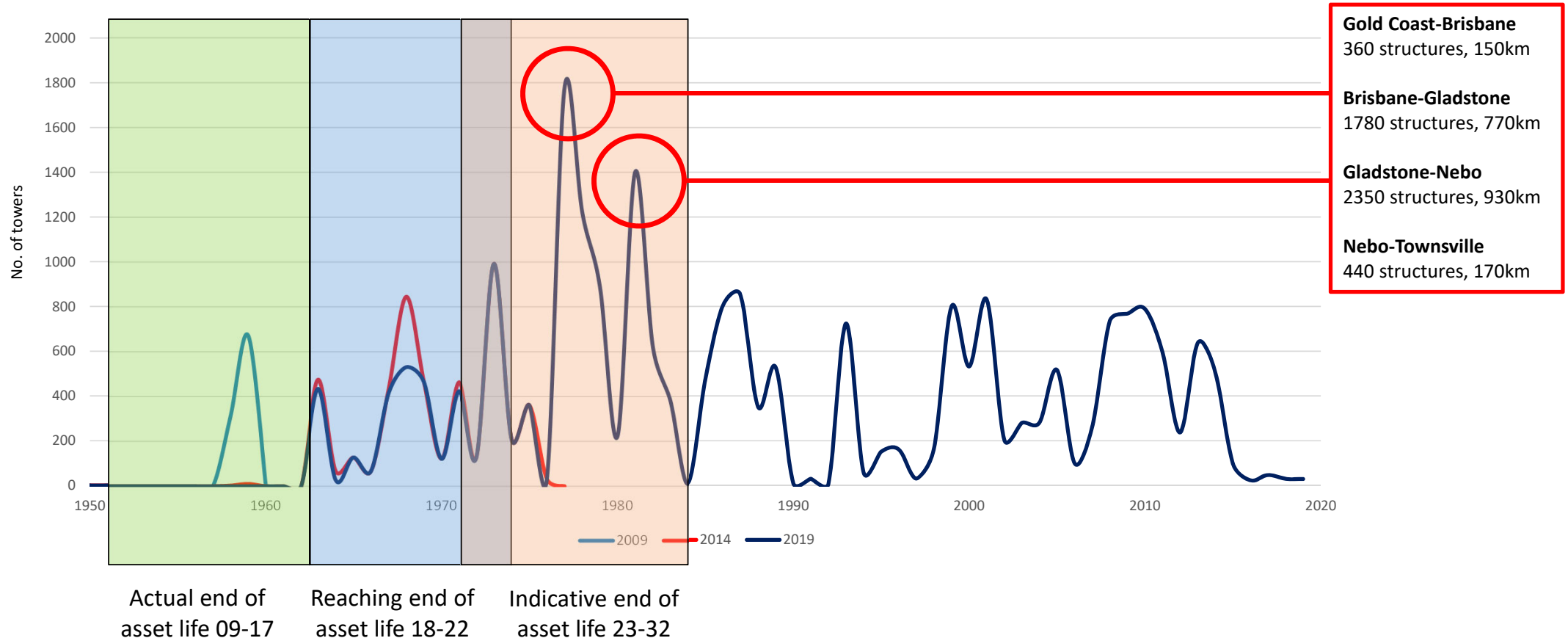


- Network reinvestment expenditure comprises the bulk of our current regulated business.
- Non-network capex includes items such as IT capex, motor vehicles, buildings etc.
- Non load-driven network capex includes communications, security compliance etc.
- Load-driven network capex includes augmentations and accounts for less than 1% of capex.

