

Customer Panel Meeting

12 September 2024



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.



Information

Dear reader

We publish information in connection with our customer panel on our website, for information purposes only.

While we make every effort to make sure the information regarding our customer panel is informative, this information may reflect works in progress and may be updated or amended from time to time.

You should not rely on the information as a substitute for obtaining your own detailed independent advice.

The information does not constitute legal, regulatory or business advice, and we do not guarantee its accuracy, suitability, fitness for purpose, reliability or completeness.

Information regarding our customer panel may include the views or recommendations of third parties and does not necessarily reflect the views of Powerlink Queensland or indicate a commitment by us to a particular course of action.

Thank you

1. Welcome
2. Annual Energy Charter report back - Uniting Energy Support Program
3. Network Operating Environment
4. Annual Energy Charter report back - Capex and Opex allowance update
5. Supply Chain Management update
6. Afternoon tea
7. Asset Reinvestment Review update
8. SuperGrid and Gladstone Project PTI Update
9. Disclosure statement and wrap up



Update on our partnership with Uniting

Energy Support Program funding for Queensland households



Impact Update

Queensland Households in energy stress that we've helped together

*Program delivery data from: 1 Jan 2022
– 27 Aug 2024*

Uniting

Impact Report

Part A Outcomes:

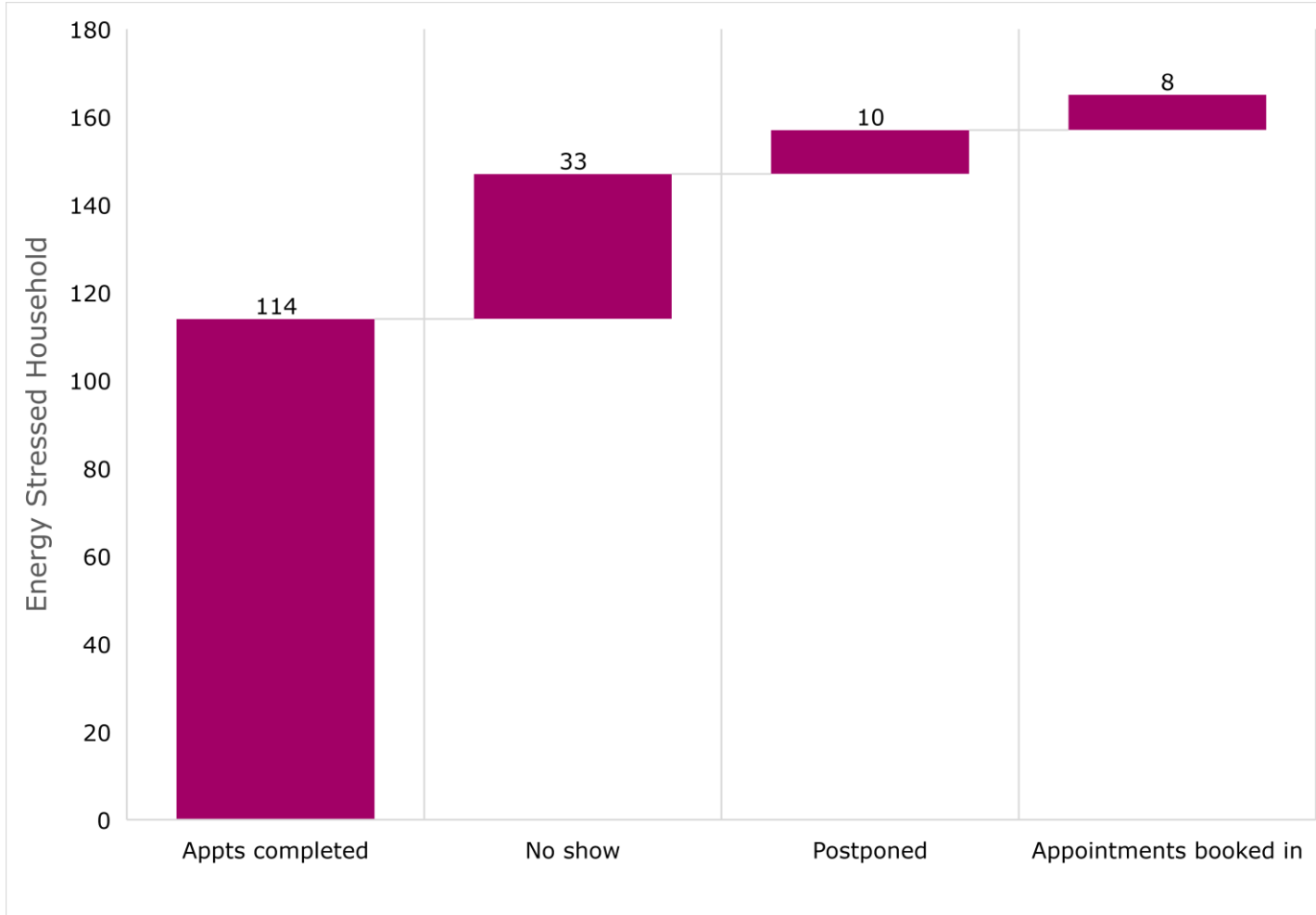
- # households helped
- Geographic coverage
- Referral conversions
- Support provided

Part B Empathy & insight:

- Demographics of clients
- Reason for referral
- Barriers to energy efficiency
- Case study

Referral conversions

Successfully connecting with referred clients to provide support



162

Households referred from Queensland Community organisations

114

appointments completed

70%

conversion rate

Quantified support

Estimated energy efficiency savings from advice
\$39,900

Debt relief **\$16,200**

QLD rebate support **\$14,080**

Retailer offer review **\$8,400**

Debt waived **\$7,400**

\$85,980

Quantified benefits, to households



Network Operating Environment

Emma Rogers
GM Strategic Network Operations



New 275kV feeder and Transformer in North Qld



Dear Emma Rogers,

As per your subscription, please find the links to new and updated items on the [AEMO website](https://www.aemo.com.au).

Issue Date: 21/06/2024 12:16:15 PM

Notice Type: GENERAL NOTICE

Subject: Network Augmentation Commissioned - QLD Region - 21/06/2024

AEMO ELECTRICITY MARKET NOTICE

Network Augmentation Commissioned - QLD Region - 21/06/2024

Commissioned:

H90 Tully South - T48 Tully 7162 132kV line

H90 Tully South No.1 275kV /132 kV transformer

Manager NEM Real Time Operations

Contact AEMO

Call: 1300 236 600

Email: supporthub@aemo.com.au

Website: <http://www.aemo.com.au>

Connect with Us



Dear Emma Rogers,

As per your subscription,

Issue Date:

Notice Type:

Subject:

AEMO ELECTRICITY MARKET NOTICE

Network Augmentation Commissioned - QLD Region - 21/06/2024

Commissioned:

