

Transmission Annual Planning Report (TAPR)

Stewart Bell
Executive General Manager
Network and Business Development

Paul Ascione
General Manager
Asset Strategies and Planning



Acknowledgement

Powerlink acknowledges the Traditional Owners and their custodianship of the lands and waters of Queensland and in particular, the lands on which we operate. We pay our respect to their Ancestors, Elders and knowledge holders and recognise their deep history and ongoing connection to Country.

Transmission Annual Planning Report 2022 Introduction

Stewart Bell

Executive General Manager

Network and Business Development

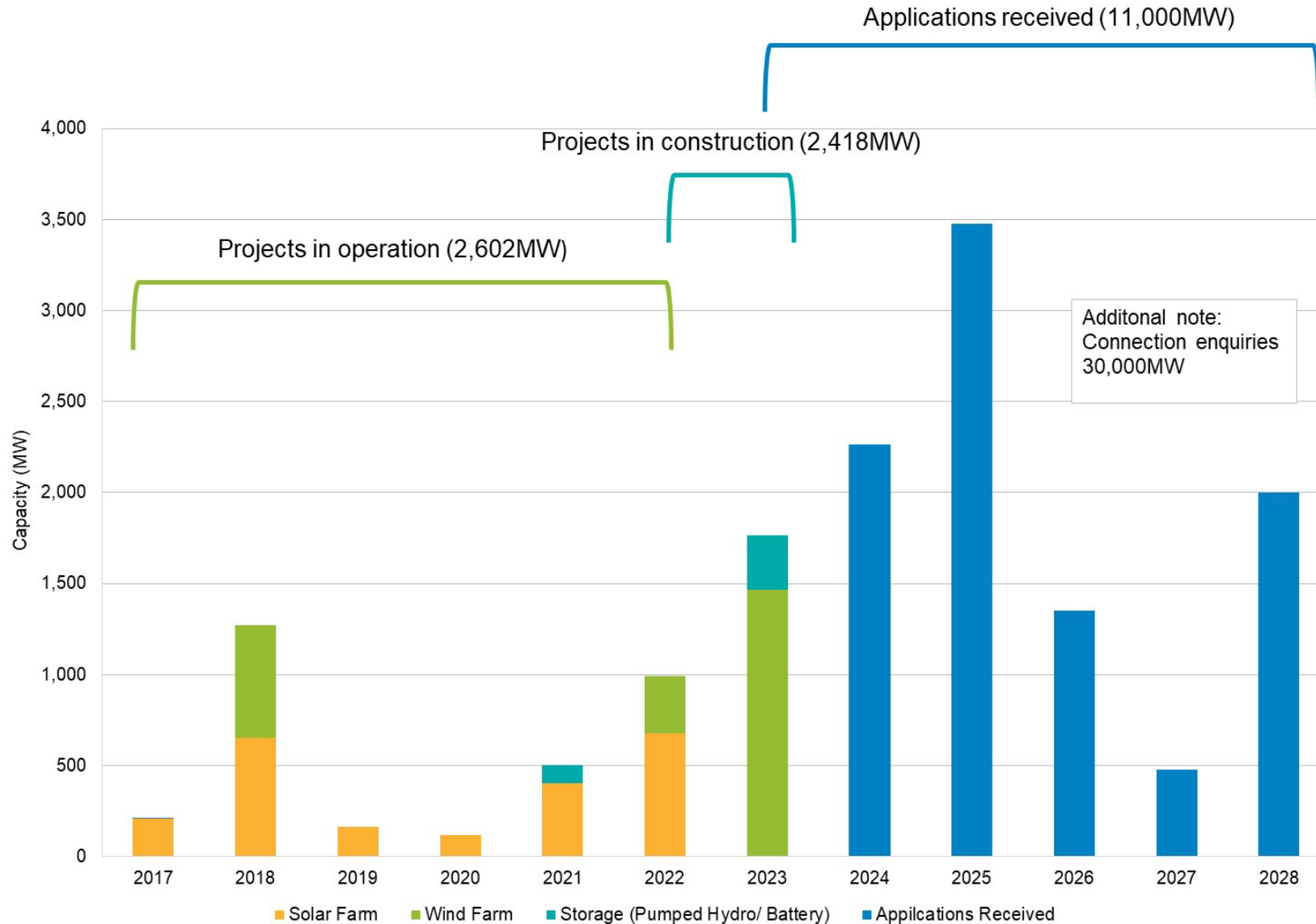
Guiding the market

- Playing an active role in the energy transformation, consideration of the potential for significant hydrogen development, decarbonisation through electrification, and strategically planning for the future
- Continuing to work with the Queensland Government in relation to the Queensland Energy and Jobs Plan (QEJP) and establishment of Queensland Renewable Energy Zones (QREZ) as well as AEMO in the development of the Integrated System Plan (ISP)
- Undertaking early and authentic engagement, working closely with communities to deliver additional benefits for those impacted by the need for the development of new energy infrastructure