Reinvestment capex will be a continued focus



Transmission towers age profile

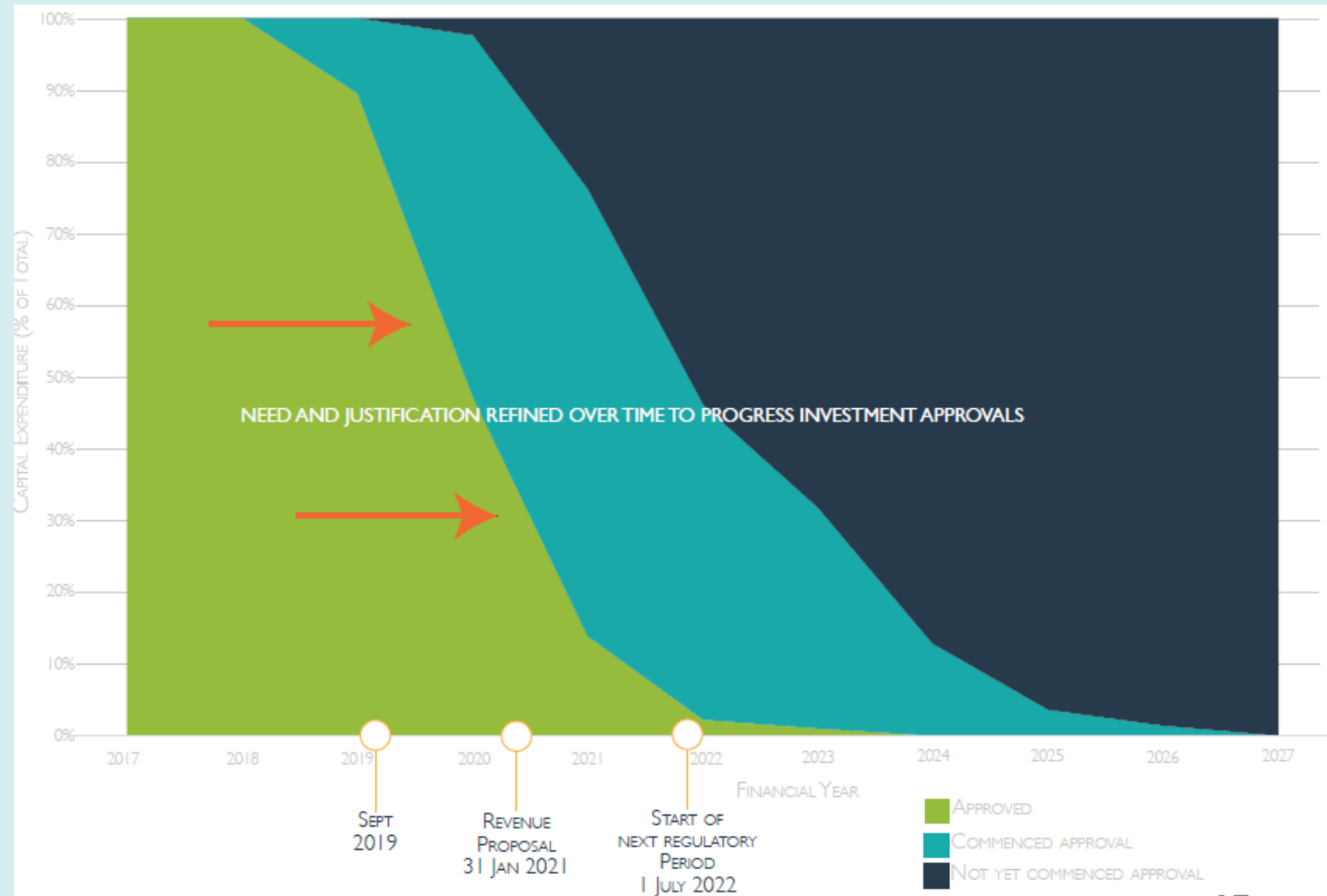


- The NER and related AER Guidelines do not prescribe any specific methodology to be used for developing capex forecasts.
- Three options considered:
 - full bottom-up;
 - Hybrid (a mix of top-down and bottom-up); and
 - Hybrid+ (per Hybrid but with additional bottom-up forecasts and justifications for any 'lumpy' investments e.g. large line refits).
- Powerlink utilised a Hybrid approach during the last reset. Our current thinking for this reset is **Hybrid+**.
- We are keen for customer and AER input on this approach.

Why Hybrid+?