H90 Tully South - T48 Tully 7162 132kV line

H90 Tully South No.1 275kV /132 kV transformer

Manager NEM Real Time Operations

Manager NEM Real Time Operations



Contact AEMO

Call: 1300 236 600

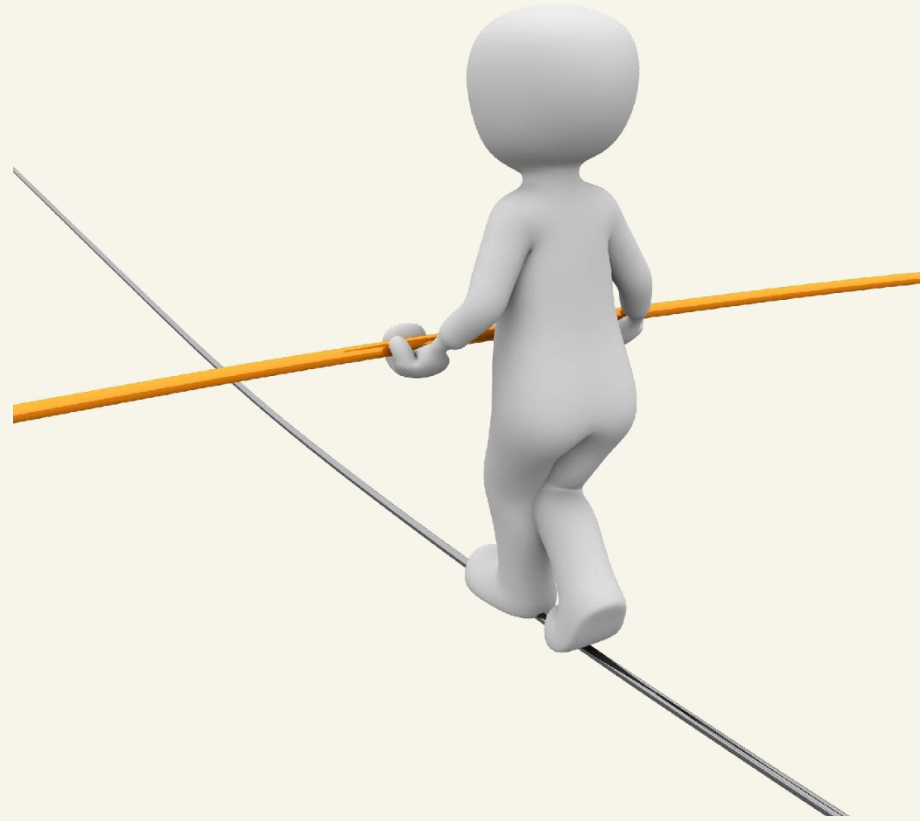
Email: supporthub@aemo.com.au

Website: <http://www.aemo.com.au>

Connect with Us



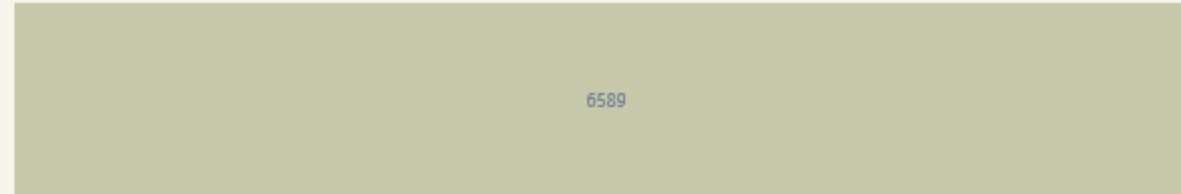
What's the network been doing?



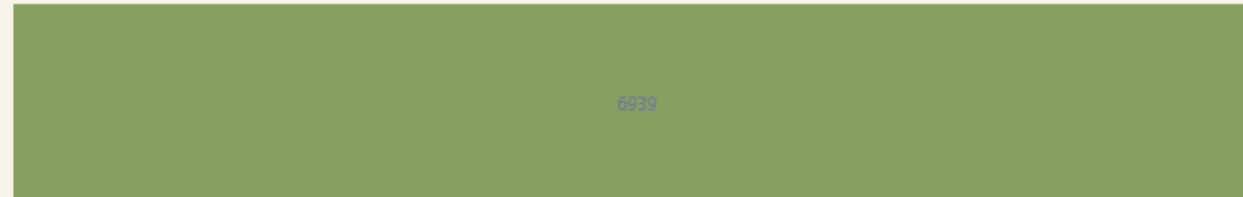
Increasing operational envelope of network

Powerlink Operational Envelope

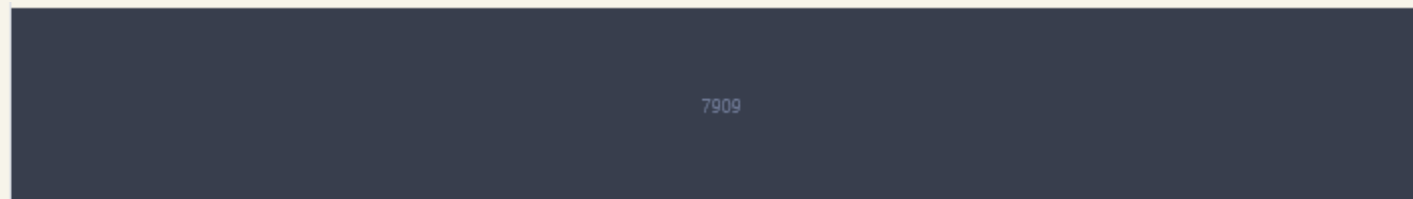
2022
10,058 MW Peak
3,469 MW Min



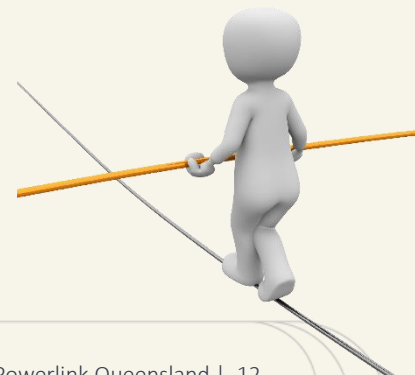
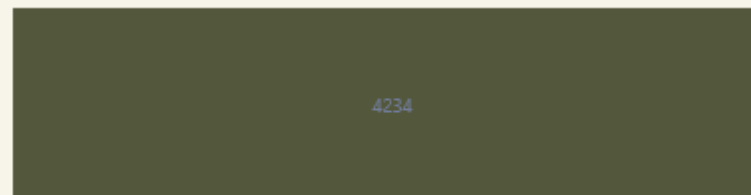
2023
10,070 MW Peak
3,131 MW Min



2024
11,005 MW Peak
3,096 MW Min

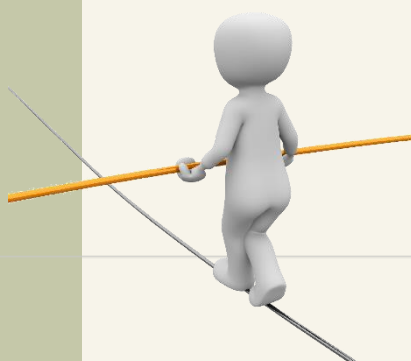
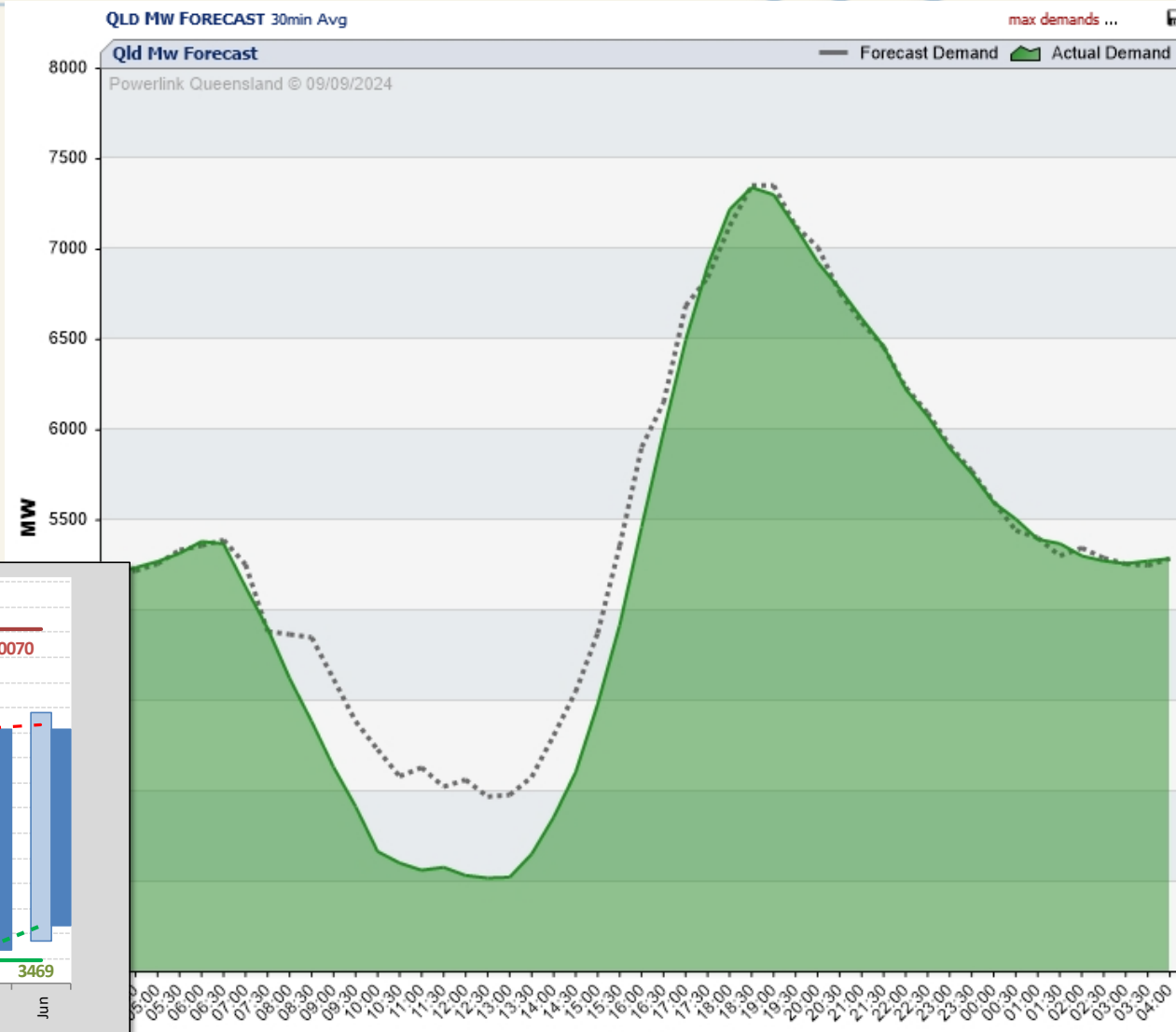
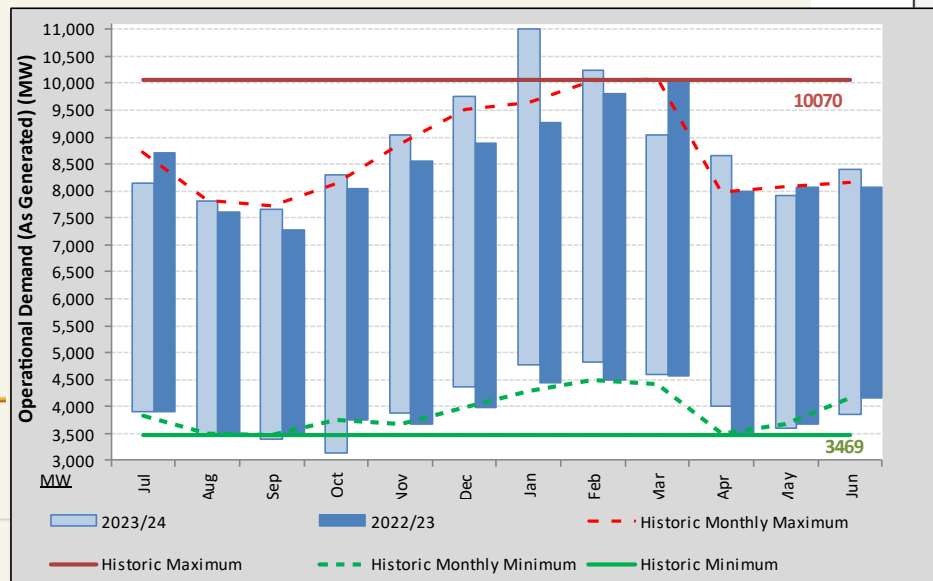


