Regulatory Proposal 2022-27 Powerlink – Transmission, Queensland

Consumer Challenge Panel

Presentation to Public Forum, 8th April 2021 – Extended Version

(Note, this version of the presentation includes background and explanatory content that was not presented at the forum, due to time limitations)

CCP23
Bev Hughson
David Prins
Mark Henley (Chair)

Recognition of Country

We acknowledge the Traditional Owners of Country throughout Australia, in this situation the owners of the land hosting the Queensland electricity transmission network and the lands on which participants are located.

We recognise the continuing connection to land, waters and culture.

We pay our respects to their Elders past, present and emerging.

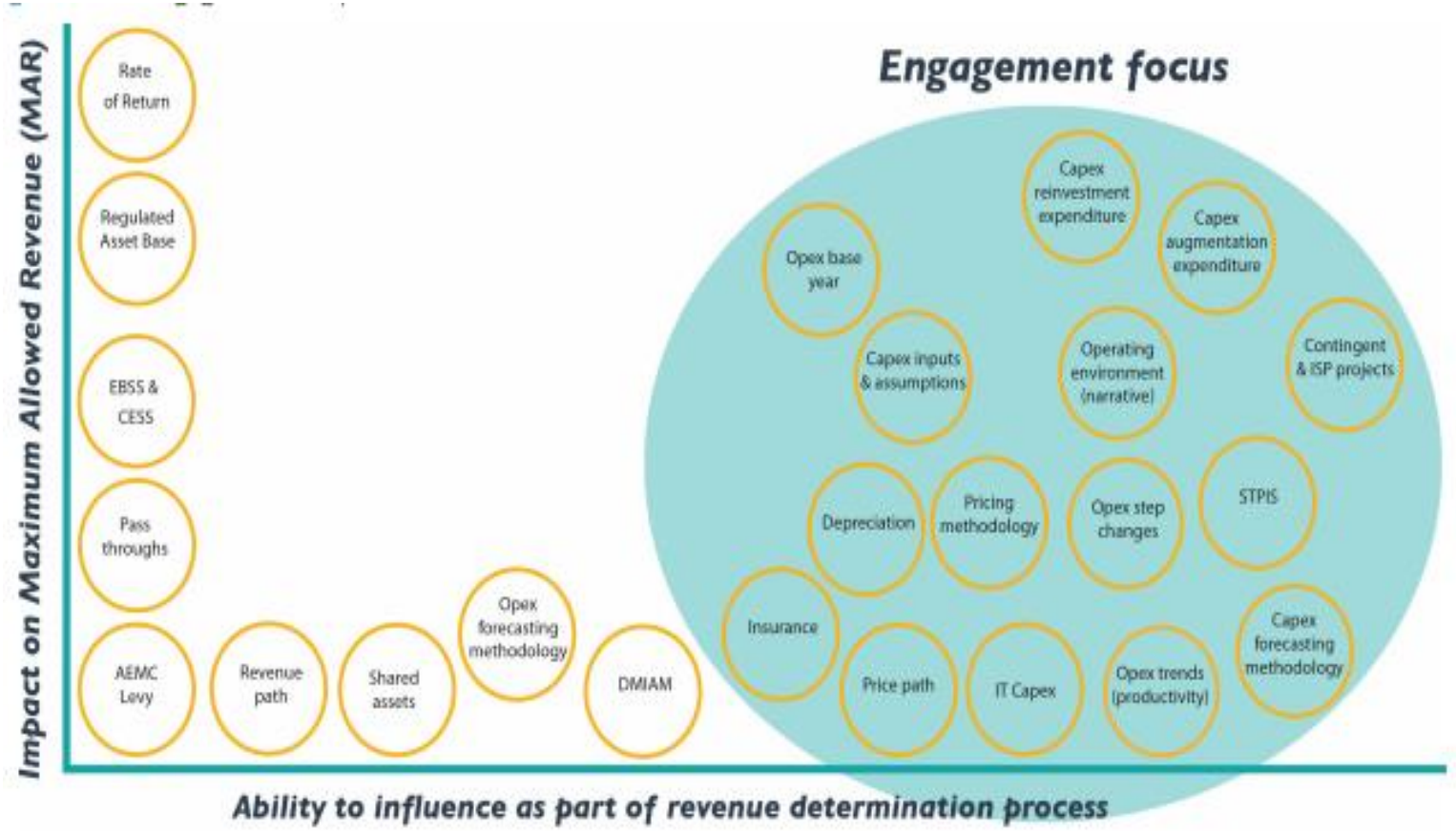
Key issues / themes

- Well delivered and responsive Consumer Engagement program. Iterative approach very useful
- Proposal “Capable of Acceptance”, with some conditionality
- Average price reductions, in real terms, are enhanced by reductions in rate of return – which are exogenously determined.
- Capex and opex expenditures have been forecast in an uncertain environment
- We will further review capex and contingent projects, in particular.

Note, question reference apply to specific questions from the AER Issues paper. Only the questions relating to the proposal elements that we think are more significant are considered.

Q 4-12. Consumer Engagement, Engagement Scope

- RPRG (Revenue Proposal Reference Group) central to process and highly engaged, we estimate over 30 hours per person.
- Co-design
- Clear engagement focus
- Iterative approach, CAP/RPRG travelled with Powerlink: “involve and collaborate” more than “inform and consult”
- Draft plan was well on the path to final proposal & timely
- Strong documentation of consumer influence in Revenue Proposal



Q 4-12. Consumer Engagement, Engagement Scope.

Table 3 applied, CCP perspective.

Element	Possible Assessment	CCP Powerlink Assessment
Nature of Engagement	Consumers partner in informing the proposal	Yes
	Relevant skill and experience of stakeholders and customers	Yes
	Impartial support provided	Option available, not requested
	Sincerity of Engagement	Yes
	Independence of consumers	Yes
	Multiple channels used for engagement	to an extent
Breadth and Depth	Clear identification of topics and reset relevance	Yes
	Consumers consulted on broad range of topics	Yes
	Consumers able to influence topics	Yes
	Consumers encouraged to test assumptions	Yes
	Consumers able to access & resource independent research & engagement	Option available, not requested
Clearly Evidenced Impact	Proposal clearly tied to expressed views of consumers	Yes
	High level of busines engagement, eg access to CEO / Board	Yes
	Responded to consumer views	Yes
	Impacts of engagement clearly identified	Yes
	Submissions from consumers show impact consistent with expectations	TBA, NB CAP submission
Proof Point	Reasonable opex and capex proposed	Yes
	In line with or lower than historical costs	Yes
	In line with or lower than top down analysis	TBA – AER role NB Capex hybrid model
	If not, explained by bottom up category analysis	TBA – AER role

Q3. Is Powerlink's Proposal capable of acceptance? (Who Blinks First? The fox or the goose!)

An NSP asking whether a proposal is capable of acceptance is reasonable but awkward to be the first to say so, because:

- "Weight" of representing broad consumer base.
- Concern about what may have been missed?
- Good vs Perfect proposal for consumers
- What if regulator finds inefficient proposal elements
- Fear of "No going back" for an extended period of time
- Trust levels are crucial.

(Note, it is said that where a fox and a goose confront each other, the first one to 'blink' is the loser. This is not to say that there are 'losers' in "capable of acceptance" considerations, but at the time, it may feel like that for participants, no one wants to be the first to 'blink'.)

What can consumers say about Capability of Acceptance?

They can make the following sort of observations:

- Process leading to the proposal was constructive
- What's proposed is consistent with extended engagement
- What's proposed is consistent with a bigger picture narrative
- Uncertainties are clearly identified, and in future there's commitment to engagement process in response
- "We are satisfied that the NSP responded to our advice / concerns"
- Table 3 assessments are positive
- Conditional on expert (AER) review

Statements about capability of acceptance are like to include some conditions, this probably does not weaken acceptance

What are implications of Capable of Acceptance - mainly for the NSP

- Draft Determination is intended to be same as Final Determination, with relevant adjustments, e.g. RoR parameters, demand forecasts.
- Further engagement to finalise ‘conditional elements’
- Low numbers of AER information requests
- NSP can confidently plan for the next period, e.g. longer lead time for major capex projects
- Greater predictability for shareholders / owners
- NSP can “get on with the job”

Is Powerlink's Proposal capable of acceptance?