- Fit-for-purpose and reflects our asset management practices.
- Recognises the AER approves a capex allowance, not a fixed investment program.
- Enables a more efficient, transparent and streamlined Revenue Proposal process.
- Provides customers a forecast that is simpler to understand and more accessible.
- Allows a more straightforward comparison with Powerlink's previous hybrid forecast.

Capital expenditure forecast from 2019 TAPR



Bottom-up

- Approved projects
- Load driven
- Power transformers
- Major one-off needs
- Contingent projects

Repex model

- Transmission lines
- Substations (excl. transformers)
- Secondary systems and telecoms

Trend analysis

- Security / Compliance
- Other



Bottom-up

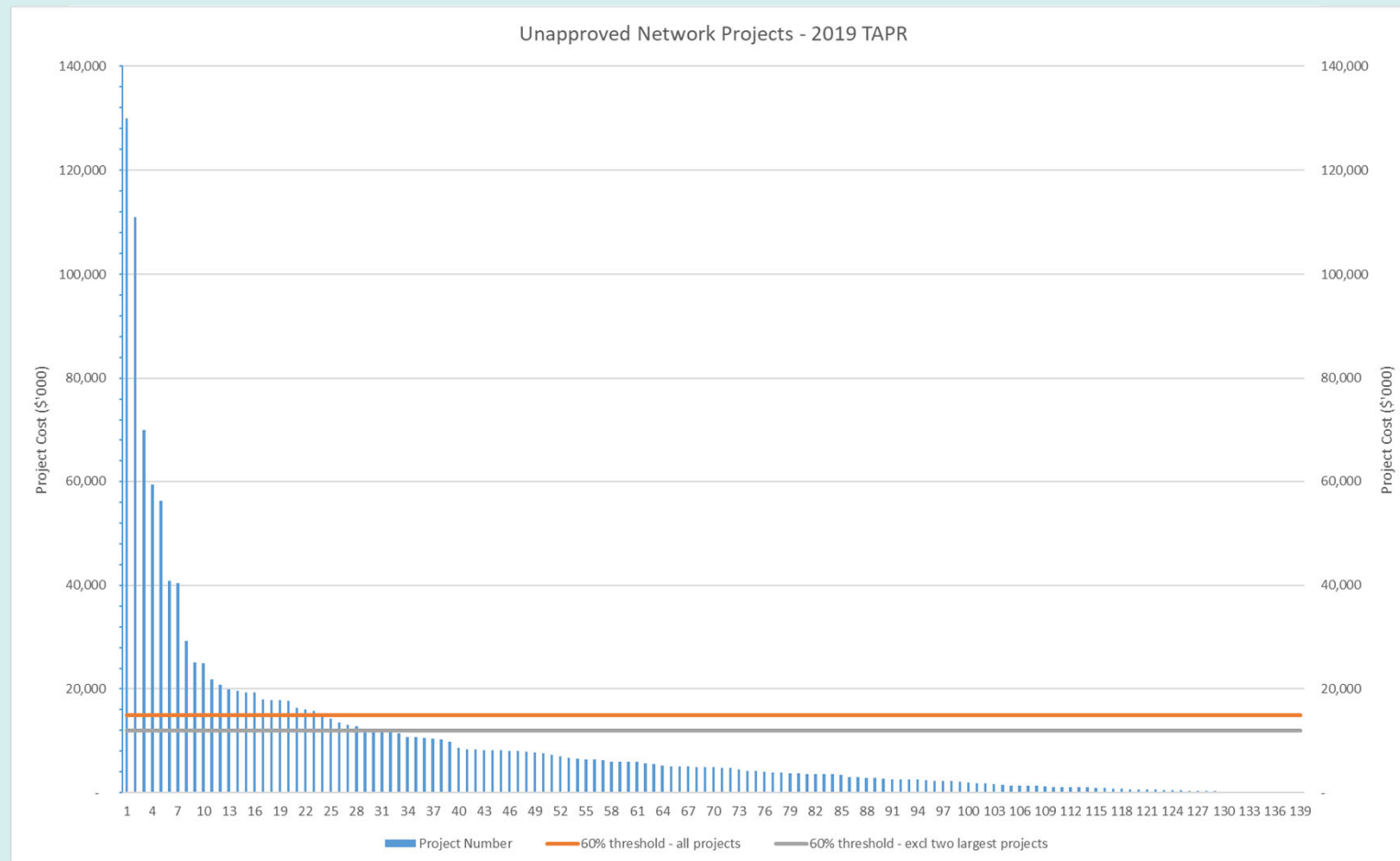
- Approved projects
- Load driven
- Power transformers
- Significant network needs (indicative ~60% threshold)
- Major one-off needs
- ISP / Contingent projects (note: not part of the ex-ante forecast)