2016
9,097 MW Peak
4,863 MW Min

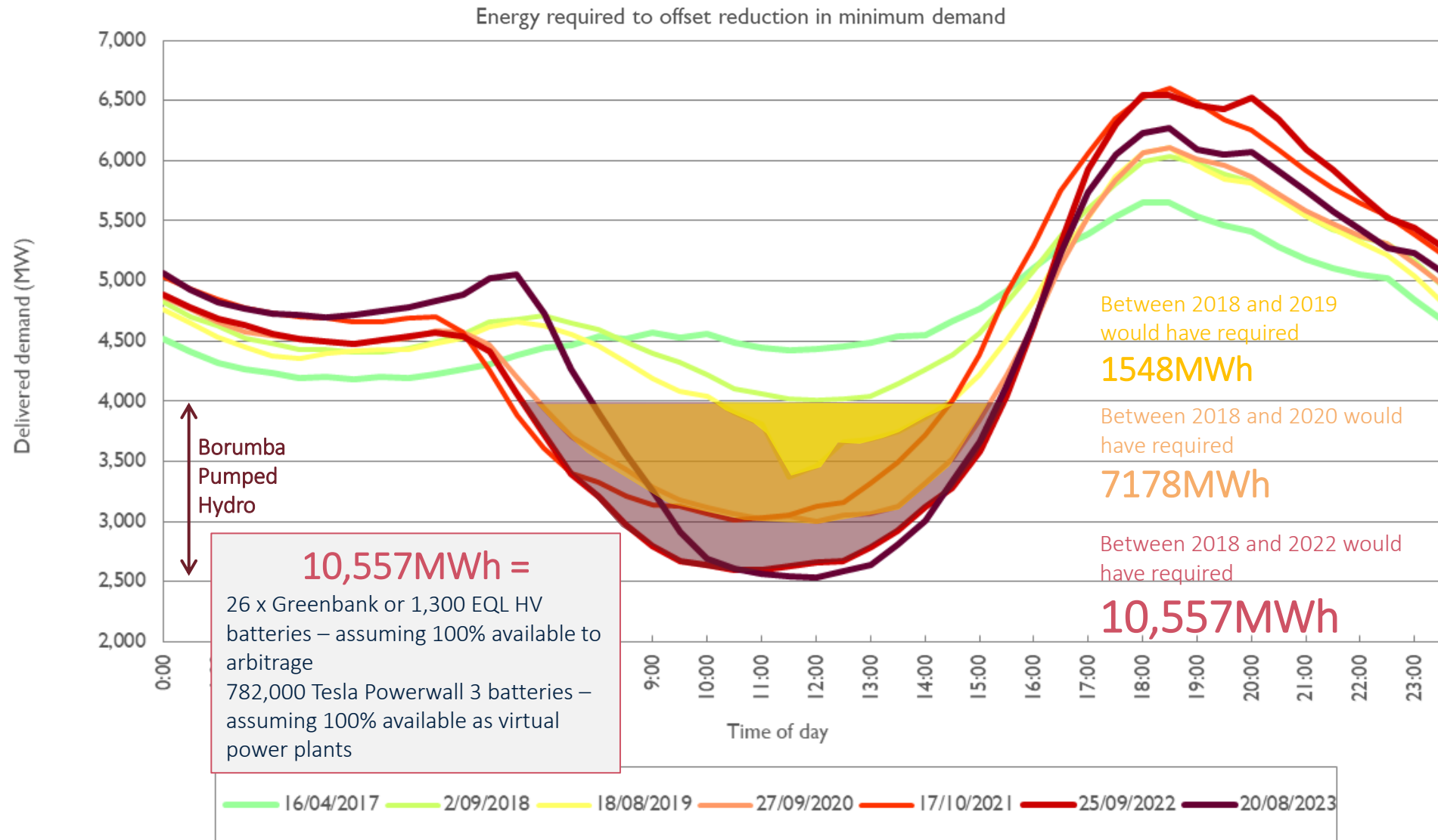


So what about August?

- The August monthly maximum demand was 8,061MW which occurred at 7:00pm on 1 August. This was 240MW above the historical monthly maximum for August.
- The August monthly minimum demand was 3,096MW which occurred at 1:00pm on 18 August. This is a new monthly minimum for the month of August and a new record minimum demand.



The Duck Curve: increasing the low demand levels requires a lot of energy

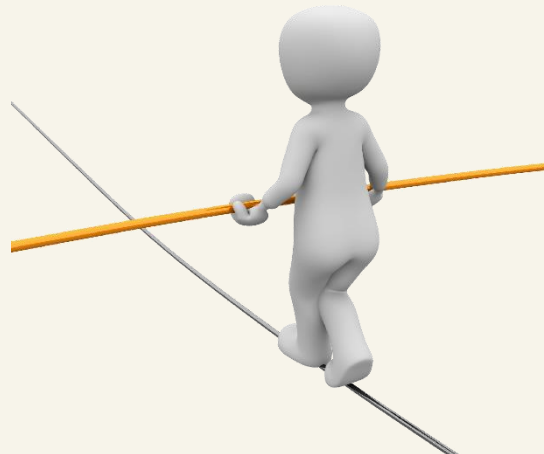


What's the balancing act of an expanding operational envelope?