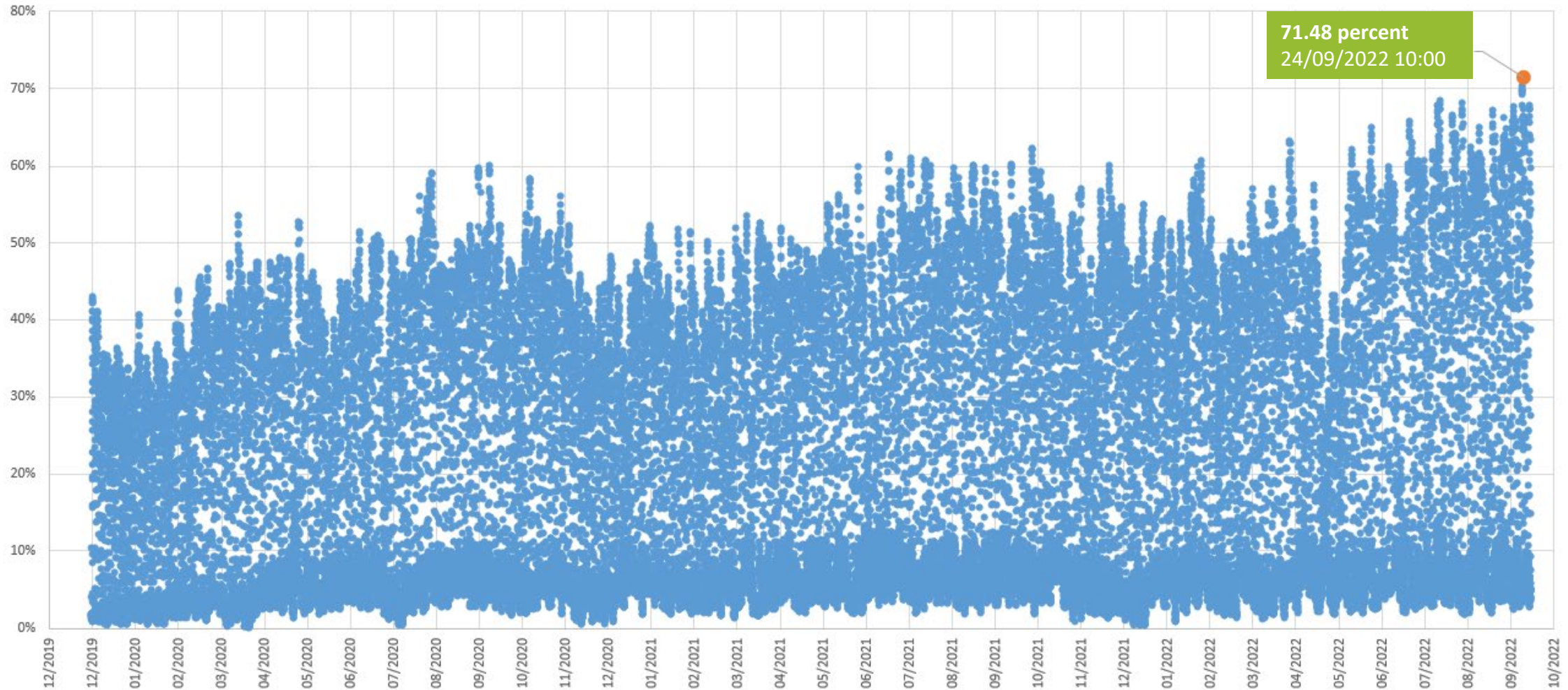


Transformation well on its way

Current and Future Renewable Connections



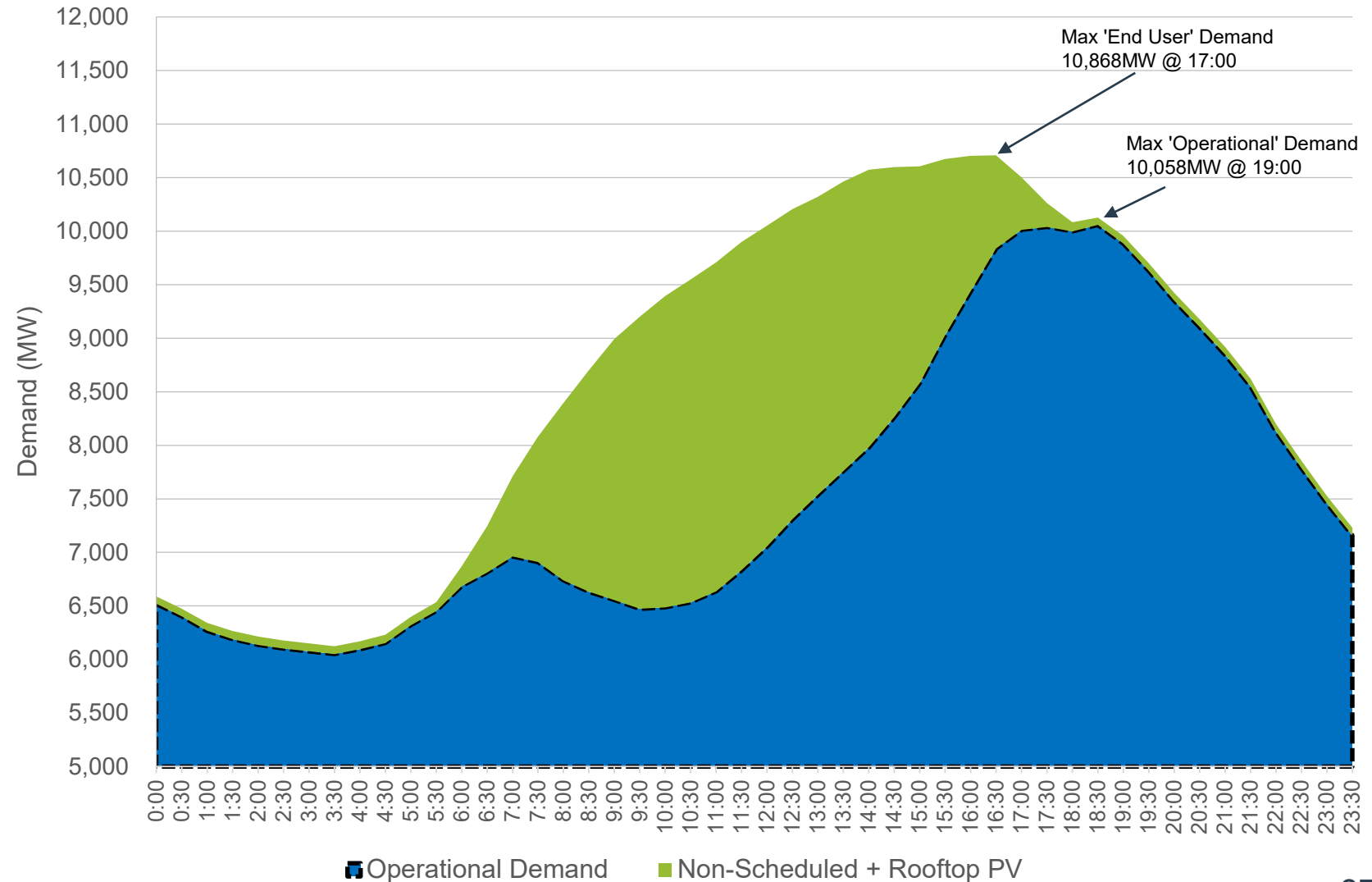
Record renewable generation



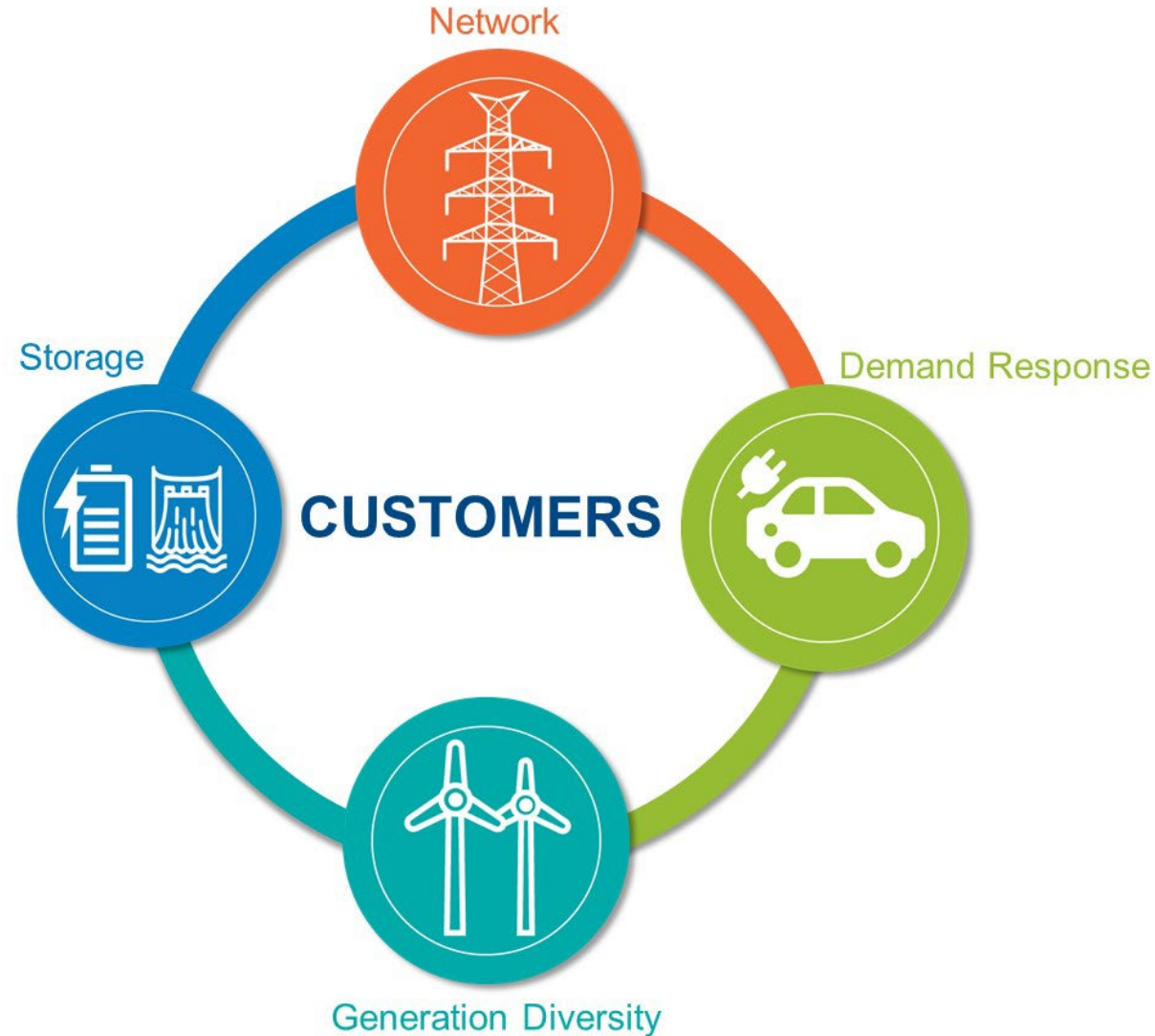