Consumer Groups can deem a proposal capable of acceptance subject to:

- "Table 3" being applied
- AER assessment tools applied
- Conditional issues identified and addressed
- Commitment to Engagement process to resolve conditional elements
- Future adjustments of known variables

Conditional on …

- AER models testing
- Further review of capex, noting decreasing demand
- Resolution of Contingent project triggers
- Revised Forecasts and RoR updates
- Continued engagement

We regard proposal capable of acceptance because:

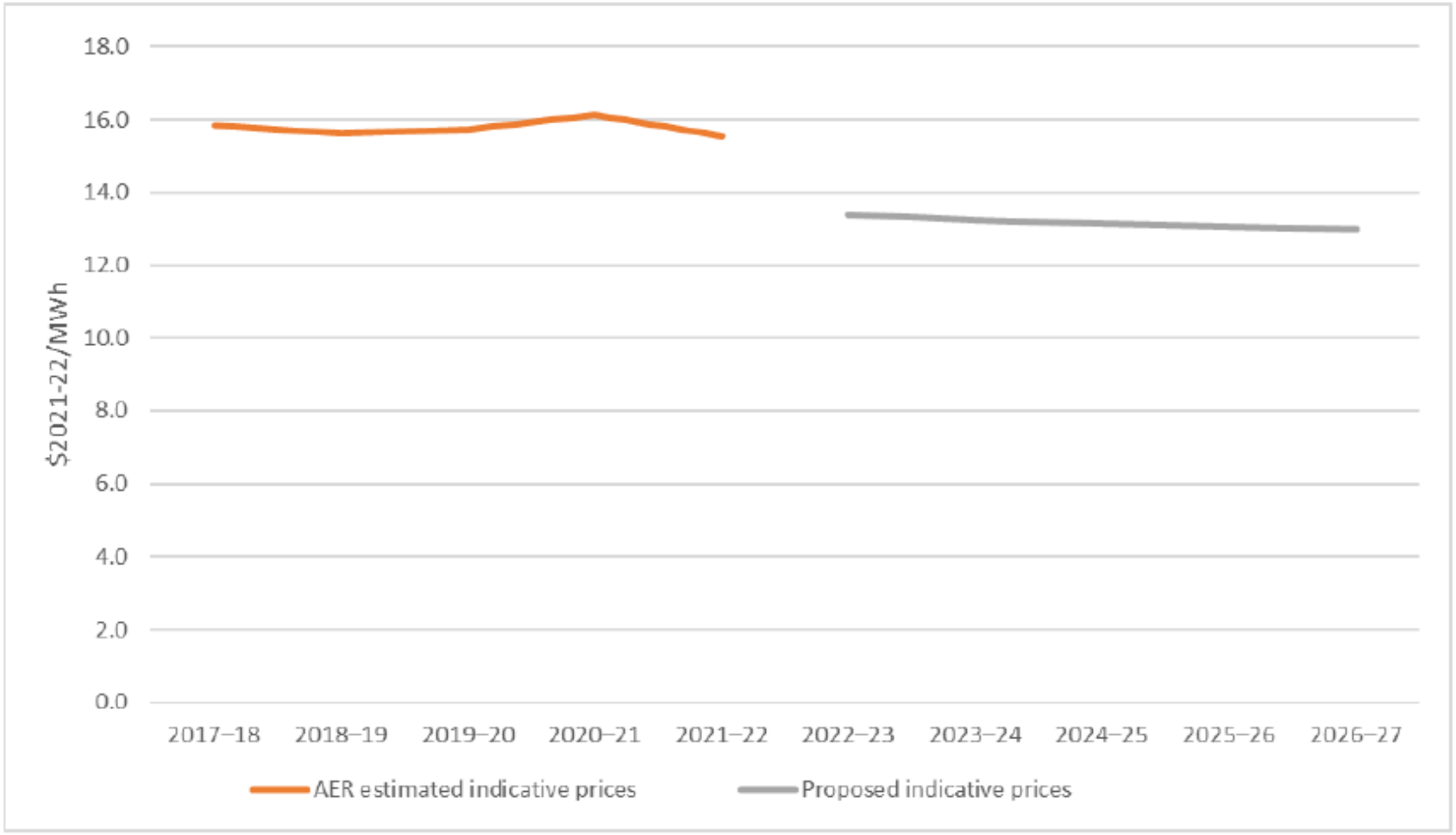
- Table 3 reflects well
- Engagement has been ongoing, open and 'genuine'

Q1. Pricing Methodology.

- Powerlink proposes one major amendment to its pricing methodology for the 2022–27 period
  - Under the current methodology, Powerlink's locational prices are based on a combination of peak and average demand
  - Powerlink proposes to progressively transition locational charges to be based on peak demand only. This transition would occur over the next two regulatory periods (or 10 years).

Q13. Price Impacts.

Figure 4 Change in 2017–22 indicative prices to proposed 2022–27 indicative prices ($2021–22) per MWh

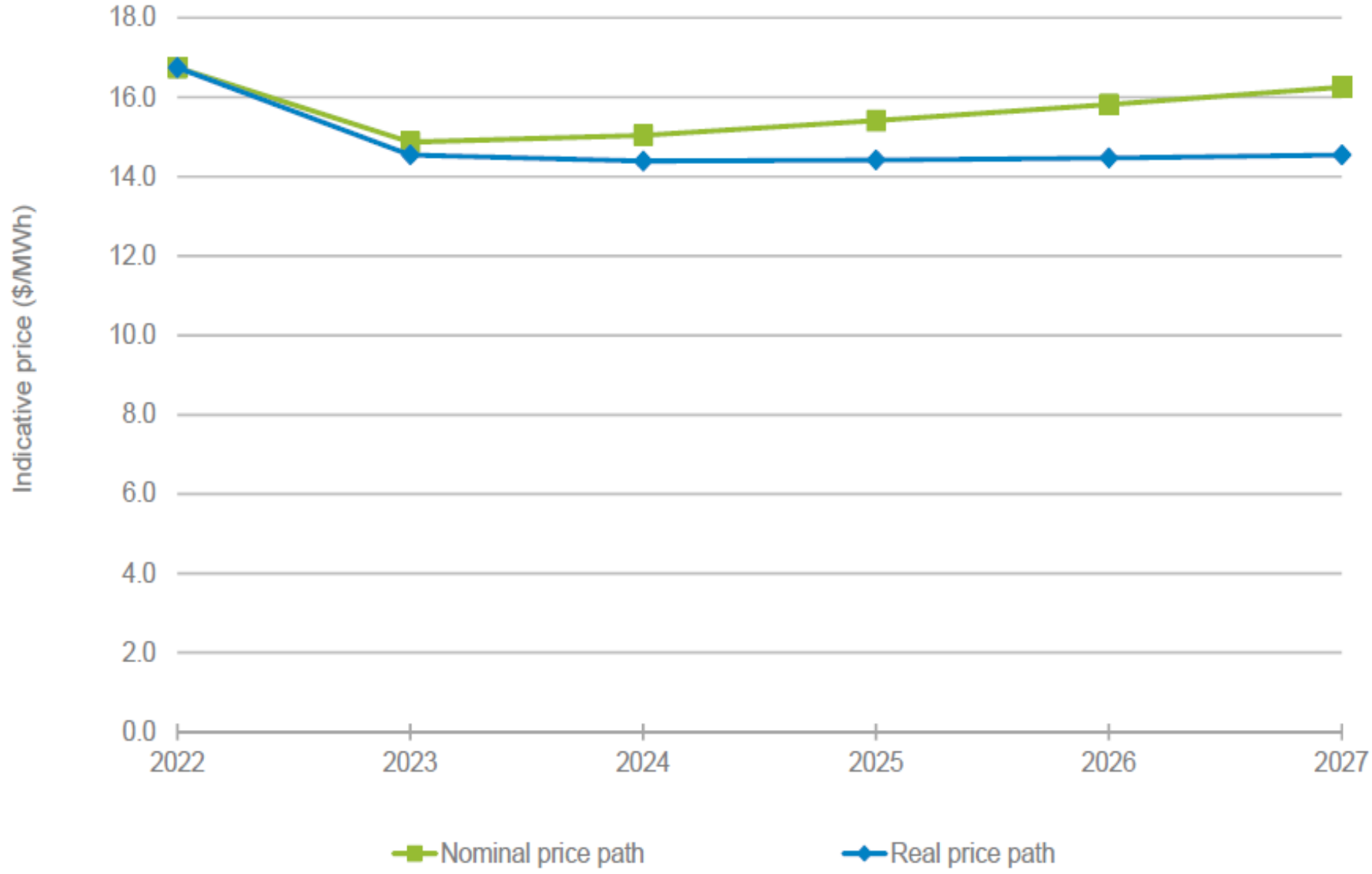


Source: AER, *Final decision PTRM for 2017–22*; Powerlink, *2022–27 PTRM*, January 2021; AEMO, *2020 Electricity Statement of Opportunities (ESOO)*.

- Source: AER Issues Paper, page 21

Price Impacts.

Figure 11.3: Indicative price path from 2021/22 to 2026/27



- Source: Powerlink Revenue Proposal – January 2021

Price Impacts.

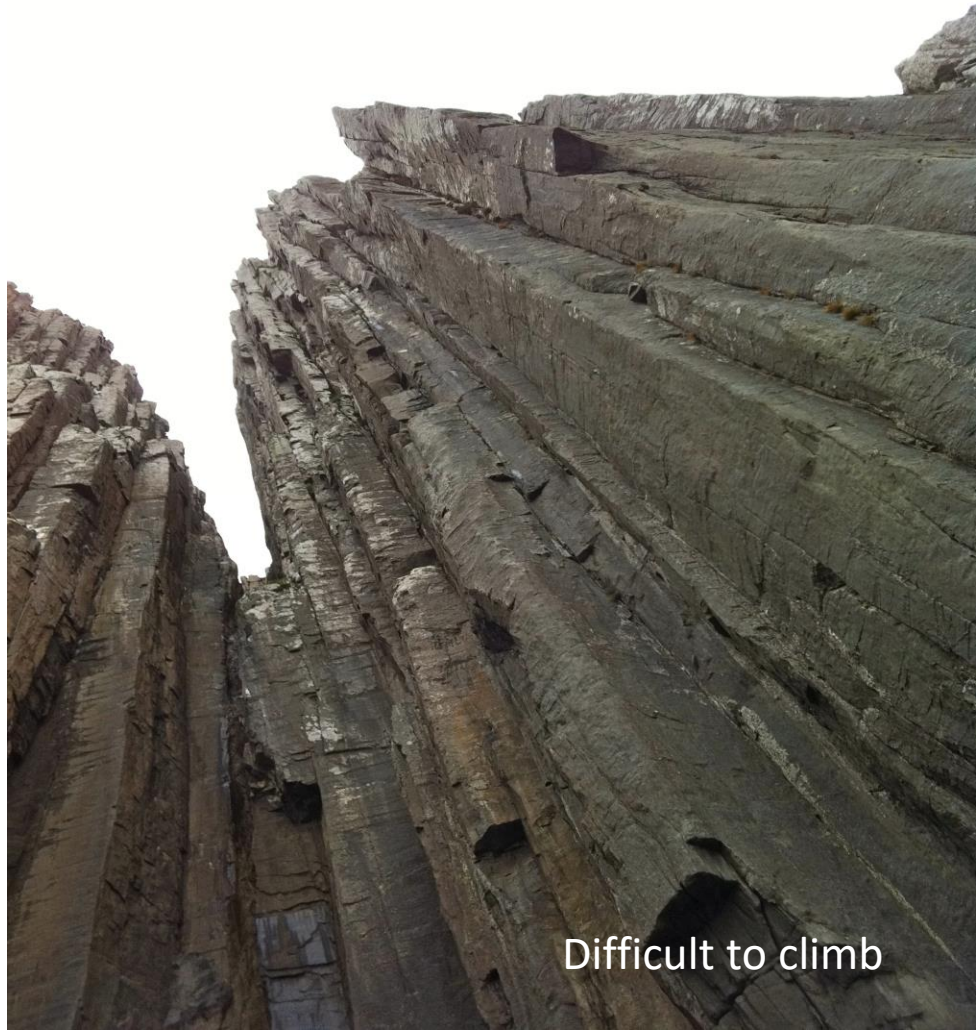
Table 11.8: X-factors and smoothed MAR ($m nominal)