Minimum Load Conditions

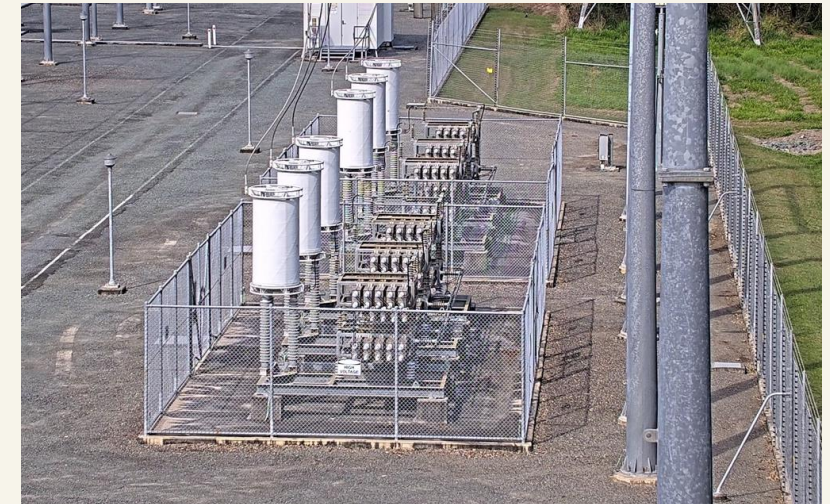


*Reactive plant -
Reactor*



Reactive plant – SVC

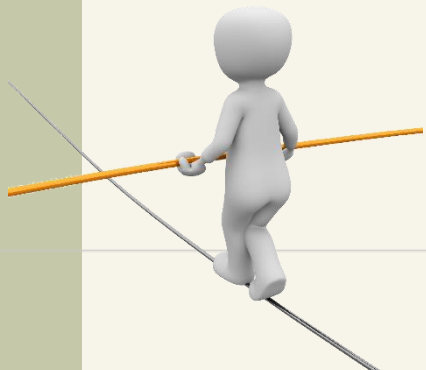
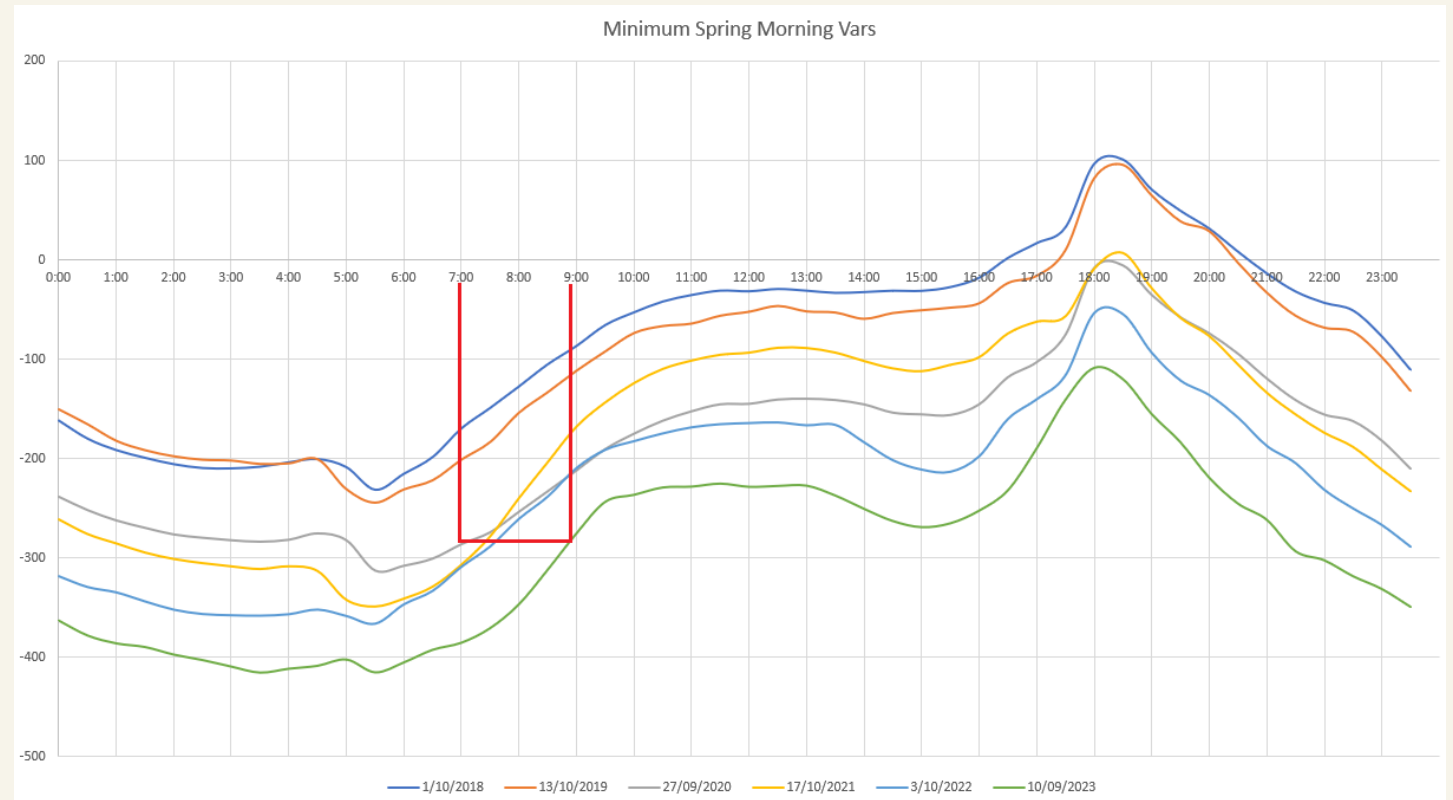
High Load Conditions



*Reactive plant –
Capacitor Bank*

Residential Load is changing

- Our network needs tools to *respond* to residential demand
- Residential demand is becoming more capacitive
- This is leading to issues maintaining voltage profiles in the early hours of the morning
- Requiring VAR absorption at transmission level
- Working with EQL to understand the reactive power profile trends and potential solutions



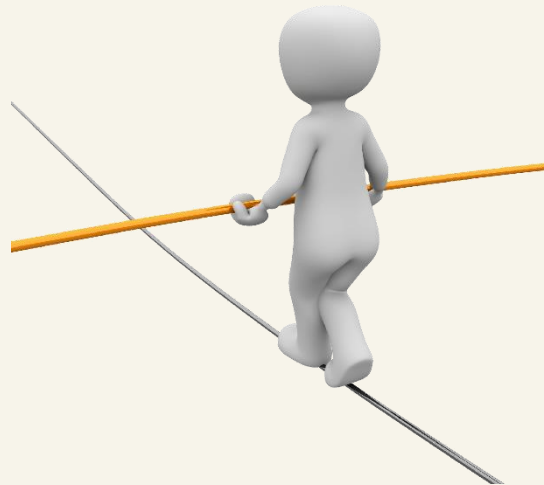
What's the balancing act of an expanding operational envelope?

Minimum Load Conditions



Hydro Plant – Pump, Sync Con Modes

Source: Cleanco



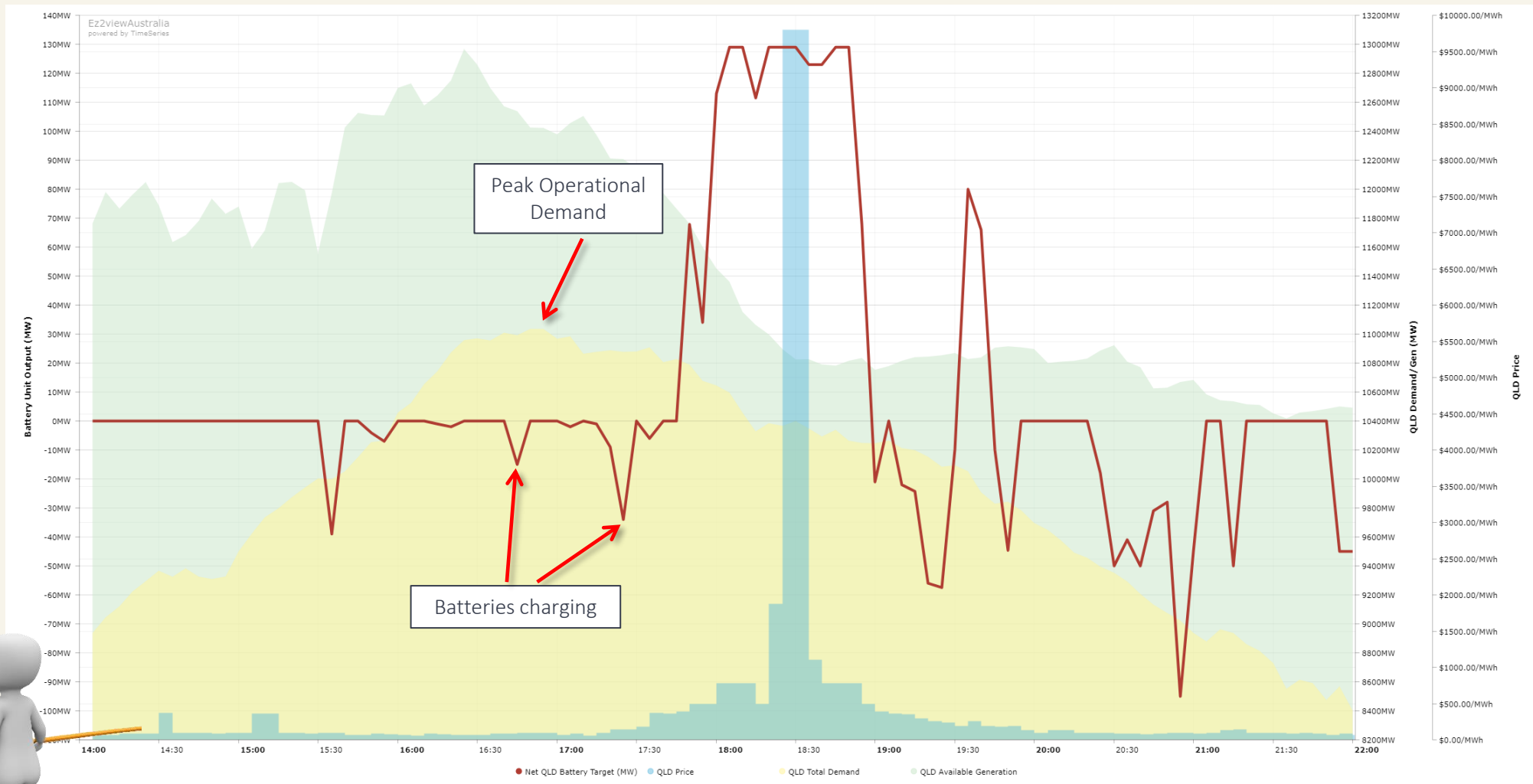
Peak Load Conditions



Hydro Plant – Generator

Source: Cleanco

What's the balancing act of an expanding operational envelope?