Repex model

- Remaining network assets incl.:
 - transmission lines
 - substations (excl. transformers)
 - secondary systems and telecoms

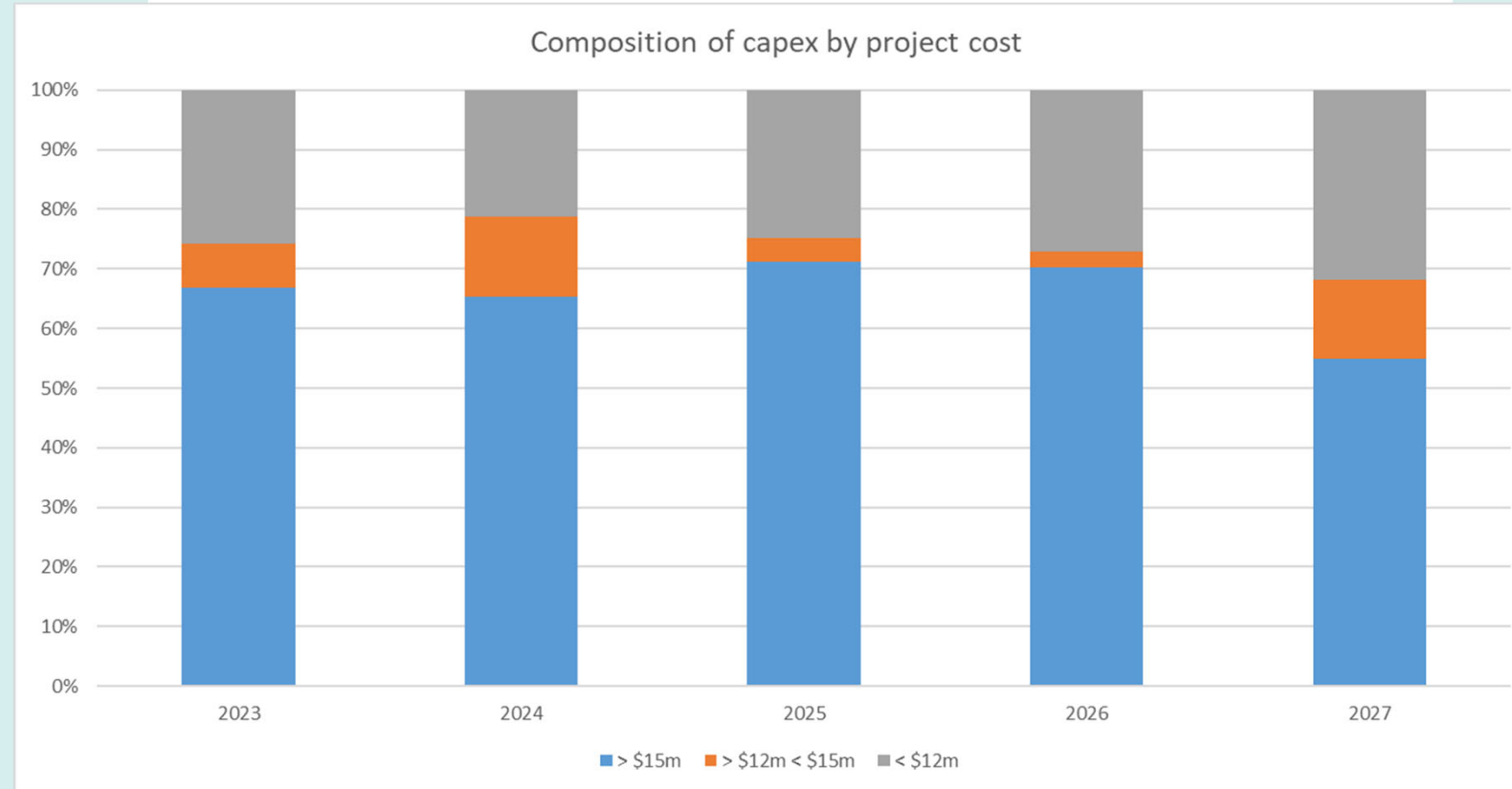
Trend analysis

- Security / Compliance
- Other



Composition is based on 2019 TAPR and is indicative only at this stage.

- The distribution of higher cost projects is relatively even across the regulatory period.
- Hybrid+ methodology is proposed to focus on 'bottom-up' for significant network needs.
- Our initial thinking is to apply a minimum threshold of ~\$12-\$15m.



Powerlink's proposed Hybrid+ approach is intended to be a balance between practicality, effort, cost and reasonableness while still meeting the requirements of the NER and AER Guidelines.

- 1. What else should we be considering to make sure we are striking a reasonable balance from a customer perspective?**
- 2. Are we using reasonable criteria to distinguish between elements that are forecast bottom-up vs. top-down / are there other criteria which might be more appropriate?**

A large, light gray circular graphic containing a map of Queensland, Australia. Overlaid on the map is a network of white lines representing power lines, with several circular nodes at key points. The text "Business narrative" and "Gerard Reilly" is centered over the map.

Business narrative

Gerard Reilly

Purpose of the business narrative

- Allow elements of the Revenue Proposal to be considered against the context of our longer-term vision, challenges, opportunities and customer needs.

Potential structure

- Concise document four to six pages
- Will be dynamic and updated as required
- Clear reference to existing plans and strategies – Network Vision, Powerlink Business Strategy, ISP etc.

Topic	Key elements
General	<ul style="list-style-type: none">• Powerlink Mission and Vision• Changing role of transmission
Customers	<ul style="list-style-type: none">• Changing needs of our customers (directly-connected and end-user)
Policy and Regulation	<ul style="list-style-type: none">• Potential implications of items such as the 2025 Market Design and COGATI