	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Unsmoothed revenue requirement	700.2	693.4	711.3	724.5	735.0	**3,564.4**
X-factors	12.59%	0.57%	0.57%	0.57%	0.57%	
Smoothed MAR	**689.7**	**701.1**	**712.8**	**724.7**	**736.8**	**3,565.1**

- Source: Powerlink Revenue Proposal – January 2021

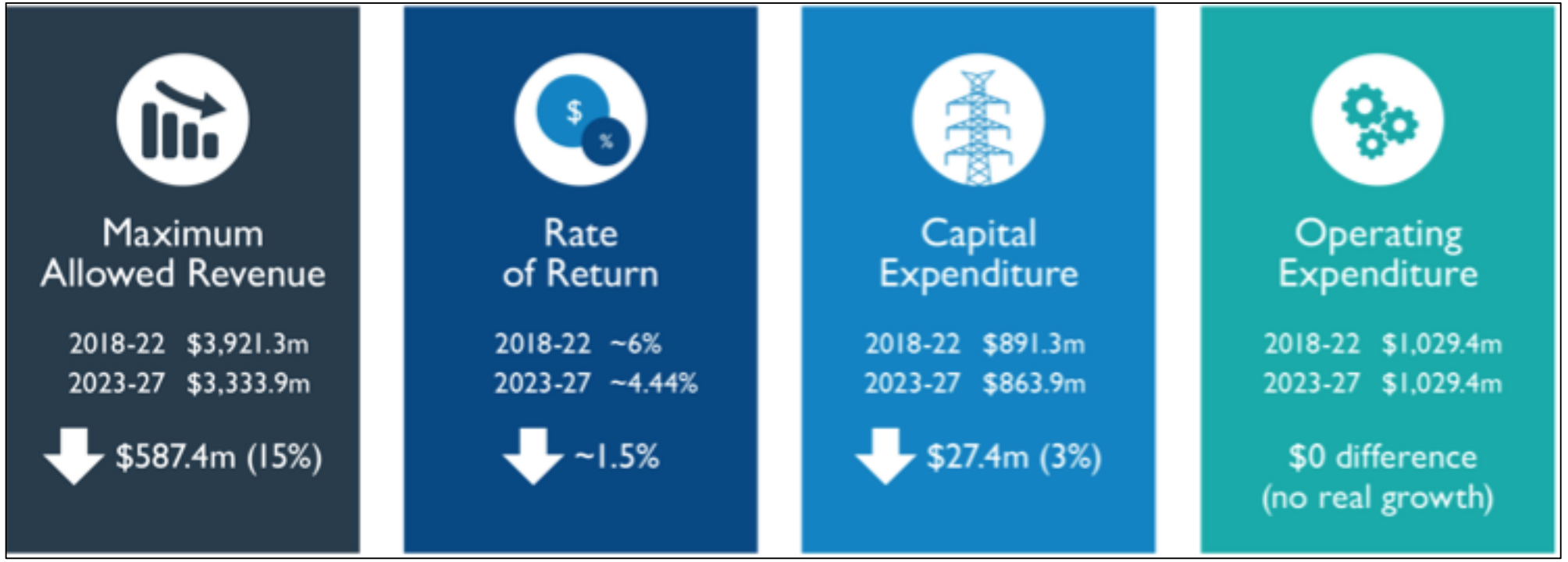
Expenditure drivers in an age of uncertainty – requires a flexible and innovative response and customer support

- Changing patterns of demand, usage & generation
- Reliability standards & system strength
- Government policies (Fed, Qld, NSW)
- Ageing of key assets
- Cyber security/Critical infrastructure legislation
- Inverter based resources (IBRs)
- Integrated system plan (ISP)
- Renewable Energy Zones (REZ)
- Post 2025 Market Design
- Cost pressures
  - shortage of skilled workers
  - Changes to Superannuation Guarantee rate
  - Environment impacts/Insurance costs



Difficult to climb

Powerlink's proposal in response to the challenges of 2023-27

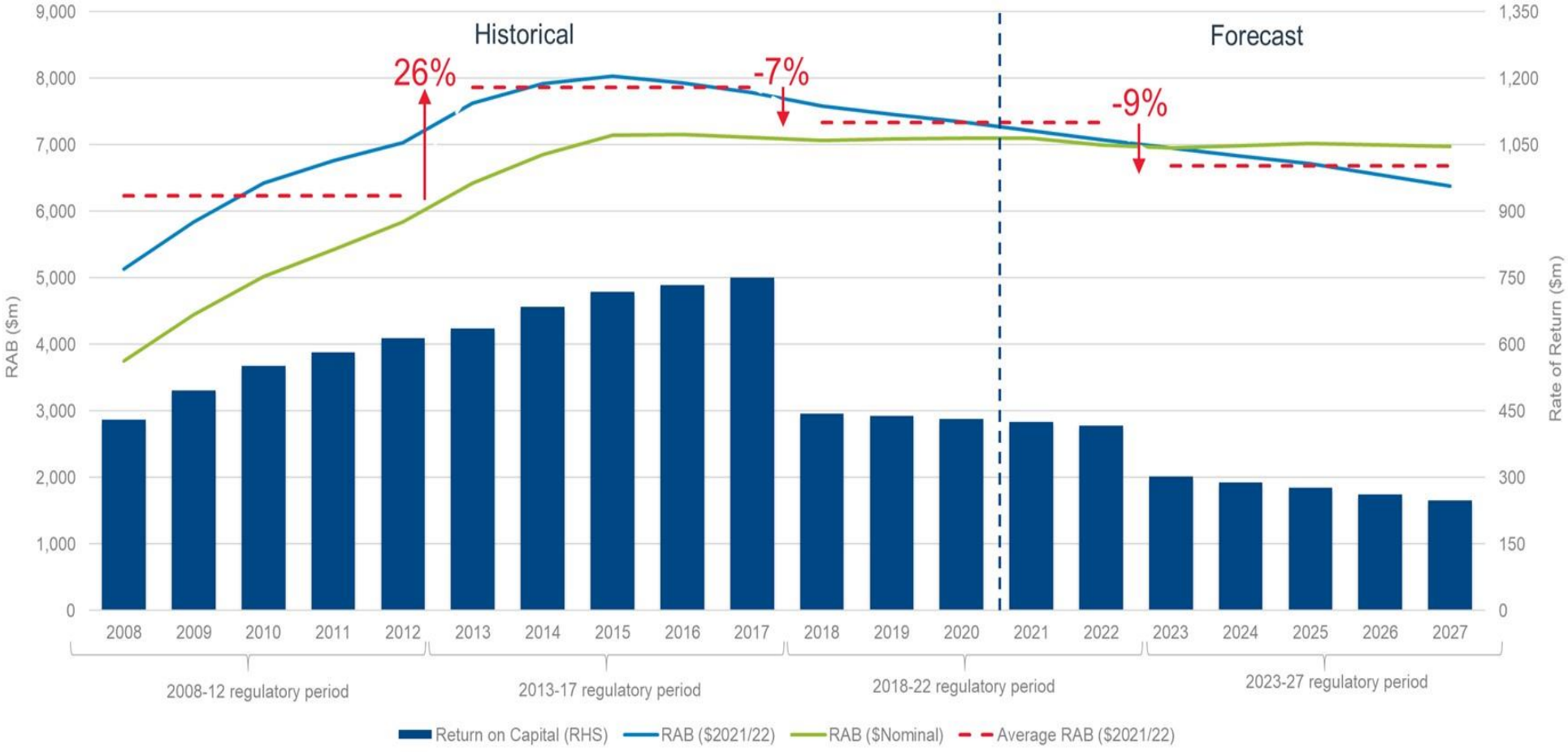


Source: Powerlink, Revenue Proposal, 2022-27, p iv

- The reduction in the regulated rate of return is equivalent to an estimated decrease of $780m ($2021/22) in allowed revenue. (*Revenue Proposal 2022-27*, p 116)

- This reduction in allowed revenue is partially offset by an increase in depreciation costs of $261.2m ($2021/22). (*Revenue Proposal 2022-27*, p 120) following a change in depreciation methodology partly offset by inflation adjustment on the opening RAB

Q14, 15. RAB and Depreciation. The RoR is applied to the total regulated asset base (RAB) – the steep increase in the RAB up to circa 2015 was a major factor in rising electricity network prices.