Batteries were charging during peak operational demand

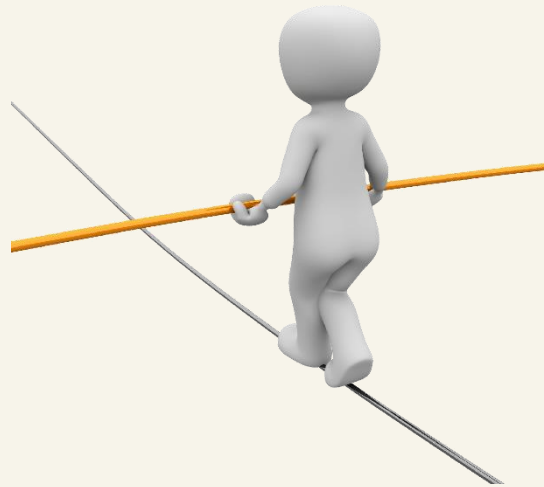
What's the balancing act of an expanding operational envelope?

Minimum Load Conditions



Grid Scale Batteries

Source: CS Energy



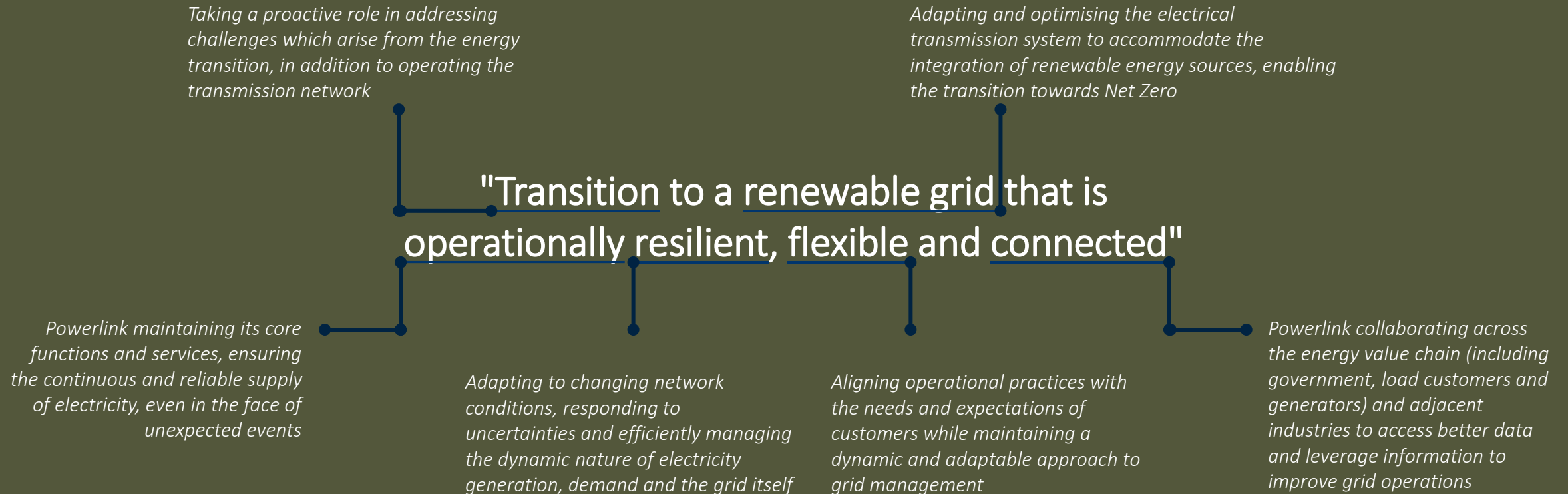
Peak Load Conditions



Grid Scale Batteries

Source: CS Energy

Future Grid Operations Strategy





Capex and Opex Allowance Update

Darryl Rowell, CFO and Roger Smith,
General Manager Network Portfolio at
Powerlink



Purpose

An annual briefing outlining actions to help meet our regulated operating expenditure target for the current 2023-27 regulatory period.

A commitment as part of our Energy Charter accountability and disclosure process. First update provided in 2023.

We have focused on actuals for the first two years of the current regulatory period, not forecasts due to current levels of uncertainty

We face significant cost headwinds

A number of key events have significantly driven hyperinflation, creating global challenges for the energy sector.

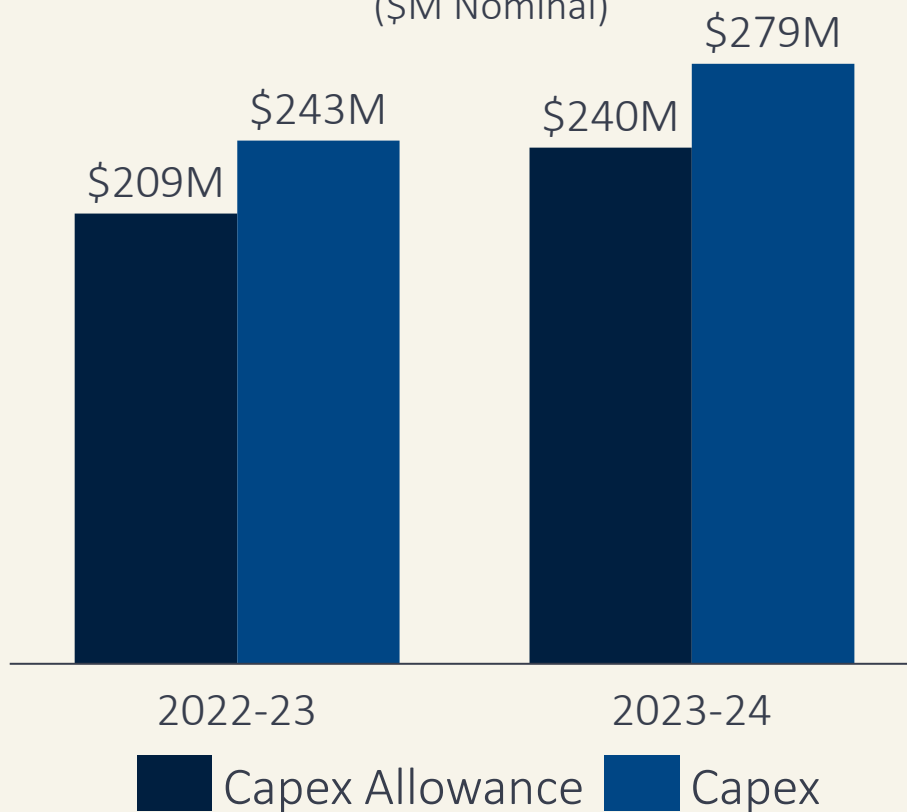
2020	2021	2022	2023	2024
<ul style="list-style-type: none">Global Pandemic COVID-19	<ul style="list-style-type: none">Global shipping impact	<ul style="list-style-type: none">Semi-Conductor shortageInflation Reduction Act (USA) & energy transition announcements by Europe, Japan, India, China, othersRussia-Ukraine conflict	<ul style="list-style-type: none">Israel-Hamas conflict	<ul style="list-style-type: none">Industry wide labour costs

Regulated Expenditure Performance

Cost escalations impact on expenditure.