Why we need storage to firm renewables

- End user demand ~800MW higher than operational demand
- At the time of max operational demand:
 - Solar PV – 0MW
 - Large scale wind – 0MW
 - Large scale battery – 5MW
 - NSW import – 250MW

Observed Demand on 8 March 2022



Balancing the energy system transformation



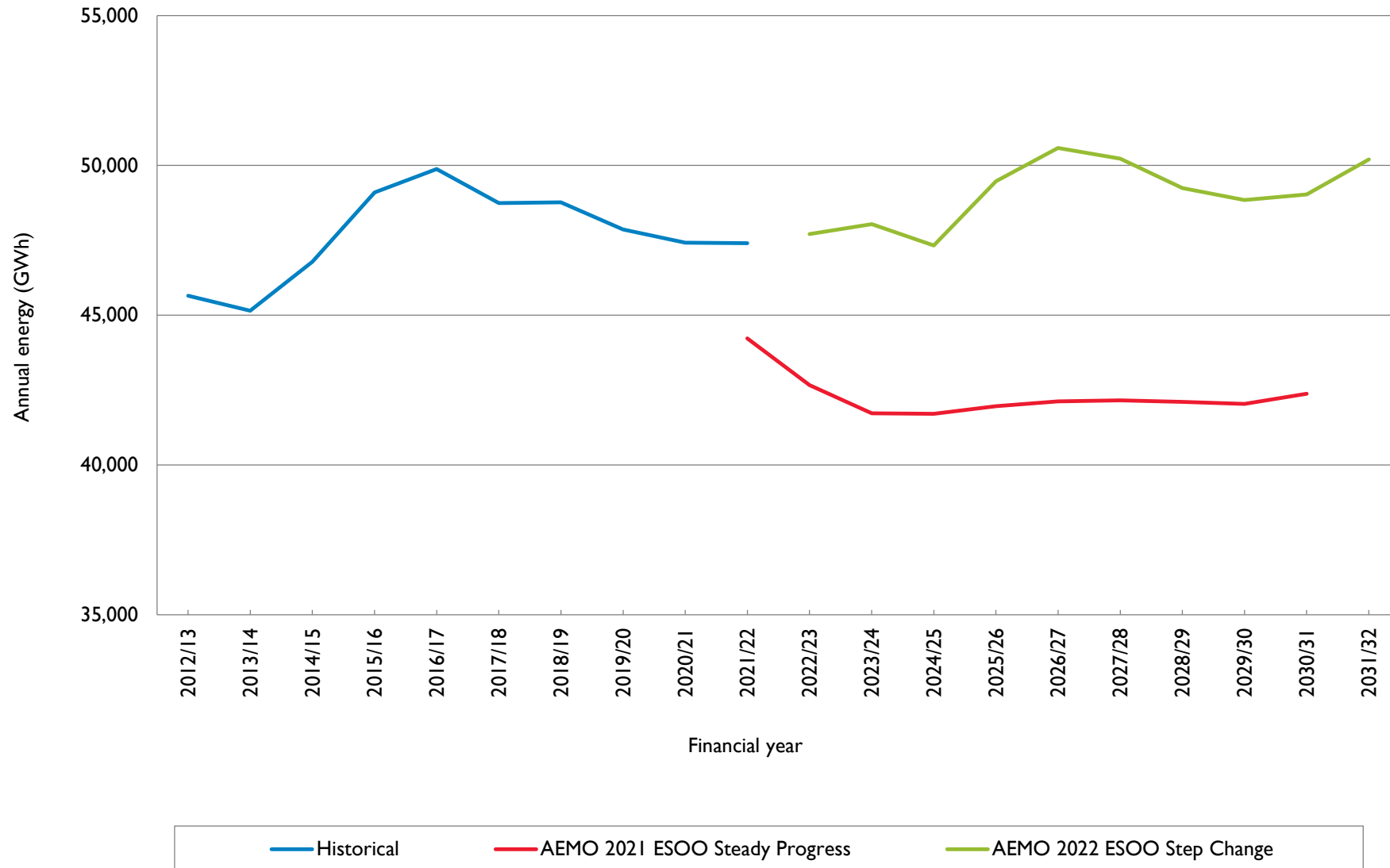
Transmission Annual Planning Report 2022 Technical Presentation