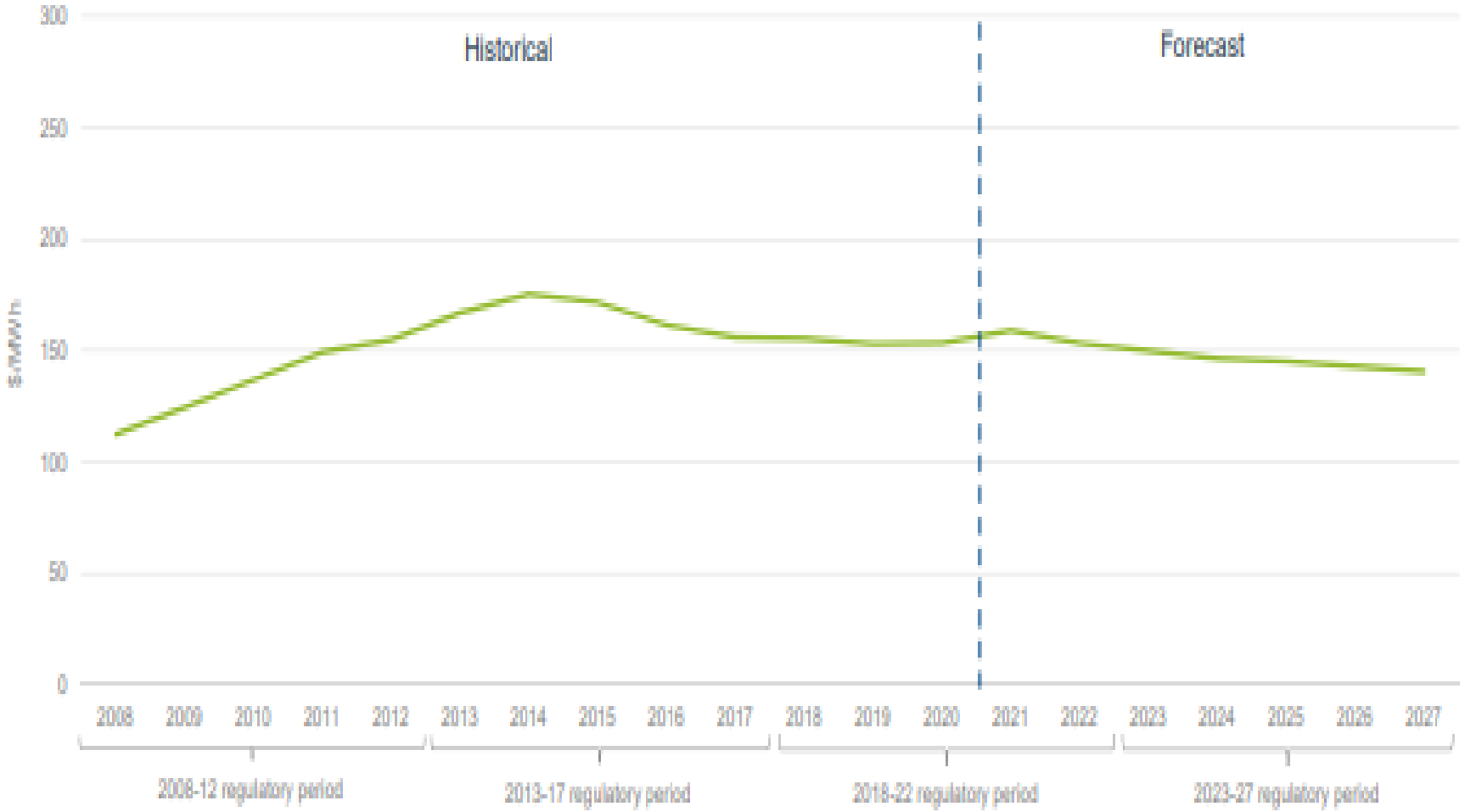
Changes in the RAB reflect:

- Changes in capital expenditure (capex)
- Changes in depreciation profile

The decline in the RAB (in $real) since 2017 reflects significant reductions in new capex. The proposed change in the depreciation profile also reduces the forecast RAB

Source: Powerlink, Revenue Proposal, Fig 8.1, p 114

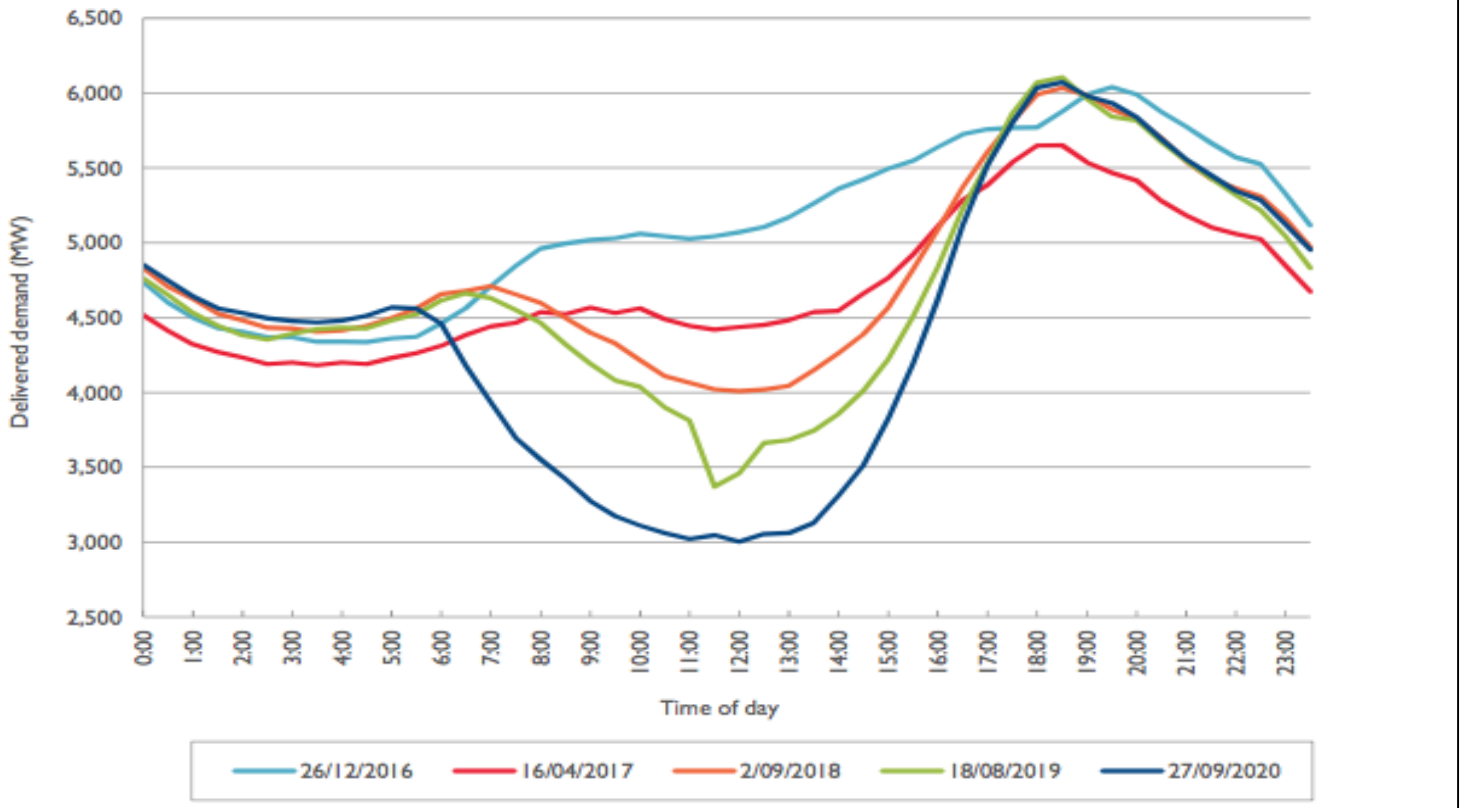
However, while the total value of the RAB (in $real, 2021/22) has declined, the decline in RAB per MWh is relatively small



Source: Powerlink Revenue Proposal, Figure 8.3, p 115

- Forecast RAB per MWh ($real) declines by 2% per annum over 2023-27 period.
  - The forecast reduction in the RAB ($real) is offset by forecast decline in delivered energy.
- Forecast RAB per customer ($real) declines at an average of 3% per annum
  - The forecast reduction in the RAB ($real) is combined with increase in customer numbers.

DER / Future Network (No question)
Significant decline in minimum demand – more to come!



Notes:

(1) Minimum demand can be caused by abnormal conditions, as depicted in the 2019 trace when lowest demand coincided with a large industrial load being out of service.

(2) September 2020 minimum based on preliminary metering data.