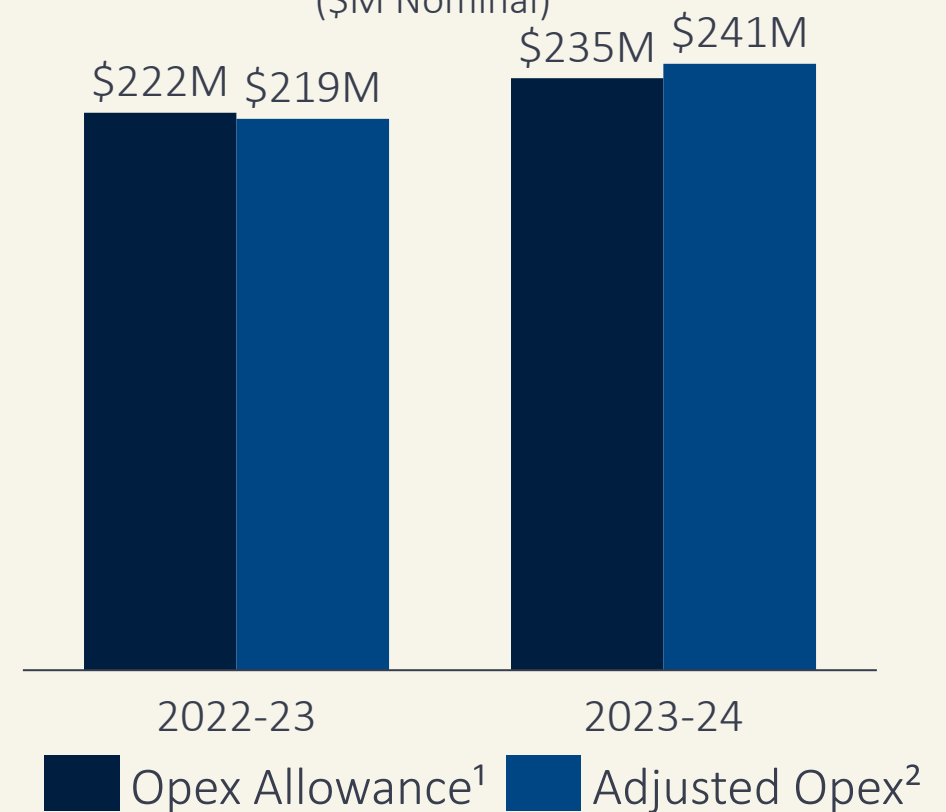
Capital Expenditure

(\$M Nominal)



Operating Expenditure

(\$M Nominal)



1. Opex Allowance is net of adjustments

2. Adjusted OPEX in FY24 excludes \$16.1M for provisions \$3.4M for self insurance and \$0.1M for debt raising costs. Security of Critical Infrastructure have been excluded though maybe included in the future.

Expenditure directed to work performed



Technology



Fleet



Warehouse(s)

Minimising impacts to Queenslanders



Drone Stringing



Artificial
Intelligence



Supply Chain



Funding

Supply Chain Management Update

Rakesh Solanki – GM Supply Chain
Services, Powerlink



Progress from last year

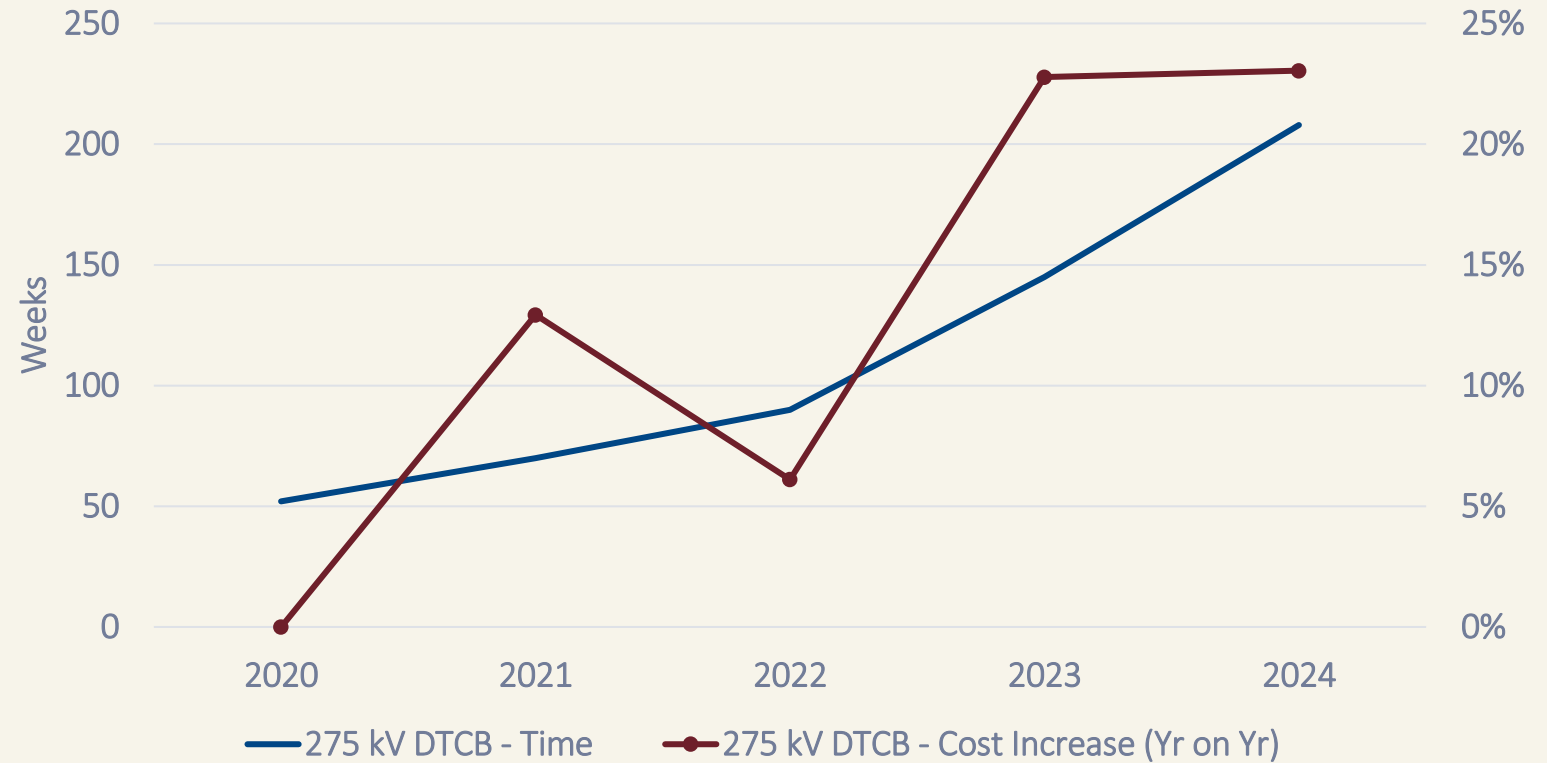
What is Supply Chain Services doing deal with inflation and supply chain impacts?

- Moved from Just-in-time to Just-in-case
- Standardising products where possible
- Developing accurate forecasting models to understand future demands
- Early engagement with suppliers
- Locking in supply for critical plant for CopperString Project
- Building on strong relationships with key suppliers
- Working with suppliers to solve the challenges

High Voltage (275 kV) Dead Tank Circuit Breakers

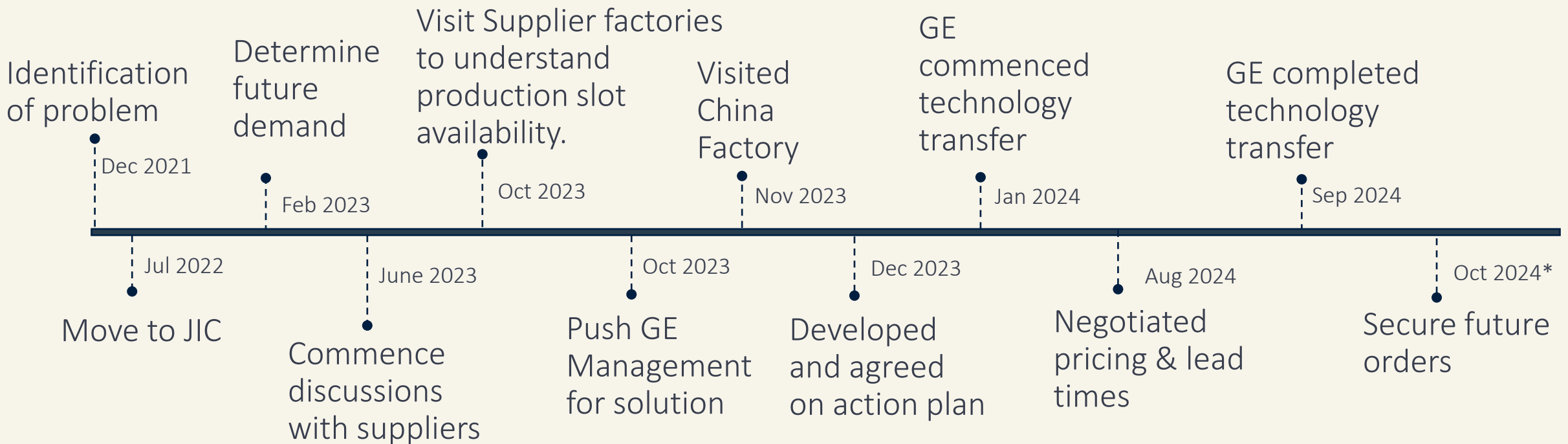


HV DTCB HISTORY



High Voltage Dead Tank Circuit Breakers

- What has Powerlink been doing to solve this emerging issue



Break

Asset Reinvestment Review

Working Group

Paul Ascione, GM Asset Strategies and
Planning, Powerlink



- Asset Reinvestment Review Background
- Findings and Recommendations
- Post ARR Report Implementation Progress
- Questions