Paul Ascione

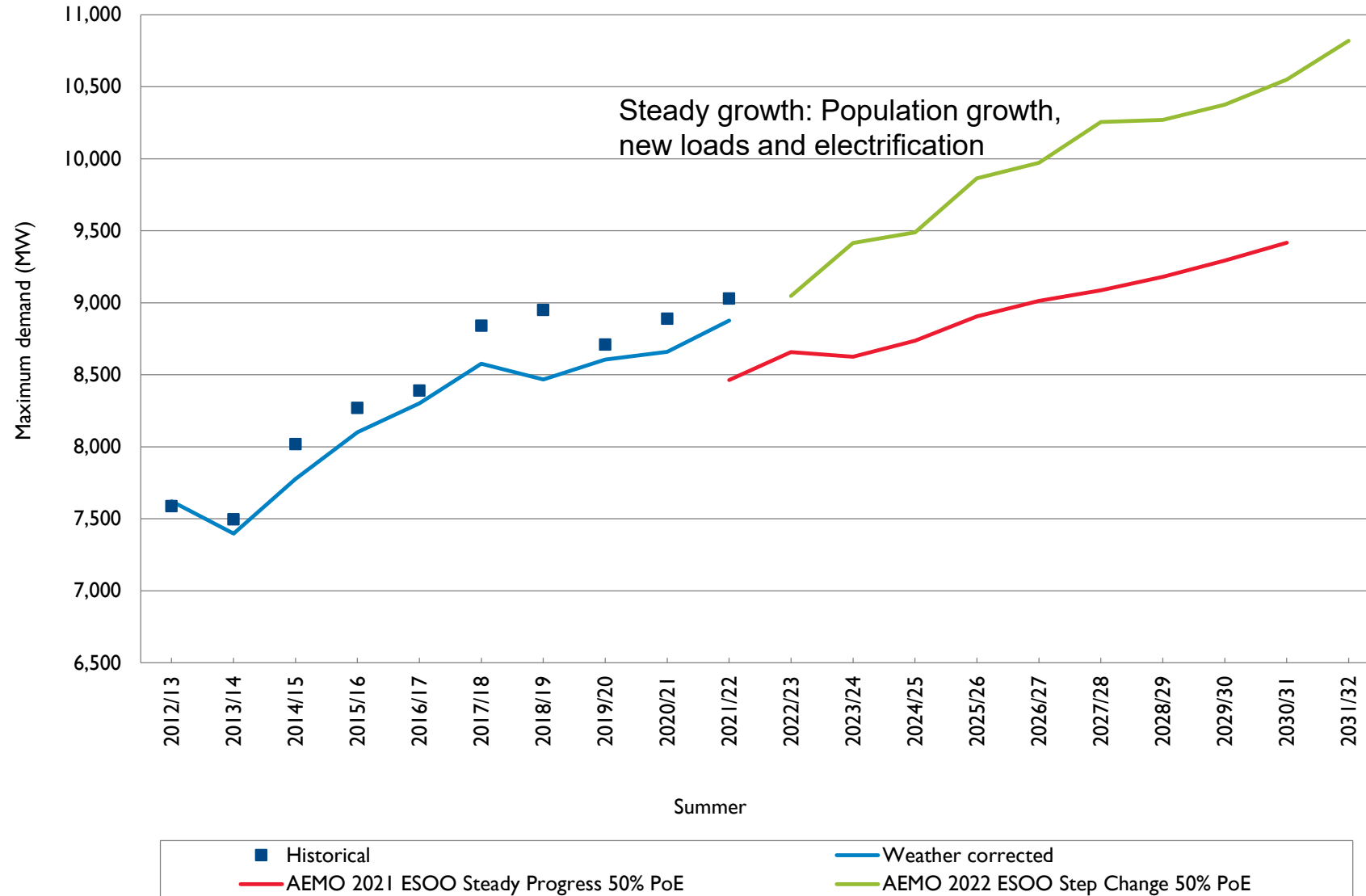
General Manager

Asset Strategies and Planning

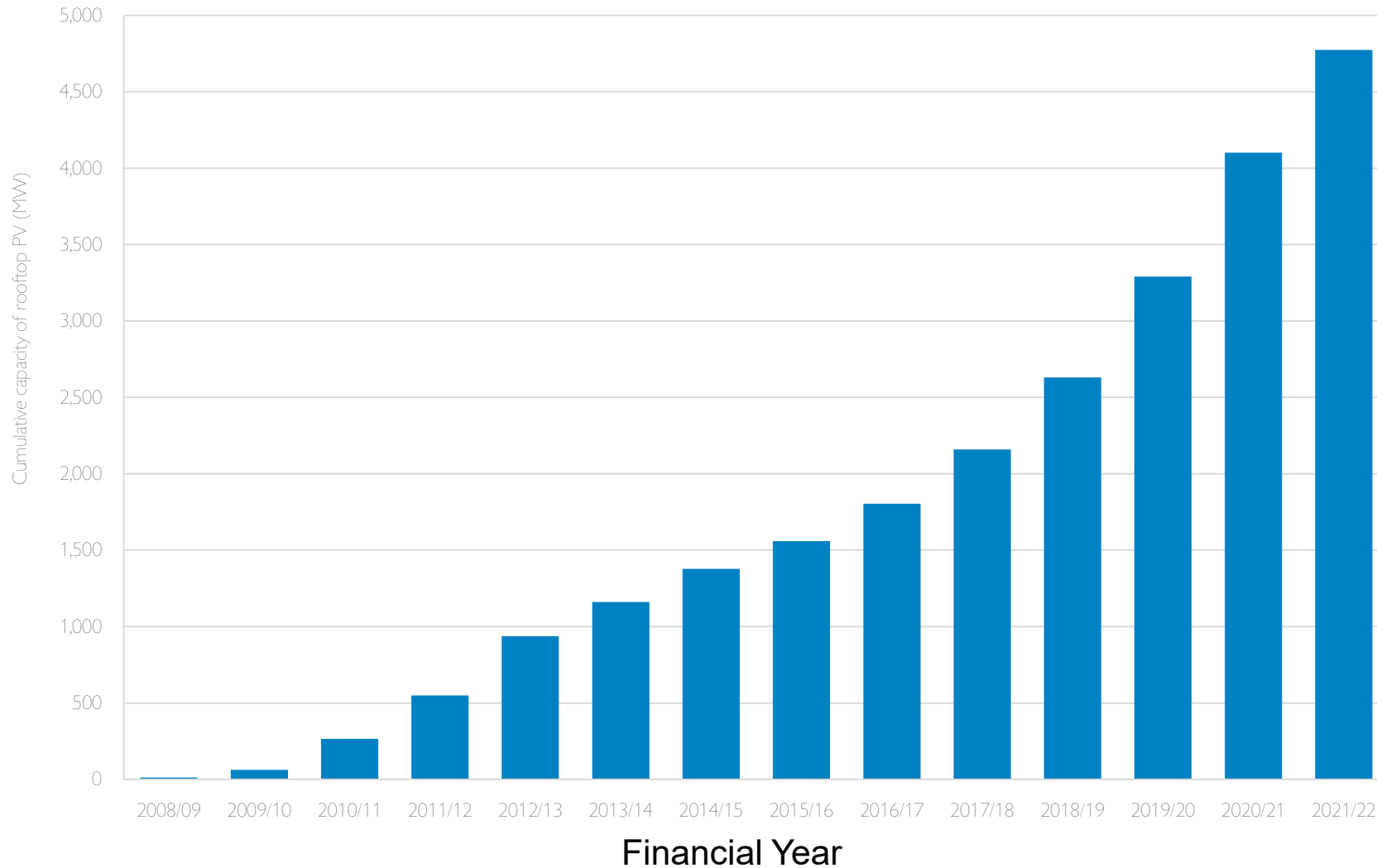
Queensland energy forecast