Impacts of changes:

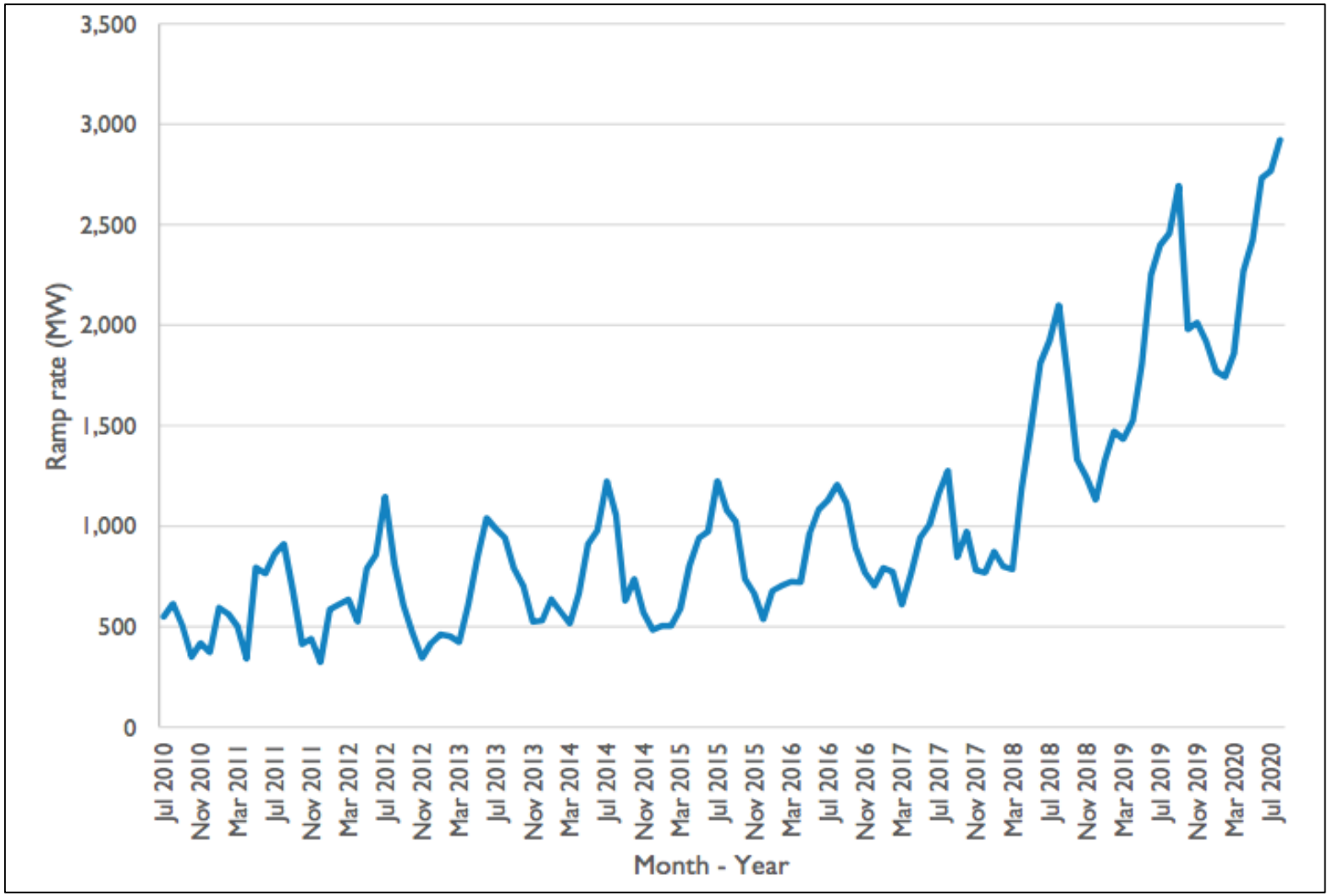
- Minimum now at day time, rather than night
- Generation requirements (eg ramping)
- Generation changes & shortage of synchronous
- Electricity flows
- Voltage control & system strength

Changes may require

- Additional reactive devices and/or non-network solutions?
- Expansion of storage
- New non-network options
- Support for storage

Source: Powerlink, 2020 TAPR, p 36. Queensland region (1) & (2)

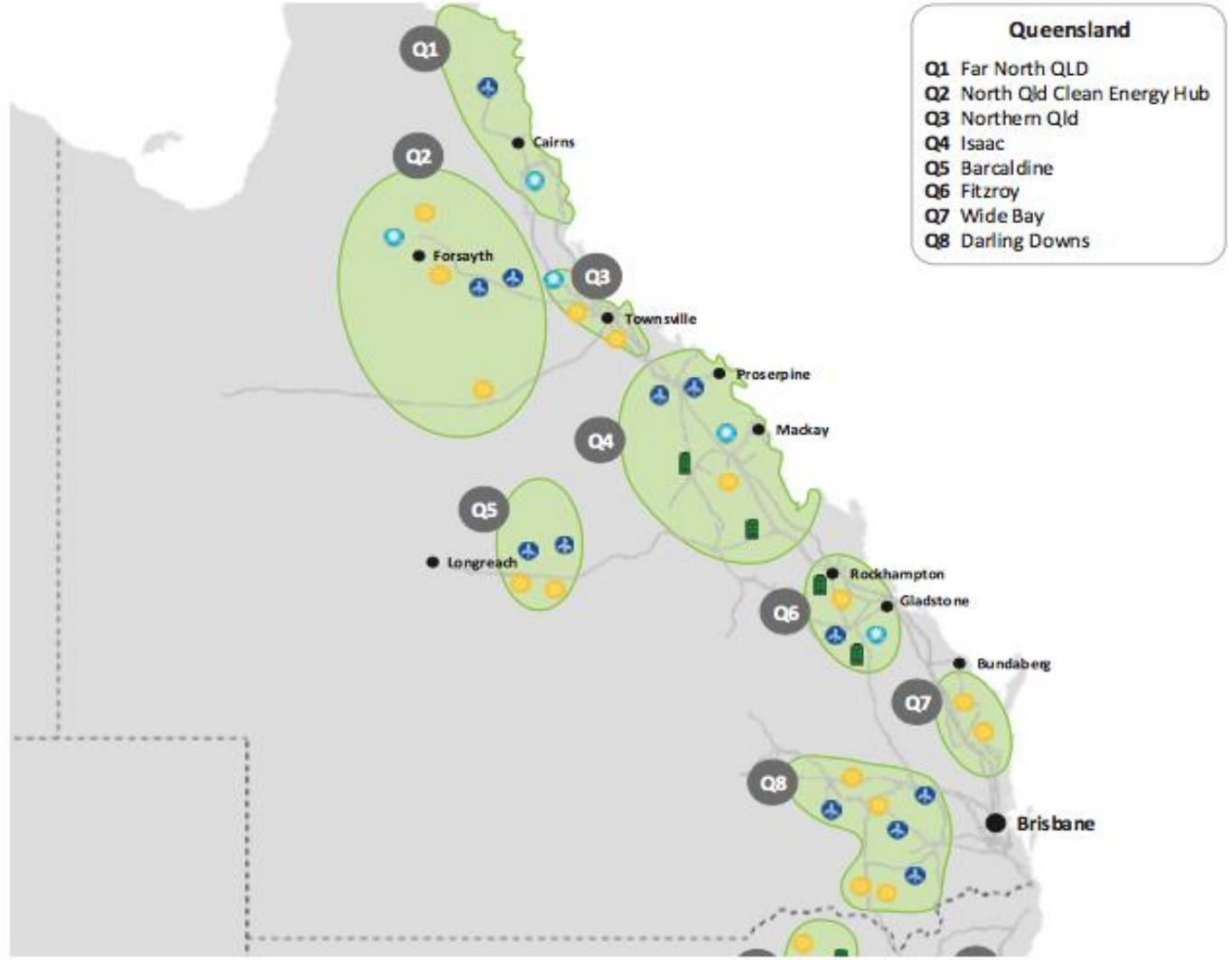
Increasing operational & economic pressure on synchronous generators (coal & gas) will impact on Powerlink's network



Source: Powerlink 2020 TAPR, Fig 7.2

- Historical average ramp rate (total MW/min) for evening peak demand
- Expansion of non-synchronous renewable generation will exacerbate this
- Impacts on reliability of synchronous generators & their economic viability
- Impacts on flows and system strength for Powerlink

Significant potential for expansion of renewable energy supply in Qld: REZ candidates in Qld (2020 ISP)



Source: AEMO

Current status:

- 3,960 MW large scale Variable renewable energy (VRE) connected or committed
- 3,285MW(+) roof top solar

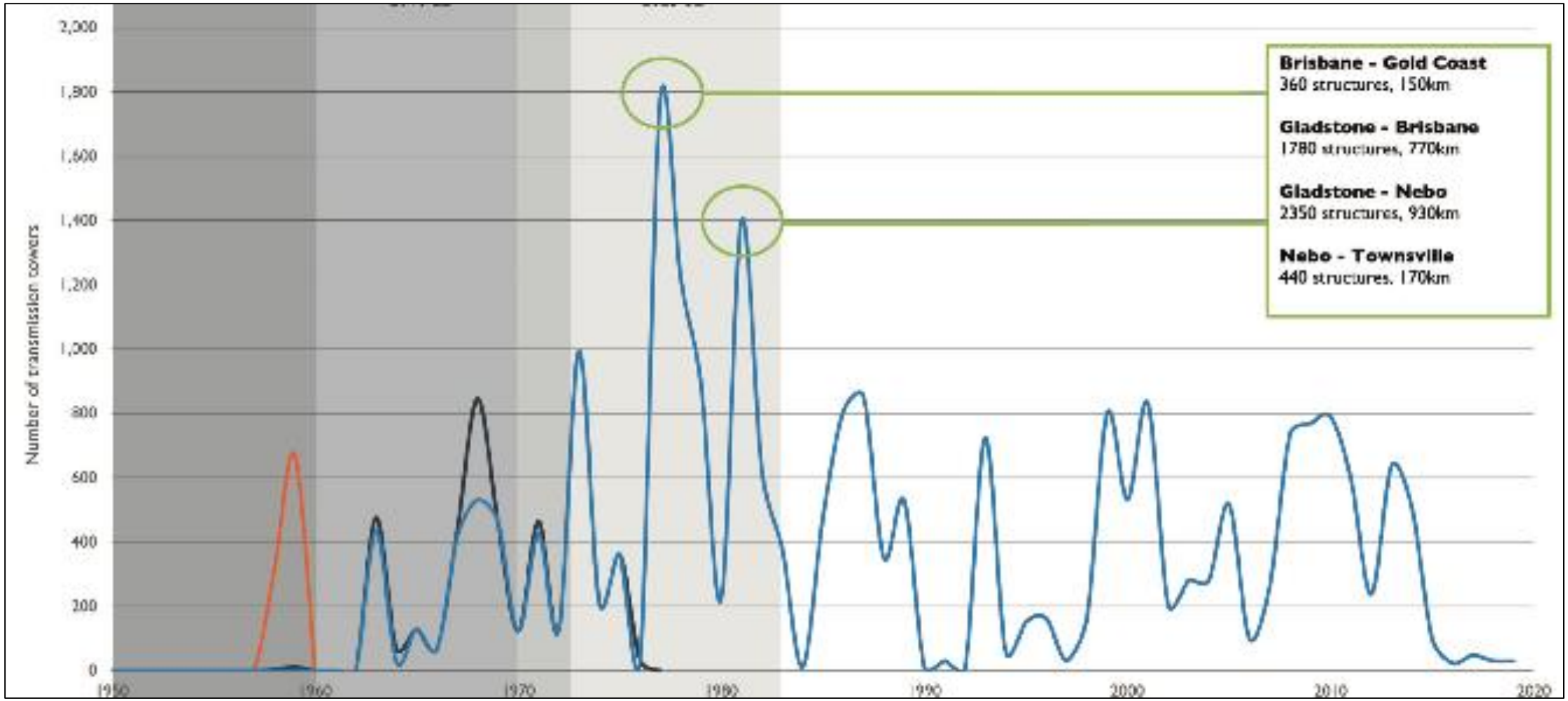
Qld Government policy (2020):