Working Group Purpose

A working group established with members from Powerlink, Powerlink's Customer Panel and the AER Consumer Challenge Panel, focusing on:

- built section definition
- how to better capture benefits of bundling condition and compliance driven works
- how to better capture the challenges and costs of access for Powerlink assets, both remote geographic and network outage perspective
- what is optimal at both a project and portfolio level



ARR Report Findings & Recommendations

No change to Powerlink's asset definition for transmission lines

Compliance works shall only be undertaken on structures where condition-based works is be performed

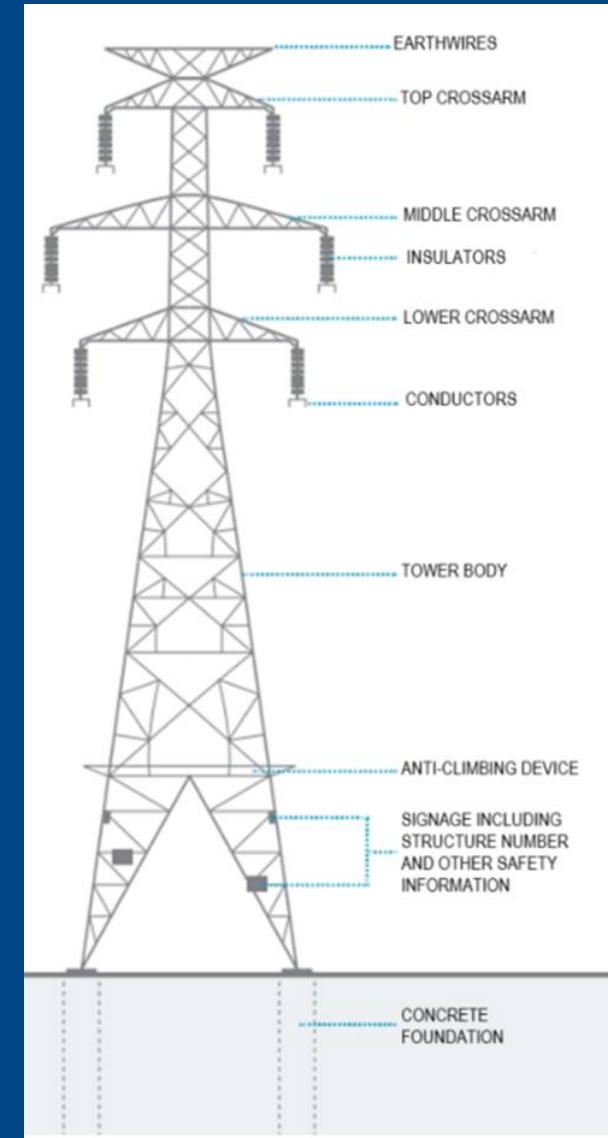
Powerlink's current approach and an alternative bundled approach be modelled for future line refit projects

Finding 1: Asset Definition

The working group investigated the following transmission line asset definitions:

- Current built section which is defined as a length of transmission line designed and built under a single contract generally containing structures with identical or very similar characteristics;
- Grouping adjacent structures based upon common environmental conditions;
- Establishing assets based upon a common fixed length of transmission line;
- Defining assets based upon their function within the built section (structure, insulator, conductor etc.);
- Defining based on accessibility.

The working group concluded that the asset definition made no difference to economic outcomes in almost all cases and that therefore there is no justification to change the asset definition from built section method.



Finding 2: Compliance Works

Powerlink has confirmed that compliance works that was typically bundled with condition-based works can be delayed in line with condition triggers for any given structure. This is not expected to result in any additional material compliance risk, whilst any emerging minor risks will be addressed under maintenance.



step bolts



anti-climb barriers



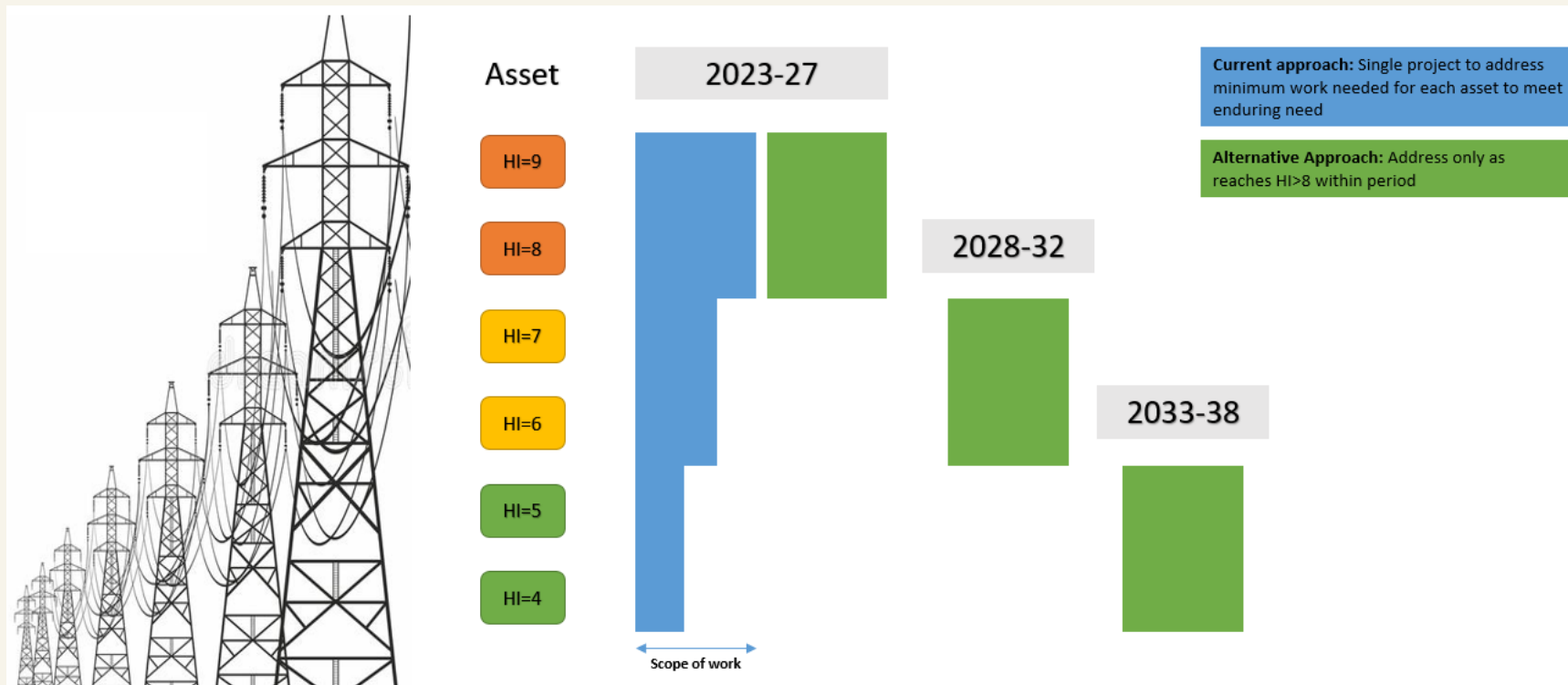
earthing



signage

Finding 3: Alternative Bundled Approach

Outcome: There is no single most efficient option in all cases, suggesting the need to compare single and multiple staged bundled approach to any given asset reinvestment decision, based upon the most detailed condition and cost information available at the time, and the emerging energy environment and resulting network needs consistent with the RIT-T principles.



Post ARR Report Powerlink Deliverables

- ✓ revised the estimated spend in our 5-year project look ahead (Network Portfolio Plan)
- ✓ updated our standard processes/practices and controlled documents
 - Line Asset Methodology Framework
 - Asset Strategies – Overhead Lines Strategies Specification
 - Project Initiation Form option considerations
- ✓ revised scope of works for new line refit projects in the scoping stage

CP.02754 Davies Creek – Bayview Heights

The outcome of the Regulatory Investment Test for Transmission (RIT-T) and external consultation identified the option of the line refit with paint to be the least cost alternative and preferred option.