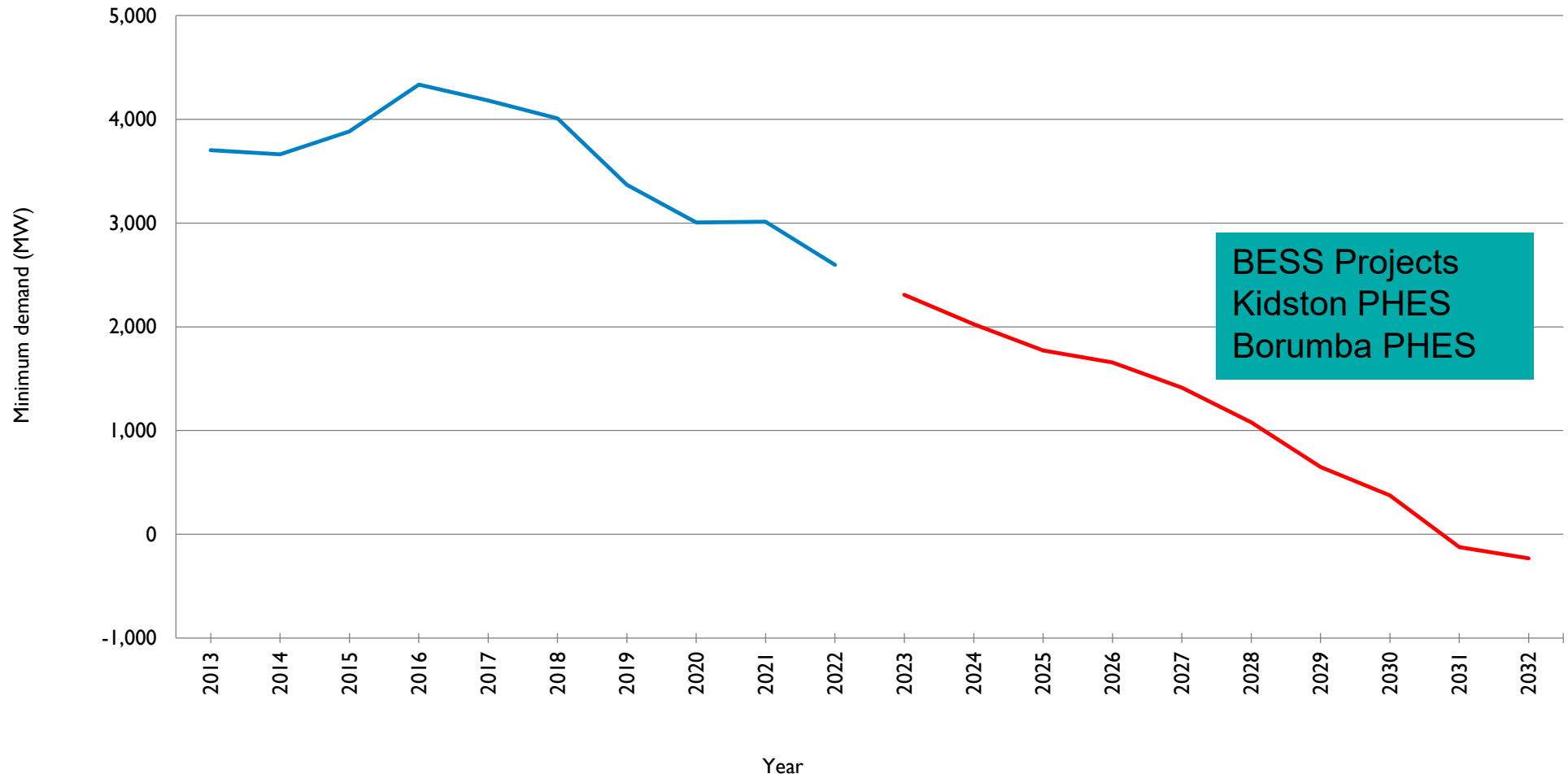
Queensland maximum demand forecast



Queensland rooftop solar capacity



Queensland minimum demand forecast



- Transmission network performed reliably over 2021/22
- Record minimum and maximum transmission delivered demands for multiple zones
- Queensland grid sections were largely unconstrained