- 50% renewables by 2030
- Govt support for REZ development ($145m + $500m)
- Support for PV 'behind the meter' systems

AEMO Central forecast scenario:

- Darling Downs & Fitzroy REZs can use existing transmission capacity & system strength
- Other REZs will require additional network capacity &/or support for system strength

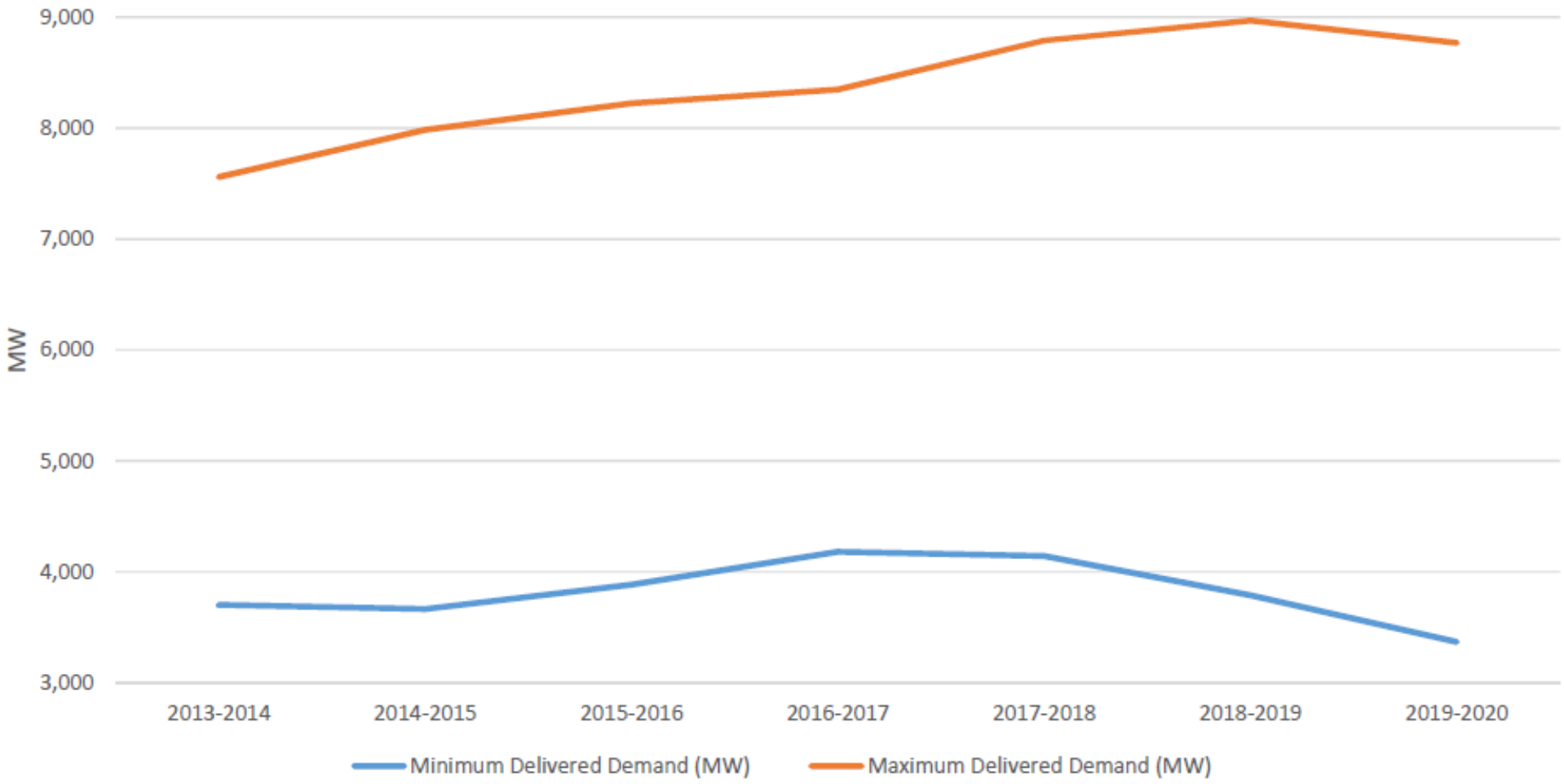
The ageing profile of key transmission assets – steel lattice towers



Source: Powerlink Revenue Proposal, Figure 5.5, p 70.

Forecasts and DM (No direct Question, NB Q18)

Figure 2.4: Trends in Maximum and Minimum Delivered Demand in Queensland (MW)



- Source: Powerlink Revenue Proposal – January 2021, page 11

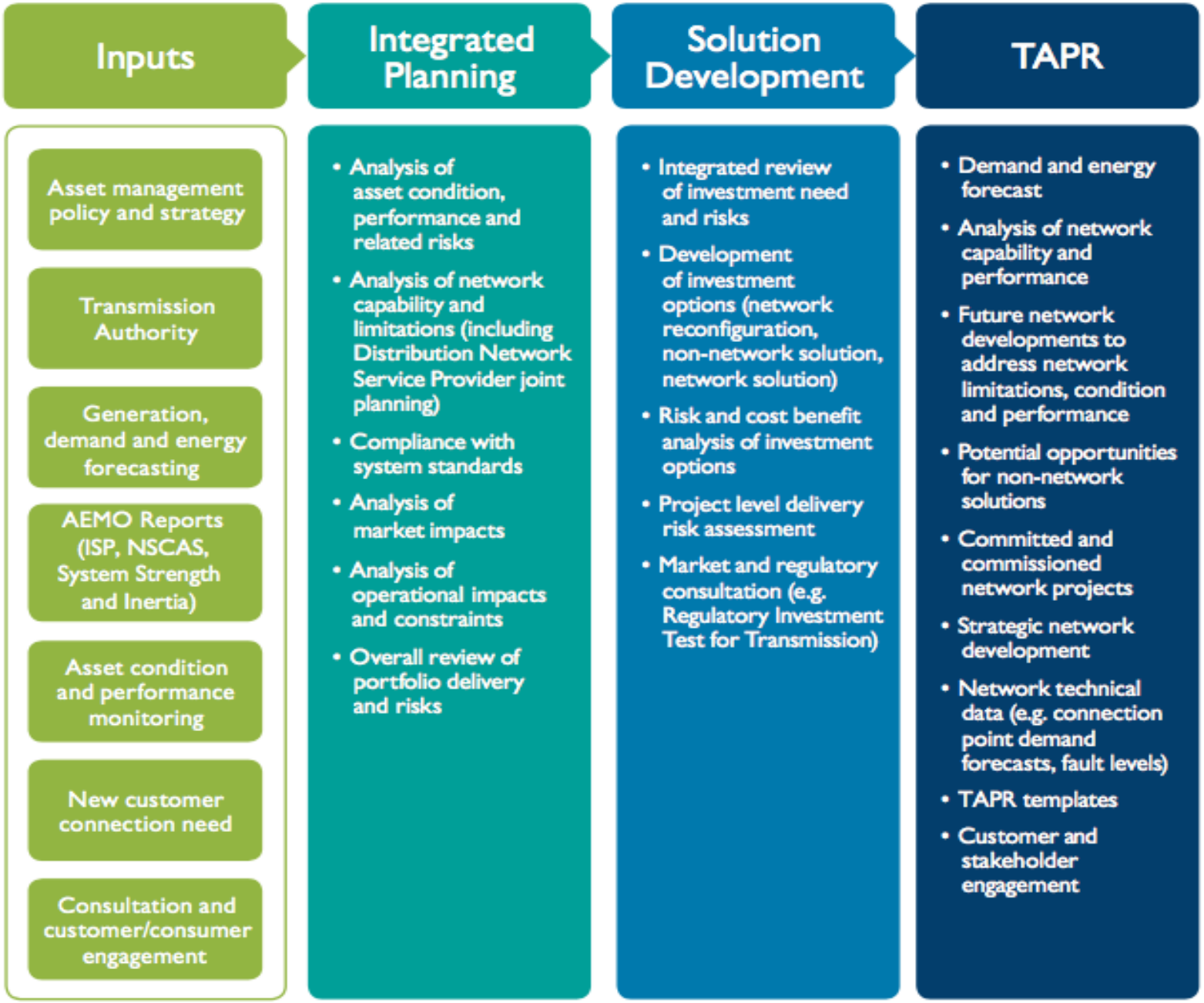
Q 16 – 19 and Q20 Does Powerlink's total forecast **Capex** reasonably reflect the efficient costs of a prudent operator? Overview

- Significant decline in total capex since 2012/13 has allowed stabilisation of the RAB and (over time) in transmission network prices
- The decline in total capex reflects a steep decline in 'augmentation' capex given much lower growth in peak demand and decline in usage
- This trend continues into the forecast period
  - Augmentation capex is 3.5% of total capex & is largely for purchase of easements for future ISP project(s)
  - Reinvestment capex is 78% of total capex
- Evidence of improved capital planning approach, including:
  - Enhanced customer engagement – 12% reduction in capex since draft proposal
  - More structured & consistent approach to investigating non-network solutions
  - Technological & ICT innovation, eg to address system strength issues
  - Co-operation with third parties
- AER's annual economic productivity study confirms capital productivity improvement since 2012, but capital productivity growth rate still negative, with transformer capex a major contributor*
  - 2006-2012 = -2.89%/annum
  - 2012-2019 = -0.79%/annum

* Source: Economic Insights, *Economic Benchmarking Results*, Nov 2020, Table 4.5, p 38 & Table 4.6, p 41.