A detailed asset condition assessment and economic analysis was performed concluding that a transmission line refit with paint of 21 of the total 37 towers by December 2025 to be the least cost option (NPV of +\$6.75m).

A second project stage to address the remaining structures will follow in the future



CP.02644 Calliope River to Wurdong Tee

Proposed line Refit project has been replaced with an operational refurbishment project in 2026 that will address only highly corroded structural members, bolts, insulators and earthwire.

This minimal investment strategy will extend the life of the asset such that it remains in a safe serviceable state until a planned new higher capacity transmission line is rebuilt to address increased load due to electrification load forecasts provided by large customer connections.



CP.2415 Greenbank to Mudgeeraba

A project to extend the service life of two 275kV transmission lines between Greenbank and Mudgeeraba has been identified and is currently undergoing initial definition and scoping.

Three options are being considered for the life extension:

- A bundled refit with multiple stages
- Refit of all structures
- Full re-build one line and light refit of second line



Update on the Gladstone Priority Transmission Investment (PTI)

Mark Grenning, Director Policy and Regulation, EUAA
Roger Smith, GM Network Portfolio, Powerlink



Feedback / observations from PTI Expert Panel

Powerlink PTI Expert Panel

- Members – Mark Grenning (EUAA, Chair), Warren Males (Canegrowers), Andrew Broadbent (CS Energy) and Chris Hazzard (Vinnies)
- Role – to advise Powerlink on how the consultation engagement aspects of the PTI process may be best implemented

Our submission on the Gladstone Project is our first submission; we commented on all the elements in the Powerlink Consultation Paper

- identified need, assessment documents, proposed modifications to the RIT-T test (which is designed to assess whether the project has ‘net benefits’ for electricity consumers) and potential credible network and non-network options to address the identified need

We also made some important general points we think will apply to all PTI projects around the importance of transparency – and this is what I will focus on today

Feedback / observations from PTI Expert Panel

The QEJP legislation prescribes much of the process that Powerlink will follow and has a considerable role for the 'Responsible Ministers' who can:

- direct Powerlink to consider matters outside of the RIT-T categories of costs and benefits to electricity consumers ie 'wider society' benefits
- determine the level of costs that go into the Powerlink regulatory asset base (RAB) and are recovered from electricity customers
- direct the engagement process for the candidate PTI assessment

The key question will be around 'who pays' for the PTI projects:

- how much of the cost is paid by electricity consumers through the capex being put in the Powerlink RAB, reflecting benefits to electricity consumers, and
- how much is paid by the Queensland Government budget reflecting 'wider society' benefits

Feedback / observations from PTI Expert Panel

Transparency will ensure that Powerlink's Assessment report is able to clearly separate the benefits to electricity consumers under the RIT-T from the 'wider society' benefits – does the project have net benefits under the RIT-T test?

The transparency covers matters at all stage of the PTI engagement process:

- Selection of inputs, assumptions and scenarios and cost benefit analysis methodology
- Consideration of non-network solutions
- Accurate as possible capex estimates with explanation on the accuracy level
- Decisions by the Responsible Ministers on the amount of capex going into the RAB

It is important to have accurate cost estimates in the Assessment report at the time of the decision to construct:

- the more accurate, the more confidence consumers have that the project has net benefits, and if it does not, the role of Government, not electricity consumers, in funding costs above benefits
- the 'Review' process, after construction is complete, can lead to an increase in the costs going into the RAB – the less accurate the forecast in the Assessment the greater the risk to consumers of having increased costs put in the RAB following the Review

Feedback / observations from PTI Expert Panel

We argue that the maximum costs that should go into Powerlink's RAB are the lesser of the identified benefits or 'prudent and efficient' costs under the RIT-T, e.g.

- prudent and efficient RIT-T costs = \$100; RIT-T benefits = \$75 >>> \$75 goes into RAB
- prudent and efficient RIT-T costs = \$100; RIT-T benefits = \$75 + 'wider society' benefits = \$45 >>> \$75 goes into the RAB

There is an open invitation to other Customer Panel members to participate in the PTI Expert Panel – it provides a great opportunity to be directly involved in a very important part of the QEJP implementation

We now have final Terms of Reference and the Confidentiality Agreement we need to sign

Gladstone PTI progress update

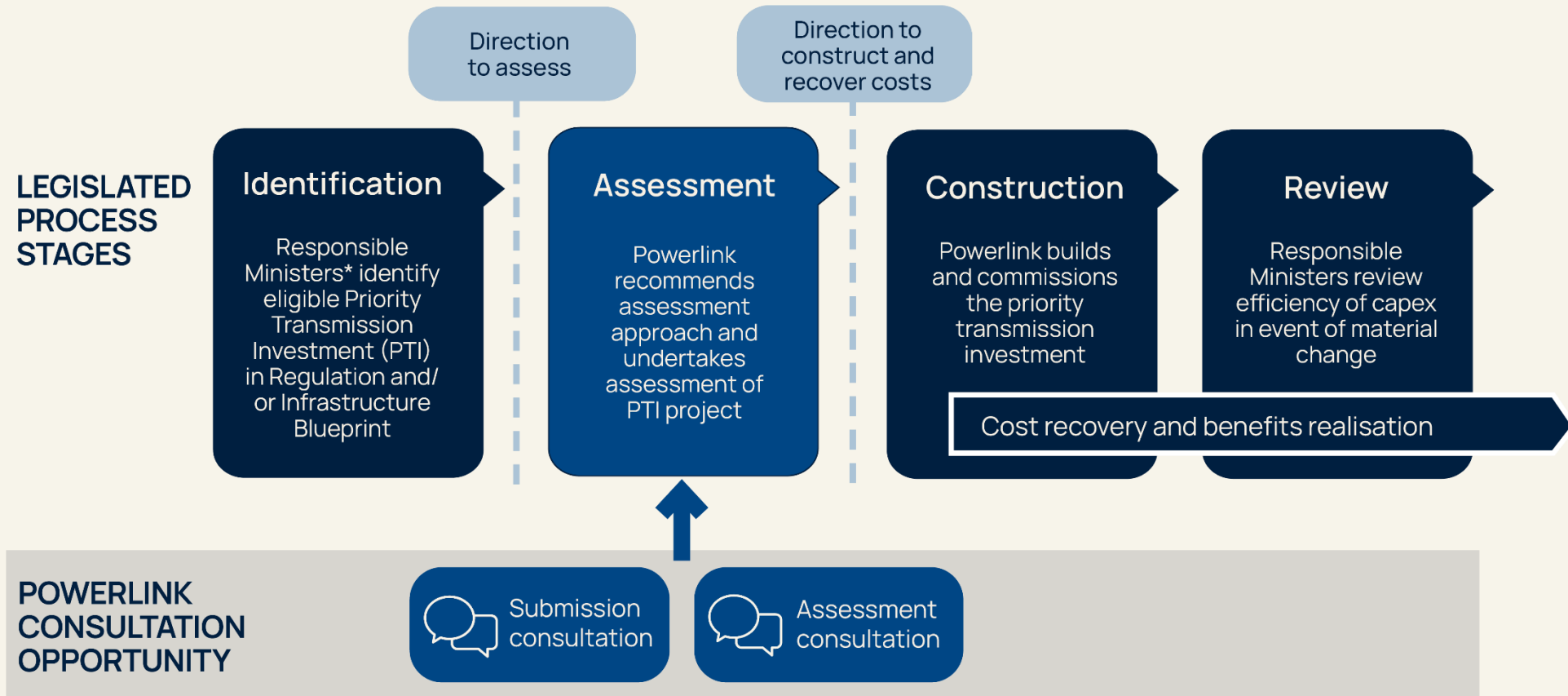
Steps completed:

- | | |
|--------|---|
| 10 Jul | declaration of Gladstone as candidate PTI project and initial direction to prepare submission
publication of consultation paper and draft submission |
| 9 Aug | final submission made to responsible Ministers |
| 15 Aug | final submission made to responsible Ministers (procedural update) |

Next steps:

- | | |
|-----------------|---|
| ASAP? | direction to assess the priority transmission investment |
| Oct 24 – Feb 25 | finalise cost estimates for all credible network options
engage with potential proponents to identify credibility/cost of non-network options
finalise estimate of ongoing operating costs for credible network options |
| Q1 2025 | publish consultation paper on draft assessment |
| Q2 2025 | publish final assessment |

PTI engagement process



*The Responsible Ministers are the Minister for Energy and the Queensland Treasurer

Disclosure Statement and Wrap Up

Gerard Reilly, GM Communications,
Customer & Engagement and Wendy Miller,
Customer Strategist at Powerlink



Questions?



Thank you