Projects completed and underway



Major projects completed

- Line refit works between Egans Hill and Rockhampton Substation
- Gin Gin Substation Rebuild
- Ashgrove West Substation Replacement

Projects underway

- Establishment of a 3rd 275kV connection into Woree (Stage 1 Northern QREZ)
- Broadsound bus reactor
- Line refit works between Townsville South and Clare South substations
- Primary plant replacements at Nebo, Lilyvale and Bouldercombe
- Various secondary system replacements across the state

Completed RIT-T consultations

- Maintaining reliability of supply in the Cairns region - Stage 1 (Davies Creek to Bayview Heights refit)
- Maintaining reliability of supply in the Tarong and Chinchilla areas

Current RIT-T consultations

- Managing voltages in South East Queensland
- Managing power transfer capability and reliability of supply at Redbank Plains
- Addressing the secondary systems condition risks at Tangkam

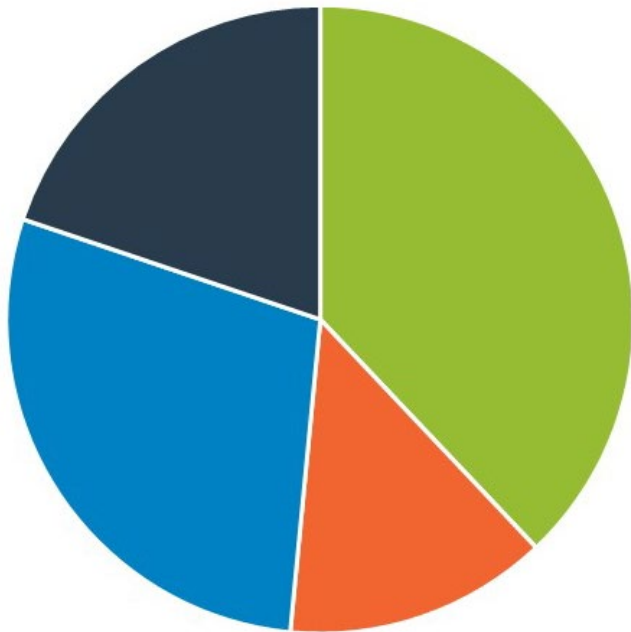
Power system security services consultation

- Currently working through submissions with proponents of non-network solutions



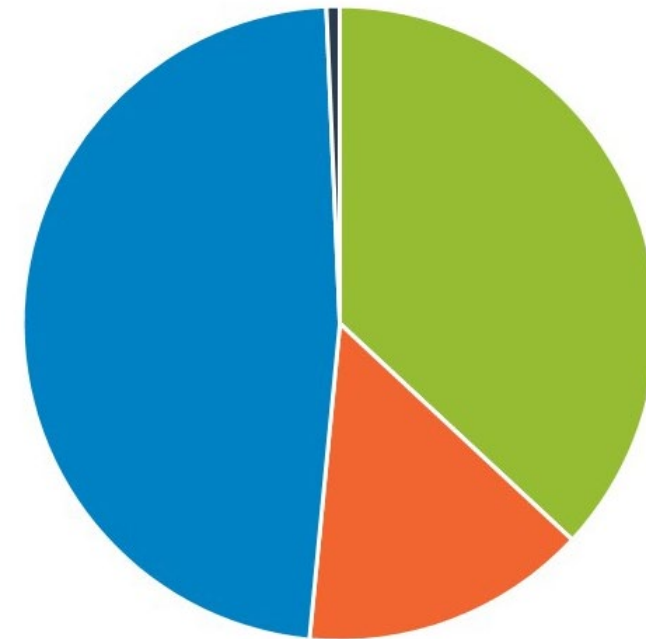
Future network development

2023-2027 Regulated capital expenditure



- Transmission Lines
- Substations & Transformers
- Secondary Systems
- Other

2028-2032 Regulated capital expenditure



- Transmission Lines
- Substations & Transformers
- Secondary Systems
- Other

Load flexibility / non-network solutions

Load flexibility provides system, network and customer benefits

- New flexible load:
 - reduces minimum demand
 - does not require network augmentation
 - improves network utilisation



Panel discussion



Enrique Montiel
Principal Engineer
Network Planning



Monan Higgs
Business Development
Manager



Peta Starkey
Senior Market
Specialist



Sachin Goyal
Manager Power
System Performance
and Connection

CONTACT

33 Harold Street Virginia
Queensland 4014 Australia

PO Box 1193 Virginia
Queensland 4014 Australia

+61 7 3860 2111
(during business hours)

pqenquiries@powerlink.com.au
www.powerlink.com.au

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