Change in capex profile since 2015 continues in the 2023-27 forecast period

Source: Powerlink, *Revenue Proposal*, Figure 5.1, p 60.



Overview of Powerlink's integrated planning process as per the 2020 Transmission Annual Planning Report (TAPR Figure 1.1)

Current plan is focused on reinvestment capex

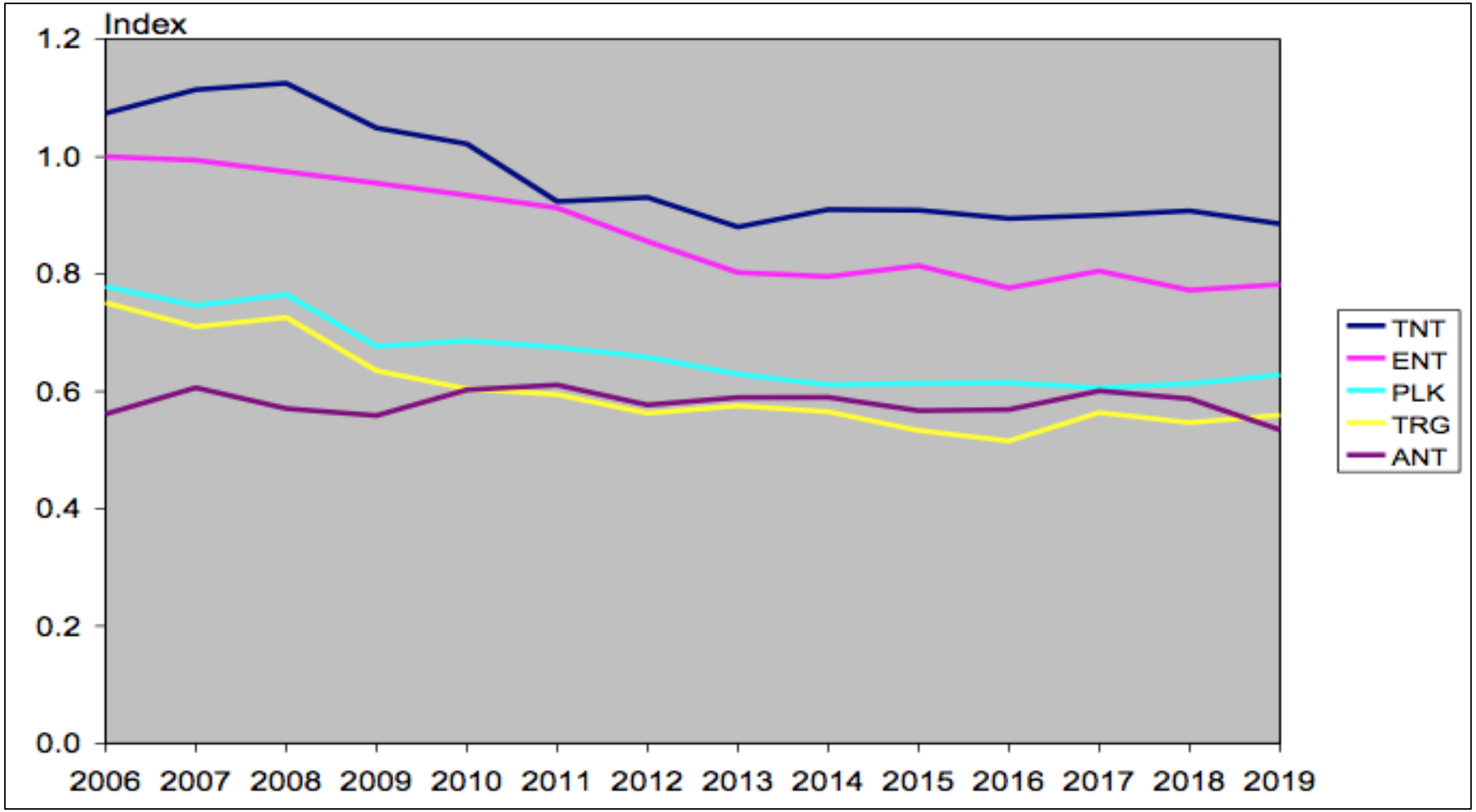
Reinvestment planning considers options, eg:

- Retiring/decommissioning assets
- Reinvesting to extend service life
- Replacing assets of different capacity or type
- Changing the topography of the network
- Implementing non-network solutions.

Involves consultation with DNSPs, TransGrid, AEMO, registered participants etc.

Also involves technical standards and Qld Govt planning criteria

The challenge of capital productivity growth with declining volumes and future ISP/REZ expenditures



Source: Economic Insights, *Economic Benchmarking Results*, Nov 2020, Fig 3.3, p 23.

Q21. Should Powerlink's proposed contingent project be included for the 2022–27 period? Is the proposed trigger appropriate?

- Contingent projects are major new capex projects but the timing and costs are uncertain. The proposed project must include a clearly defined 'trigger event' as set out in the NER
- Powerlink proposes 1 contingent project - the "Central to North Queensland Reinforcement Project":
  - Estimated cost is $52.3m ($2021/22) for reinforcement of the existing regulated Powerlink network.
  - The trigger event is defined in terms of additional load on the network in the relevant region (+250MW)
- Powerlink is not including contingent reinvestment projects in its proposal but continues to argue for the benefits of this
  - In principle, CCP23 sees some value in this, if the reinvestment project arises from an ISP actionable project, and the trigger event aligns with the NER

Contingent Project Proposal (2) – some questions

- Does the stated trigger event (an additional 250 MW of load) satisfy the requirements of the National Electricity Rules (NER)?
- Are the claimed costs, and consumer benefits assessment reasonable?
- What is the interaction between the proposed project and the 'future ISP' projects in Qld?
- What are the risks of the investment or non-investment for consumers?

CCP23 has received advice from Powerlink that the contingent project will only proceed if it receives:

- Firm commitments from third parties on their load requirements; and
- The project satisfies the AER's RIT-T, including interaction with ISP projects

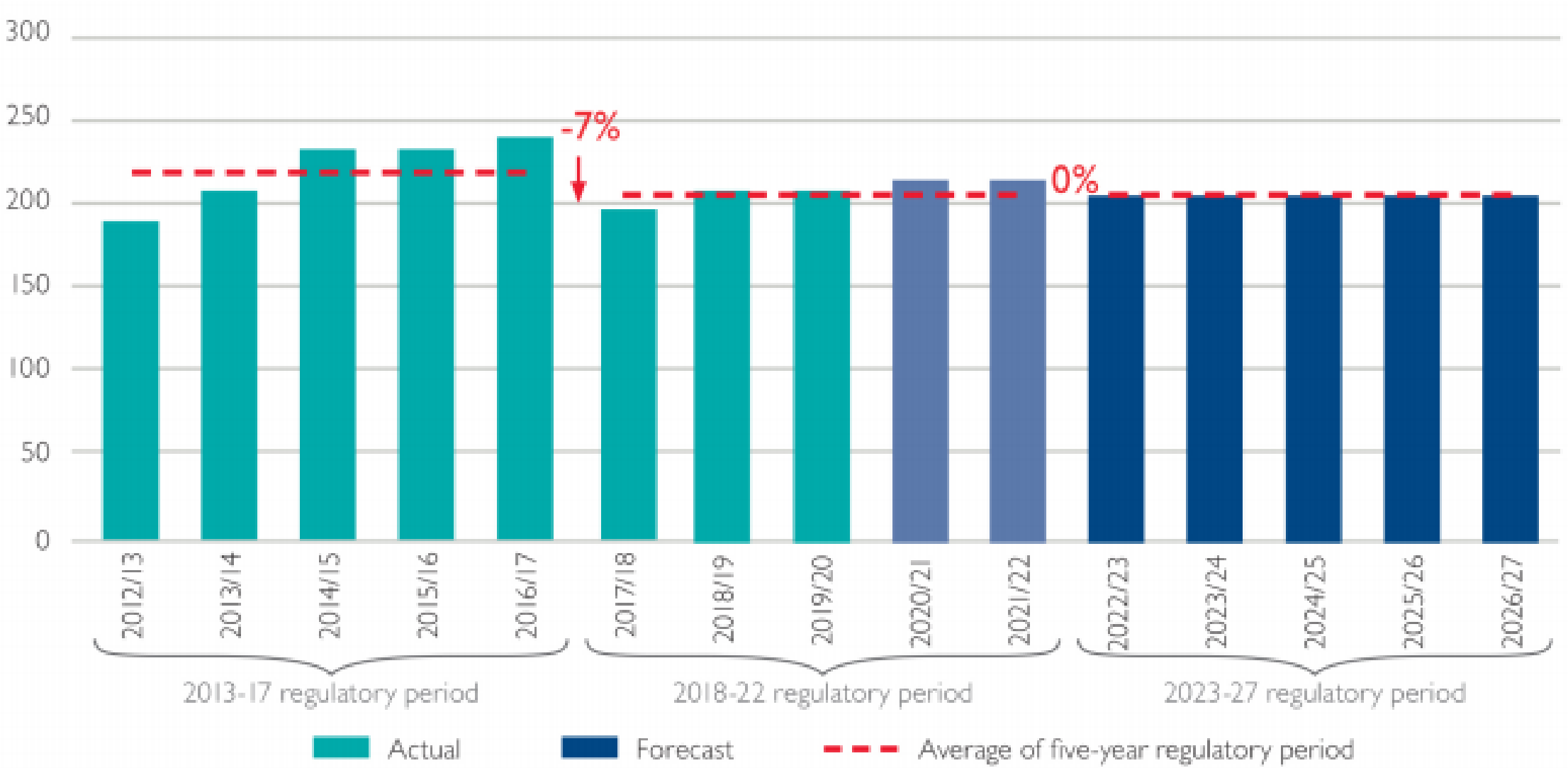
We are still investigating whether the proposed project meets the 'trigger event' requirements in the NER