Network challenges and opportunities	<ul style="list-style-type: none">• Emerging network constraints• Age profile of assets• Growth of Variable Renewable Energy (VRE)• Potential for greater interconnection• Maintenance approaches• New Energy Management System
Our people	<ul style="list-style-type: none">• Customer-focused culture• Future skills
Technology and innovation	<ul style="list-style-type: none">• IT and OT strategies• Innovation framework

A large, light gray circular graphic containing a map of Queensland, Australia. Overlaid on the map is a network of white lines representing power lines, with several circular nodes indicating key locations or substations.

Framework and Approach

Matthew Myers

- The AER's Framework and Approach (F&A) provides direction on how certain aspects of the Revenue Proposal should be framed, including:
 - application of incentive schemes;
 - application of the Expenditure Forecast Assessment Guidelines; and
 - whether actual or forecast depreciation will be used to establish the opening RAB position.
- As part of the F&A process, Powerlink may seek to request an amended or replacement F&A paper by way of an F&A initiation letter. Powerlink must do this by end October 2019.
- Stakeholder consultation occurs on the F&A throughout the process.

- At this stage, Powerlink is intending to flag three topics within its F&A initiation letter:
 1. Our proposed capital expenditure forecasting methodology.
 2. Potential application of the Demand Management Incentive Scheme (DMIS) and Innovation Allowance (DMIA).
 3. The Service Target Performance Incentive Scheme (STPIS).
- The F&A initiation letter only seeks to flag the above items, with further consultation to be undertaken (by Powerlink and through the AER's process) prior to a Final F&A being published by the AER in July 2020.

A large, light gray circular graphic containing a map of Queensland, Australia. The map shows the outline of the state and a network of white lines representing power lines or transmission routes, with several circular nodes along the lines.

General business and wrap-up

Matthew Myers