Q 22- 24, Q23. Does Powerlink's forecast Opex for 2022–27 reasonably reflect the efficient costs of a prudent operator?

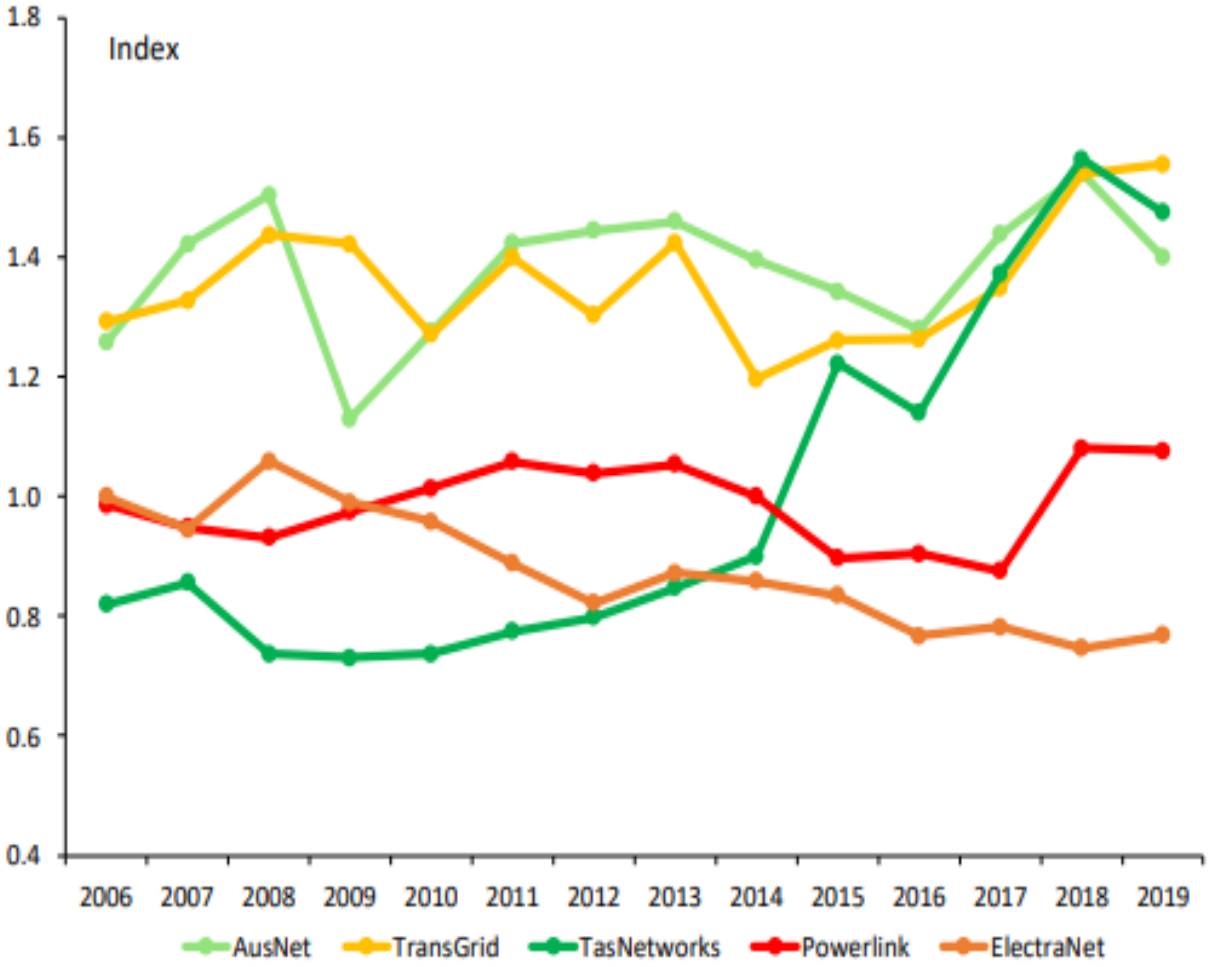
- Proposed Opex: $1,046.4m ($2021–22) for the 2022–27 period, $0.5m less than Powerlink's estimate for the 2017–22 period & $17.7m (1.7 per cent) less than AER approved opex, 2017-22.
- Base: Powerlink proposes 2018–19 as its base year, stating it chose this year as it best reflects a typical year of operations and does not include any COVID-19 cost impacts
- Step: No Step Changes. Category specific: AEMC Levy of $29.7m, debt raising costs of $17.0m
- Trend: Output growth – forecast increase of $11.6m

  Productivity: 0.5 per cent per annum = $14.7 m decrease.

Actual / estimated and allowed opex, $21/22m



Productivity, Opex MPFP 2020 and Houston Kemp



- Houston Kemp "The benchmarking data suggest that the productivity factor applied for Powerlink for the forthcoming regulatory period, should be zero."
- EBSS maintains incentives to improve.
- Powerlink says "We considered Houston Kemp's independent analysis and findings and the AER's current industry average productivity factor of 0.3% in the development of our Revenue Proposal.
- Consistent with our target of no real growth in operating expenditure, we propose an annual productivity factor of 0.5%, which is higher than the industry average."

CCP Observations, comments and questions

- Base year: 2018/19 is
4 years from 2022/23, normally we'd say that this is too big a gap, but latest pre-COVID year rationale makes sense – is it practical?

	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Draft Revenue Proposal[1]	206.5	208.5	208.2	208.0	207.7	**1,038.9**
Revenue Proposal[2]	203.9	206.3	205.8	206.5	206.9	**1,029.4**
Difference ($m)	(2.6)	(2.2)	(2.5)	(1.5)	(0.8)	**(9.5)**
Difference (%)	(1.2)	(1.1)	(1.2)	(0.7)	(0.5)	**(0.9)**

(1) Excludes debt raising costs.

(2) Reflects underlying operating expenditure, excluding movements in provisions, debt raising, network support and NCIPAP costs.

- Step Changes. Full support for no step changes!
- Productivity: Powerlink say that 0.5% pa is a 'stretch target.' They say "RPRG and the AER's CCP23 supported the high productivity target put forward... However, both groups sought further information on how we intend to meet this target." (Note 7% reduction previous to current period, and below sector leading MPFP). The stretch question is whether the "stretch target" could stretch further?
- Correlation between step changes and productivity is recognised as some opex costs will increase and need to be absorbed.

Q26-28, Incentive Schemes EBSS and CESS, Carryover and appropriate incentive

- Support the Framework and Approach
- Support application of existing schemes
- Support AER review of the incentive schemes

Q29 Methodology for calculating the target for the large loss of supply event frequency parameter?

- Q29 in the Issues Paper asks: What are your views on Powerlink's proposed alternative methodology for calculating the target for the large loss of supply event frequency parameter? Do you consider Powerlink's methodology meets clause 3.2(i) of the Scheme?
- We understand there are different views on the application of Service Target Performance Incentive Scheme (STPIS), which we will review in our submission to the AER on the regulatory proposal.

Q30 Should DMIAM be applied to Powerlink in the 2022–27 period?

- Foreshadowed in F&A that will apply. Draft DMIAM Dec 2020. Final DMIAM expected Jun 2021.
- Proposed projects: Revenue proposal, section 17, pp. 166-167.
- Powerlink indicated it will provide additional information to the AER as part of its 2022–27 revised proposal (Dec 2021).
- *Can be basis for further discussion for Revised Proposal*

Comments or Questions?

Appendix: NER requirements for defining a '*trigger event*'. (refer contingent project, Q21)

- Requirements set out in NER Chapter 6A.8.1(c) and include to be a condition or event that:
  - is reasonably specific & capable of objective verification;
  - makes the undertaking of the project reasonably necessary to achieve any of the capital expenditure objectives;
  - generates increased costs or categories of costs that relate to a specific location rather than an event that affects the transmission network as a whole;
  - Can be described in such terms that its occurrence is all that is required for the revenue determination to be amended under clause 6A.8.2; and
  - Is probable during the RCP, but the inclusion of the capex is not appropriate because:
    - It is not sufficiently certain that it will occur in the RCP, or after the RCP or not at all; or
    - The associated costs are not sufficiently certain.